

APPENDIX 3

Commercial/Industrial Sector Data

Duquesne Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag	
HeatCh1	Healthcare	Chiller	Early	1	Duct Sealing, down to 15%	Leakage of 29%	ton	\$1,1597	15	8,192	0.016	81,9192	\$95.00	1%	40%	95%	\$0.90	0.6819	0
HeatCh2	Healthcare	Chiller	Early	2	Diast Insulation, Add R8	No Insulation	ton	\$1,5259	15	8,192	0.016	81,9192	\$125.00	1%	50%	95%	0.5183	0	0
HeatCh3	Healthcare	Chiller	Early	3	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0,3052	15	8,192	0.081	409,5960	\$125.00	5%	75%	95%	2.5913	0	0
HeatCh4	Healthcare	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0,2747	15	8,192	0.323	1,638.4	\$450.00	20%	75%	95%	2.8793	1	0
HeatCh5	Healthcare	Chiller	Early	5	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0,2782	7	8,192	0.259	1,311	\$364.67	16%	75%	95%	1.3195	1	0
HeatCh6	Healthcare	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	8,192	0.05	245	\$200.00	3%	15%	95%	0.9679	0	0
HeatCh7	Healthcare	Chiller	Early	7	Adding window shade film	No shade film	sq ft window area	\$7,0453	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.0371	0	0
HeatCh8	Healthcare	Chiller	Early	8	Adding window shade screen	No shade screen	sq ft window area	\$3,9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.2028	0	0
HeatCh9	Healthcare	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$0.92	20	8,192	0.05	246	\$225.00	3%	75%	95%	1.1188	1	0
HeatChN1	Healthcare	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.30	20	8,192	0.05	287	\$87.00	4%	15%	95%	3.3367	1	0
HeatChN2	Healthcare	Chiller	New	2	Adding window shade screen	No shade screen	sq ft window area	\$3,9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.2028	0	0
HeatChN3	Healthcare	Chiller	New	3	Adding reflective roof treatment	Sid color roof	sq ft roof area	\$4.50	20	8,192	0.05	10	\$45.00	0%	100%	95%	0.6610	0	0
HeatChN4	Healthcare	Chiller	New	4	Green Roof (New construction or roof replacement)	Sid Roof	sq ft	\$1.52	20	8,192	0.05	84	\$127.43	1%	45%	95%	0.7807	0	0
HeatChN5	Healthcare	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Sid Chiller, 0.58 kW/Ton	ton	\$0,2579	15	8,192	0.76	989	\$255.00	12%	95%	95%	3.8028	1	0
HeatChN6	Healthcare	Chiller	New	6	VFD Centrifugal Chiller, 4 kW/ton	Sid Chiller, 0.58 kW/ton	ton	\$0,1426	15	8,192	1.944	2,542	\$362.50	31%	95%	95%	6.8787	1	0
HeatChN7	Healthcare	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Sid Chiller, 1.39 kW/ton	ton	\$0,0739	15	19,632	1.728	2,260	\$167.00	12%	95%	95%	13.2723	1	0
HeatChN8	Healthcare	Chiller	New	8	FMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0,2808	15	8,192	0.081	409,5960	\$115.00	5%	95%	75%	2.8167	1	0
HeatChN9	Healthcare	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0,1526	15	8,192	0.323	1,638.4	\$250.00	20%	95%	75%	5.1827	1	0
HeatChN10	Healthcare	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$1,5259	15	8,192	0.016	81,9192	\$125.00	1%	100%	95%	0.5183	0	0
HeatChT1	Healthcare	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Sid Chiller, 0.58 kW/ton	ton	\$0,2984	15	8,192	0.76	989	\$295.00	12%	95%	95%	3.2872	1	0
HeatChT2	Healthcare	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW/ton	Sid Chiller, 0.58 kW/ton	ton	\$0,1819	15	8,192	1.944	2,542	\$462.50	31%	95%	95%	5.3914	1	0
HeatChT3	Healthcare	Chiller	Turnover	3	Water-side Economizer	Sid Chiller, 0.58 kW/ton	ton	\$0,2902	15	8,192	1.944	1,434	\$416.00	18%	95%	95%	4.0626	1	0
HeatChN11	Healthcare	Chiller	New	11	Water-side Economizer	Sid Chiller, 0.58 kW/ton	ton	\$0,2902	15	8,192	1.944	1,434	\$416.00	18%	95%	95%	4.0626	1	0
HeatChT5	Healthcare	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0,3101	15	8,192	0.081	409,5960	\$127.00	5%	95%	75%	2.5505	1	0
HeatChT4	Healthcare	Chiller	Turnover	4	Air-Cooled Chillers (1.23 kW/ton)	Sid Chiller, 1.39 kW/ton	ton	\$0,0916	15	19,632	1.728	2,260	\$207.00	12%	95%	100%	10.7076	1	0
OfficeH1	Office	Fluorescent	Early	1	Premium Efficiency T8 Lighting Replacement (32W lamps with low	Replace (E) T12 Lamp - Bundle	Fixture	\$0,5712	14	394	0.011	97	\$55.38	25%	95%	41%	1.2582	1	0
GroceFH1	Grocery	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) High Efficiency 32 W T8 Lamp	Lamp	\$0,1046	6	163	0.007	64	\$65.00	30%	40%	95%	0.8021	0	0
OfficeH2	Office	Fluorescent	Early	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0,2641	14	1,378	0.001	473	\$125.00	30%	95%	80%	2.7214	1	0
OfficeH3	Office	Fluorescent	Early	3	Photocell dimming control	No prior control	Photocell	\$0,2852	9	1,378	0.001	789	\$225.00	50%	95%	95%	1.5825	1	0
LodgeInF6	Lodging	Incandescent	Early	6	Hotel Occupancy Sensors	No prior control	Per Room	\$0,7447	10	240	0.019	168	\$125.00	70%	90%	95%	0.6819	0	0
OfficeH1	Office	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0,1781	15	20,340	0.234	2,034	\$362.18	10%	95%	100%	4.3100	1	0
OfficeH2	Office	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0,3561	15	20,340	0.584	5,085	\$1,810.90	25%	75%	100%	2.1550	1	0
HeatHe1	Healthcare	Heating	Early	1	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0,2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.2523	1	0
HeatHe2	Healthcare	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$4.44	20	300	0.05	45	\$200.00	15%	10%	95%	0.3145	0	0
HeatHe3	Healthcare	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.67	20	300	0.05	75	\$125.00	25%	10%	95%	0.7302	0	0
HeatHe4	Healthcare	Heating	Early	4	Green Roof (New construction or roof replacement)	Sid Roof	sq ft	\$3.75	20	300	0.05	34	\$127.43	11%	10%	95%	0.4119	0	0
HeatHe5	Healthcare	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0,1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	2.5596	1	0
HeatHeN1	Healthcare	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	300	0.05	45	\$87.00	15%	10%	95%	0.7230	0	0
WarehH1	Warehouse	HID	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPI	Replace HID fixture drawing 250W	Fixture	\$0,5670	10	1,268	0.043	378	\$214.50	30%	85%	80%	0.8956	0	0
WarehH2	Warehouse	HID	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPI	Replace HID fixture drawing 400 W	Fixture	\$0,4472	10	1,856	0.077	671	\$300.00	36%	85%	80%	1.1354	1	0
WarehH3	Warehouse	HID	Early	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID fixture drawing 250 W	Fixture	\$0,5150	10	1,268	0.052	456	\$235.00	36%	85%	80%	0.9860	0	0
WarehH4	Warehouse	HID	Early	4	4' T5 HO fixture - 54 W - 4 lamp	Replace HID fixture drawing 400 W	Fixture	\$0,5081	10	1,856	0.074	640	\$325.00	34%	85%	80%	0.9994	0	0
WarehH5	Warehouse	HID	Turnover	5	Ceramic Metal Halide Lamp	Replace non-ceramic lamp 400 W	Lamp	\$0,1282	4	1,560	0.031	273	\$35.00	18%	85%	55%	1.5620	1	0
WarehH8	Warehouse	HID	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0,2465	10	5,070	0.175	1,521	\$375.00	30%	85%	85%	2.0596	1	0
WarehH9	Warehouse	HID	Early	9	Photocell dimming control	No prior dimming control	Photocell	\$0,2170	10	5,070	0.291	2,535	\$550.00	50%	85%	85%	2.3405	1	0
WarehH10	Warehouse	HID	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0,1972	10	5,070	0.058	507	\$100.00	10%	85%	45%	2.5745	1	0
WarehH17	Warehouse	HID	Early	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$1,2166	15	1,268	0.065	566	\$688.00	45%	85%	80%	0.7308	0	0
WarehH11	Warehouse	HID	Turnover	1	4' T8 High Bay fixture - 32 W - 6 lamps HPI	Replace HID fixture drawing 250W	Fixture	\$0,2921	10	1,268	0.043	378	\$110.50	30%	85%	80%	1.6885	1	0
WarehH12	Warehouse	HID	Turnover	2	4' T8 High Bay fixture - 32 W - 8 lamps HPI	Replace HID fixture drawing 400 W	Fixture	\$0,3354	10	1,856	0.077	671	\$225.00	36%	85%	80%	1.5139	1	0
WarehH13	Warehouse	HID	Turnover	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID fixture drawing 250 W	Fixture	\$0,3178	10	1,268	0.052	456	\$145.00	36%	85%	80%	1.5980	1	0
WarehH14	Warehouse	HID	Turnover	4	4' T5 HO fixture - 54 W - 4 lamp	Replace HID fixture drawing 400 W	Fixture	\$0,4065	10	1,856	0.074	640	\$260.00	34%	85%	80%	1.2492	1	0
WarehH16	Warehouse	HID	Turnover	6	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0,5140	10	1,856	0.095	827	\$425.00	45%	85%	55%	0.9879	0	0
WarehH17	Warehouse	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0,6631	15	1,268	0.065	566	\$375.00	45%	85%	80%	1.1573	0	0
OfficeIn2	Office	Incandescent	Early	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0,1159	14	3,594	0.124	1,078	\$125.00	30%	95%	80%	6.1996	1	0
OfficeIn3	Office	Incandescent	Early	3	Photocell dimming control	No prior dimming control	Photocell	\$0,1252	9	3,594	0.207	1,797	\$225.00	50%	95%	95%	3.6052	1	0
GroceIn1	Grocery	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0,0572	15	9,629	0.111	963	\$55.11	10%	95%	100%	13.4900	1	0
HealthN1	Healthcare	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0,0842	15	49,948	0.574	4,995	\$420.44	10%	95%	100%	9.1174	1	0
AllaN1	All	Large Appliances	New	1	EnergyStar vending machine	Standard vending machine	machine	\$0,2672	15	3,619	0.140	1,310	\$350.00	36%	100%	50%	2.8525	1	0
AllaN2	All	Large Appliances	New	2	Beverage machine control	Vending machine with no sensor	machine	\$0,1021	5	3,619	0.178	1,665	\$170.00	46%	100%	50%	2.4608	1	0
AllaN3	All	Large Appliances	New	3	Other cold product control	Vending machine with no sensor	machine	\$0,1111	5	3,504	0.172	1,612	\$179.00	46%	100%	50%	2.2624	1	0
AllaN4	All	Large Appliances	New	4	Non-cooled snack control	Vending machine with no sensor	machine	\$0,4671	5	745	0.037	343	\$160.00	46%	100%	50%	0.5379	0	0
AllaN5	All	Large Appliances	New	5	EnergyStar dishwasher	Sid Dishwasher	dishwasher	\$0,4015	12	250	0.015	137	\$55.00	55%	100%	50%	1.5242	1	0
AllaN6	All	Large Appliances	New	6	EnergyStar refrigerator	Sid Refrigerator</													

Duquesne Commercial Measures

Measure/lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC/Est	Economic Fla
OfficMo17	Office	Motors	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.5604	15	81970	12.153	23197.4	\$13,000.00	28%	90.0%	80%	1.6184	1
OfficMo18	Office	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.5705	15	81970	0.000	22787.6	\$13,000.00	28%	90.0%	80%	1.2823	1
OfficMo19	Office	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5700	15	81970	12.153	20004.6	\$13,000.00	24%	90.0%	80%	1.4385	1
OfficMo110	Office	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.5705	15	81970	9.205	22787.6	\$13,000.00	28%	80.0%	80%	1.5194	1
OfficMo111	Office	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.6500	15	81970	12.153	20006.6	\$13,000.00	24%	55.0%	80%	1.4385	1
OfficMo112	Office	Motors	Turnover	12	Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0.6069	15	245909	0.159	1235.7	\$750	0.5%	35.0%	95%	1.2762	1
OfficMo113	Office	Motors	Turnover	13	Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0.7470	15	532803	0.344	2677.4	\$2,000	0.5%	50.0%	95%	1.0370	1
OfficMo114	Office	Motors	Turnover	14	Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0.5601	15	50263	0.057	446.3	\$250	0.9%	10.0%	95%	1.3828	1
OfficMo115	Office	Motors	Turnover	15	Motors: Rewind 500+ HP	(E) Motor	Motor	\$0.6474	15	1229546	0.795	6178.6	\$4,000	0.5%	70.0%	95%	1.1965	1
OfficMo116	Office	Motors	Turnover	16	Motors: Rewind 51-100 HP	(E) Motor	Motor	\$0.6955	15	124291	0.092	718.9	\$500	0.6%	20.0%	95%	1.1137	1
OfficMo117	Office	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	2.9638	1
OfficMo118	Office	Motors	New	12	Demand Control Ventilation (DCV)	Base Standard Ventilation	unit	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.7031	1
OfficMo119	Office	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	unit	\$6.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.0317	0
OfficMo120	Office	Motors	New	14	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is	unit	\$0.21	15	5,194	0.120	935	\$20,009	18.00%	75%	95%	3.6196	1
OfficMo121	Office	Motors	New	15	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	unit	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.6444	0
OfficMo122	Office	Motors	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation	unit	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.7031	1
OfficMo123	Office	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	unit	\$6.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.0317	0
OfficMo124	Office	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is	unit	\$0.21	15	5,194	0.120	935	\$20,009	18.00%	75%	95%	3.6196	1
OfficMo125	Office	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	unit	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.6444	0
AIROE1	All	Office Equipment	Early	1	PC network power management	No central control	PC	\$0.14	5	410	0.023	215	\$3000	52.44%	75%	80%	1.8606	0
AIROE2	All	Office Equipment	Early	2	Occupancy sensor controls/Smart Strip	Computers, other plug loads	sensor	\$0.60	5	413	0.010	124	\$75.00	30.02%	55%	95%	0.4104	0
AIROE3	All	Office Equipment	New	1	ENERGY STAR® Office Equipment	Std Office Equipment	PC	\$1.09	5	4,000	0.021	200	\$218.00	5.00%	90%	80%	0.2305	0
AIROE4	All	Office Equipment	New	2	Energy Star - Water Cooler	Std Water Cooler	unit	\$1.06	5	453	0.022	204	\$215.67	45.08%	35%	80%	0.2377	0
AIROE5	All	Office Equipment	New	3	80 Plus® PC-desktop	Standard personal computer, desktop	PC	\$0.19	5	410	0.014	130	\$25.00	31.71%	100%	55%	1.3065	1
AIROE6	All	Office Equipment	New	6	Data Center - Server/Storage Virtualization	No Virtualization	unit	\$1.76	5	4,818	0.452	4,227	\$7,434	87.73%	70%	80%	0.1429	0
AIROE7	All	Office Equipment	Turnover	1	ENERGY STAR® Office Equipment	Std Office Equipment	PC	\$1.09	5	4,000	0.021	200	\$218.00	5.00%	90%	80%	0.2305	0
AIROE8	All	Office Equipment	Turnover	2	Energy Star - Water Cooler	Std Water Cooler	unit	\$1.06	5	453	0.022	204	\$215.67	45.08%	35%	80%	0.2377	0
AIROE9	All	Office Equipment	Turnover	3	80 Plus® PC-desktop	Standard personal computer, desktop	PC	\$0.19	5	410	0.014	130	\$25.00	31.71%	100%	55%	1.3065	1
AIROE10	All	Office Equipment	Turnover	6	Data Center - Server/Storage Virtualization	No Virtualization	unit	\$1.76	5	4,818	0.452	4,227	\$7,434	87.73%	70%	80%	0.1429	0
HeatPa1	Healthcare	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3.13	20	1,261	0.05	64	\$200.50	5%	15%	95%	0.4045	0
HeatPa2	Healthcare	Packaged DX	Early	2	Adding window shade film	No shade film	ft window area	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.0363	0
HeatPa3	Healthcare	Packaged DX	Early	3	Adding window shade screen	No shade screen	ft window area	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.1973	0
HeatPa4	Healthcare	Packaged DX	Early	4	Windows U<0.40, 55 SHGC	Existing window specifications	ft window area	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	0.9850	0
HeatPa5	Healthcare	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$2.68	20	1,261	0.05	84	\$225.00	7%	95%	95%	0.4440	0
HeatPa6	Healthcare	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$0.38	10	1,332	0.008	67	\$25.00	5%	100%	65%	1.3578	1
HeatPa7	Healthcare	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	1,261	0.05	12	\$95.00	1%	45%	80%	0.2609	0
HeatPa8	Healthcare	Packaged DX	Early	9	Hotel Keycard Sensors	No prior controls	room Controlle	\$0.29	10	1,132	0.041	342	\$100.00	30%	95%	80%	1.7426	1
HeatPa9	Healthcare	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	1,371	0.05	64	\$55.00	5%	100%	45%	0.1131	0
HeatPa10	Healthcare	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	1,261	0.015	125	\$55.00	10%	100%	45%	1.1580	1
HeatPa11	Healthcare	Packaged DX	Early	13	Re-commissioning	Current controls not working properly, setpoints not optimized,	ton	\$0.27	7	1,261	0.05	202	\$55.15	16%	95%	75%	1.3821	1
HeatPa12	Healthcare	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	1,261	0.05	64	\$87.00	3%	100%	95%	0.9299	0
HeatPa13	Healthcare	Packaged DX	New	2	Adding reflective roof treatment	Std color roof	ton	\$4.50	20	1,261	0.05	10	\$45.00	1%	100%	95%	0.6621	0
HeatPa14	Healthcare	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$1.49	20	1,261	0.05	84	\$125.00	7%	100%	95%	0.7992	0
HeatPa15	Healthcare	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Std Roof	ton	\$1.52	20	1,261	0.05	84	\$127.43	7%	45%	95%	0.7840	0
HeatPa16	Healthcare	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	1,261	0.05	12	\$125.00	1%	100%	95%	0.2535	0
HeatPa17	Healthcare	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.16	20	1,086	0.04	78	\$90.40	7%	100%	95%	1.0201	1
HeatPa18	Healthcare	Packaged DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.25	20	1,086	0.08	145	\$180.81	13%	100%	95%	0.9520	0
HeatPa19	Healthcare	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.33	20	1,086	0.12	204	\$271.21	19%	100%	95%	0.8925	0
HeatPa20	Healthcare	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.65	20	1,261	0.05	84	\$55.00	7%	100%	95%	1.8164	1
HeatPa21	Healthcare	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.65	20	1,261	0.06	107	\$70.00	8%	100%	95%	1.8164	1
HeatPa22	Healthcare	Packaged DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.10	20	1,412	0.06	105	\$115.13	7%	100%	95%	1.0798	1
HeatPa23	Healthcare	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$1.38	20	1,456	0.04	71	\$98.39	5%	100%	95%	0.8620	0
HeatPa24	Healthcare	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$18.2	15	1,284	0.23	412	\$750.00	32%	20%	95%	0.5057	0
HeatPa25	Healthcare	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$32.26	15	1,284	0.027	230	\$750.00	18%	100%	95%	0.2360	0
HeatPa26	Healthcare	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$0.90	15	1,261	0.023	189	\$170.00	15%	75%	45%	0.8563	0
HeatPa27	Healthcare	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$0.71	15	1,261	0.030	252	\$170.00	20%	100%	95%	1.0844	1
HeatPa28	Healthcare	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$1.85	15	1,332	0.007	60	\$110.89	5%	100%	95%	0.4165	0
HeatPa29	Healthcare	Packaged DX	Turnover	1	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	1,261	0.05	12	\$125.00	1%	100%	95%	0.1983	0
HeatPa30	Healthcare	Packaged DX	Turnover	2	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.16	20	1,086	0.04	78	\$90.40	7%	100%	95%	1.0201	1
HeatPa31	Healthcare	Packaged DX	Turnover	3	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.25	20	1,086	0.08	145	\$180.81	13%	100%	95%	0.9520	0
HeatPa32	Healthcare	Packaged DX	Turnover	4	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.33	20	1,086	0.12	204	\$271.21	19%	100%	95%	0.8925	0
HeatPa33	Healthcare	Packaged DX	Turnover	5	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.65	20	1,261	0.05	84	\$55.00	7%	100%	95%	1.8164	1
HeatPa34	Healthcare	Packaged DX	Turnover	6	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.65	20	1,261	0.06	107	\$70.00	8%	100%	95%	1.8164	1
HeatPa35	Healthcare	Packaged DX	Turnover	7	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.10	20	1,412	0.06	105	\$115.13	7%	100%			

Duquesne Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
AIReN19	All	Refrigeration	New	19	High Efficiency Ice Machine Self Contained	Standard Ice Machine Self Contained	unit	\$0.31	10	4,341	0.042	318	\$10,000	7%	85%	85%	1.6267	1
AIReT7	All	Refrigeration	Turnover	7	Fluorescent walk-in light fixture	Incandescent walk-in light fixture	fixture	\$0.42	15	792	0.065	491	\$206.00	62.90%	85%	45%	1.8414	1
AIReT8	All	Refrigeration	Turnover	8	LED Case Lighting	T12 or T10 fluorescent lighting	Light Bar	\$0.43	15	677	0.070	536	\$325.00	3.00%	95%	95%	1.8083	1
AIReT9	All	Refrigeration	Turnover	9	LED Case Lighting - Occupancy Sensor	No Occupancy Sensor	Light Bar	\$0.15	8	667	0.003	20	\$3.00	3.00%	15%	95%	2.7194	1
AIReT10	All	Refrigeration	Turnover	10	Efficient, low-temp reach-in	Standard low-temp reach-in	unit	\$0.07	12	5,431	0.222	1,671	\$123.33	30.77%	85%	85%	8.4149	1
AIReT11	All	Refrigeration	Turnover	11	High R-Value Glass Doors		door	\$0.67	10	3,986	0.106	797	\$537.50	20.00%	85%	85%	0.7587	0
AIReT12	All	Refrigeration	Turnover	12	Compressor VSD retrofit	Base Refrigeration System - Grocever		\$0.35	13	5,436	0.101	761	\$267.00	14%	75%	86%	1.1919	1
AIReT13	All	Refrigeration	Turnover	13	Quick acting freezer doors			\$0.62	10	38,544	4.461	33,637	\$20,966.00	87%	75%	86%	0.8207	0
AIReT14	All	Refrigeration	Turnover	14	VFD on cooling tower fans	Base single-speed fan		\$0.29	15	7,158	0.681	5,132	\$1,507.40	72%	35%	85%	2.6215	1
AIReT15	All	Refrigeration	Turnover	15	Reach-in Cooler: Shaded Pole to PSC: 1-37 Watt			\$0.60	15	832	0.047	352	\$212.50	42%	75%	49%	1.2804	1
AIReT16	All	Refrigeration	Turnover	16	Reach-in Cooler: PSC to ECM: 1-37 Watt			\$0.54	15	467	0.022	169	\$91.25	36%	75%	49%	1.4316	1
AIReT17	All	Refrigeration	Turnover	17	Reach-in Cooler: Shaded Pole to ECM: 1-37 Watt			\$0.59	15	832	0.069	521	\$306.25	63%	75%	49%	1.3150	1
AIReT18	All	Refrigeration	Turnover	18	Reach-in Freezer: Shaded Pole to ECM: 1-14 Watt			\$0.49	15	832	0.082	622	\$306.25	75%	75%	49%	1.5699	1
AIReT19	All	Refrigeration	Turnover	19	Reach-in Shaded Pole to PSC: Evaporator Fan Motor			\$0.55	15	832	0.051	386	\$212.50	46%	75%	49%	1.4041	1
AIReT20	All	Refrigeration	Turnover	20	Reach-in PSC to ECM Evaporator Fan Motor			\$0.49	15	467	0.025	185	\$91.25	40%	75%	49%	1.5671	1
AIReT21	All	Refrigeration	Turnover	21	Reach-in Shaded Pole to PSC: Evaporator Fan Motor			\$0.54	15	832	0.076	571	\$306.25	69%	75%	49%	1.4412	1
AIReT22	All	Refrigeration	Turnover	22	Walk-in Cooler: PSC to ECM: 16-49 Watt			\$0.35	15	711	0.034	258	\$91.25	36%	75%	49%	2.1855	1
AIReT23	All	Refrigeration	Turnover	23	Walk-in Freezer: PSC to ECM: 16-49 Watt			\$0.30	15	711	0.041	309	\$91.25	43%	75%	49%	2.6175	1
AIReT24	All	Refrigeration	Turnover	24	Walk-in Cooler: Shaded Pole to ECM: 16-49 Watt			\$0.44	15	1,175	0.093	704	\$306.25	60%	75%	49%	1.7769	1
AIReT25	All	Refrigeration	Turnover	25	Walk-in Freezer: Shaded Pole to ECM: 16-49 Watt			\$0.36	15	1,175	0.112	842	\$306.25	72%	75%	49%	2.1252	1
AIReT26	All	Refrigeration	Turnover	26	Walk-in PSC to ECM			\$0.32	15	711	0.038	283	\$91.25	40%	75%	49%	2.3972	1
AIReT27	All	Refrigeration	Turnover	27	Walk-in Shaded Pole to ECM			\$0.40	15	1,175	0.103	773	\$306.25	66%	75%	49%	1.9510	1
AIStT1	All	Signage	Turnover	1	Induction Street Lighting	Base HID Streetlighting	Fixture	\$0.57	15	2,762	0.101	1,619	\$925.00	59%	95%	95%	1.2914	1
AIStT2	All	Signage	Turnover	2	LED exit sign - 1 sided	Incandescent exit sign	Exit Sign	\$0.15	15	175	0.024	158	\$23.50	90%	65%	70%	5.1515	1
AIStT3	All	Signage	Turnover	3	LED exit sign - 2 sided	Incandescent exit sign	Exit Sign	\$0.16	15	350	0.048	228	\$37.50	65%	65%	70%	4.7821	1
AIStT4	All	Signage	Turnover	4	Photoluminescent Exit Sign	Incandescent exit sign	Exit Sign	\$0.17	15	79	0.011	175	\$30.00	100%	50%	70%	4.3082	1
AIStT5	All	Signage	Turnover	5	LED or equivalent sign lighting - 1 sided	Replace fluorescent sign lighting	Exit Sign	\$0.28	15	79	0.009	61	\$17.36	78%	48%	7%	2.8755	1
AIStT6	All	Signage	Turnover	6	LED or equivalent sign lighting - 2 sided	Replace fluorescent sign lighting	Exit Sign	\$0.12	15	175	0.007	140	\$37.36	80%	48%	7%	5.2762	1
AIStT7	All	Signage	Turnover	7	LED Street Lighting	Std HID Street Lighting	Pole	\$0.63	15	2,762	0.047	756	\$475.00	27%	95%	95%	1.1736	1
AIStT8	All	Signage	Turnover	8	Red LED Traffic Light	Red Traffic Light	Signal	\$0.37	10	332	0.019	299	\$112.00	90%	95%	75%	1.2905	1
AIStT9	All	Signage	Turnover	9	Yellow LED Traffic Light	Yellow Standard Traffic Light	Lamp	\$12.10	10	12	0.001	10	\$121.00	83%	95%	75%	0.0400	0
AIStT10	All	Signage	Turnover	10	Green LED Traffic Light	Green Standard Traffic Light	Lamp	\$0.77	10	260	0.014	226	\$174.00	87%	95%	75%	0.6279	0
AIStT11	All	Signage	Turnover	11	Hand/Man LED	Pedestrian Standard	Lamp	\$0.19	10	1,016	0.059	946	\$182.00	93%	95%	75%	2.5126	1
AIWt11	All	Water Heating	Turnover	1	Ultrasonic Faucet Control	Manual Faucet Control	unit	\$1,000	10	1,750	0.010	125	\$125	7%	75%	75%	0.4950	0
AIWt12	All	Water Heating	Turnover	2	Faucet Aerators	Std Flow faucet	unit	\$0.246	12	4,122	0.006	61	\$15	6%	75%	75%	2.4662	1
AIWt13	All	Water Heating	Turnover	3	Hot Water (DHW) Pipe Insulation	No insulation present	10 in ft	\$0.292	14	4,122	0.011	124.00	\$36.23	3%	75%	75%	2.4218	1
AIWt14	All	Water Heating	Turnover	4	Low-Flow Showerheads	Std Flow showerhead	unit	\$0.108	9	4,122	0.042	461	\$50	11%	75%	75%	4.0818	1
AIWt15	All	Water Heating	Turnover	5	Water Heater Thermostat Serback	Constant setpoint	unit	\$0.029	2	4,122	0.053	577.09	\$17	14%	75%	75%	3.3345	1
AIWtN1	All	Water Heating	New	1	Ultrasonic Faucet Control	Manual Faucet Control	unit	\$0.400	10	4,122	0.011	125	\$50	3%	75%	75%	1.2466	1
AIWtN2	All	Water Heating	New	2	Faucet Aerators	Std Flow faucet	unit	\$0.082	12	4,122	0.006	61	\$5	6%	75%	75%	7.3087	1
AIWtN3	All	Water Heating	New	3	Hot Water (DHW) Pipe Insulation	No insulation present	10 in ft	\$0.292	14	4,122	0.011	124.00	\$36.23	3%	75%	75%	2.4218	1
AIWtN4	All	Water Heating	New	4	Low-Flow Showerheads	Std Flow showerhead	unit	\$0.108	9	4,122	0.042	461	\$50	11%	75%	75%	4.0818	1
AIWtN5	All	Water Heating	New	5	Water Heater Thermostat Serback	Constant setpoint	unit	\$0.029	2	4,122	0.053	577.09	\$17	14%	75%	75%	3.3345	1
AIWtN6	All	Water Heating	New	6	High Efficiency Water Heater (Electric) EF_93_28-50 Gal	Std Efficiency water heater	unit	\$0.541	14	4,122	0.012	133	\$72	3%	75%	100%	1.3071	1
AIWtN7	All	Water Heating	New	7	Heat Pump Water Heater (air source)	Base Water Heating	unit	\$0.516	14	4,122	0.176	1,914.00	\$988	46%	75%	100%	1.3708	1
AIWtN8	All	Water Heating	New	8	Heat Recovery Unit	Base Water Heating	unit	\$0.362	14	4,122	0.190	2,073	\$750	50.3%	50%	95%	1.9562	1
AIWtN9	All	Water Heating	New	9	Solar Water Heater	Base Water Heating	unit	\$1,206	14	4,122	0.193	2,106	\$2,540	82.0%	65%	95%	0.5867	0
AIWt16	All	Water Heating	Turnover	6	High Efficiency Water Heater (Electric) EF_93_28-50 Gal	Std Efficiency water heater	unit	\$0.541	14	4,122	0.012	133	\$72	8.0%	100%	75%	1.3071	1
AIWt17	All	Water Heating	Turnover	7	Heat Pump Water Heater (air source)	Base Water Heating	unit	\$0.516	14	4,122	0.176	1,914.00	\$988	46%	75%	100%	1.3708	1
AIWt18	All	Water Heating	Turnover	8	Heat Recovery Unit	Base Water Heating	unit	\$0.458	14	4,122	0.190	2,073	\$950	50.3%	50%	95%	1.5443	1
AIWt19	All	Water Heating	Turnover	9	Solar Water Heater	Base Water Heating	unit	\$1,401	14	4,122	0.193	2,106	\$2,950	82.0%	65%	95%	0.9551	0
GroceRn1	All	Refrigeration	New	20	Demand Defrost Electric	Base Refrigeration System - Grocever	unit	\$0.91	15	4	0.000	0	\$0.05	1%	95%	92%	0.8510	0
AIReT27	All	Refrigeration	Turnover	27	Demand Defrost Electric	Base Refrigeration System - Grocever	unit	\$0.91	15	4	0.000	0	\$0.05	1%	95%	92%	0.8510	0
GroceRn3	All	Refrigeration	New	21	Demand Hot Gas Defrost	Base Refrigeration System - Grocever	unit	\$0.35	15	4	0.000	0	\$0.05	3%	95%	92%	2.1837	1
AIReT28	All	Refrigeration	Turnover	28	Demand Hot Gas Defrost	Base Refrigeration System - Grocever	unit	\$0.35	15	4	0.000	0	\$0.05	3%	95%	92%	2.1837	1
GroceRn4	All	Refrigeration	New	22	Efficient compressor motor - scroll	Base Refrigeration System - Grocever	unit	\$0.09	15	15,825	0.084	633	\$60.00	4%	95%	92%	8.1547	1
AIReT29	All	Refrigeration	Turnover	29	Efficient compressor motor - scroll	Base Refrigeration System - Grocever	unit	\$0.09	15	15,825	0.084	633	\$60.00	4%	95%	92%	8.1547	1
GroceRn6	All	Refrigeration	New	23	High R-Value Glass Doors	Base Refrigeration System - Grocever	Door	\$0.67	10	3,986	0.106	797	\$537.50	20.00%	95%	92%	0.7587	0
GroceRn7	All	Refrigeration	New	24	Refrigeration Commissioning	Base Refrigeration System - Grocever	Per refrigerator	\$0.31	7	8,800	0.187	1,408	\$440.00	16%	95%	92%	1.1499	1
AIRe11	All	Refrigeration	Early	1	Refrigeration Commissioning	Base Refrigeration System - Grocever	Per refrigerator	\$0.25	7	8,800	0.117	880	\$220.00	10%	95%	92%	1.4374	1
GroceRn8	All	Refrigeration	New	25	Strip curtains for walk-ins	Base Refrigeration System - Grocever	unit	\$0.50	15	29,900	0.079	598	\$300.00	2%	45%	78%	1.5408	1
AIReT30	All	Refrigeration	Turnover	30	Strip curtains for walk-ins	Base Refrigeration System - Grocever	unit	\$0.50	15	29,900	0.079	598	\$300.00	2%	45%	78%	1.5408	1
HealthPn18	Healthcare	Packaged DX	New	18	Automated control system	Baseline DX	ton	\$0.38	10	1,332	0.008	67	\$25.00	5%	100%	65%	1.3578	1
HealthPn19	Healthcare	Packaged DX	New	19	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$0.70	10	1,132	0.007	62	\$43.00	5%	100%	95%	0.7315	0
HealthPn15	Healthcare	Packaged DX	Turnover	15	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$0.70	10	1,132	0.007	62	\$43.00	5%	100%	95%	0.7315	0
AIcGn1	All	Cooking	New	1	Commercial Hot Food Holding Cabinets (Energy Star)	Standard Cabinet	Each	\$0.94	12	23,411	0.187	1,592	\$1,590.00	7%	40%	95%	0.6553	0
AIcGn2	All	Cooking	New	2	High Efficiency Fryers (Energy Star)	Standard Fryer	Each	\$5.45	12	18,196	0.027	233	\$1,271.00	1%	40%	95%		

Duquesne Commercial Measures

Measure	Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
RetailH1	Retail	Fluorescent	Early	1	Premium Efficiency T8 Lighting Replacement (32W lamps with low	Replace (E) T12 Lamp - Bundle	Fixture	\$0.3810	11	591	0.017	145	\$55.38	25%	95%	55%	1.4777	1	
RetailH2	Retail	Fluorescent	Early	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1761	14	2,365	0.082	710	\$125.00	30%	95%	80%	4.0801	1	
RetailH3	Retail	Fluorescent	Early	3	Photocell dimming control	No prior dimming control	Photozell	\$0.1902	9	2,365	0.136	1,183	\$25.00	50%	95%	92%	2.3227	1	
WarehouseH1	Warehouse	Fluorescent	Early	1	Premium Efficiency T8 Lighting Replacement (32W lamps with low	Replace (E) T12 Lamp - Bundle	Fixture	\$0.4113	12	548	0.015	135	\$55.38	25%	95%	35%	1.4992	1	
WarehouseH2	Warehouse	Fluorescent	Early	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1901	14	2,191	0.076	657	\$125.00	30%	95%	80%	3.7797	1	
WarehouseH3	Warehouse	Fluorescent	Early	3	Photoell dimming control	No prior dimming control	Photozell	\$0.2054	9	2,191	0.126	1,096	\$225.00	50%	95%	95%	2.1979	1	
MiscFH1	Misc	Fluorescent	Early	1	Premium Efficiency T8 Lighting Replacement (32W lamps with low	Replace (E) T12 Lamp - Bundle	Fixture	\$0.3764	11	599	0.017	147	\$55.38	25%	95%	44%	1.4958	1	
OfficeHN1	Office	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1781	15	621	0.007	62	\$11.06	10%	95%	100%	4.3100	1	
OfficeHN2	Office	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3561	15	621	0.018	155	\$55.32	25%	85%	100%	2.1550	1	
OfficeLN1	Office	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1781	15	2,727	0.031	273	\$48.56	10%	95%	100%	4.3100	1	
OfficeLN2	Office	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3561	15	2,727	0.078	682	\$242.78	25%	75%	100%	2.1550	1	
InstlHN1	Institutional	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1722	15	62,741	0.721	6,274	\$1,080.26	10%	95%	100%	4.4574	1	
InstlHN2	Institutional	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3444	15	62,741	1.803	15,685	\$5,401.30	25%	75%	100%	2.2287	1	
HealthN1	Healthcare	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0842	15	441,728	5.077	44,173	\$3,718.25	10%	95%	100%	9.1174	1	
HealthN2	Healthcare	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1684	15	441,728	12.091	110,432	\$18,591.24	25%	75%	100%	4.5587	1	
GroceHN1	Grocery	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0572	15	60,020	6.002	6,002	\$343.52	10%	95%	100%	13.4090	1	
GroceHN2	Grocery	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1145	15	60,020	1.724	15,005	\$1,717.60	25%	75%	100%	6.7045	1	
LodgHN1	Lodging	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1012	15	303,563	3.489	30,356	\$3,071.87	10%	95%	100%	7.5840	1	
LodgHN2	Lodging	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.2024	15	303,563	8.722	75,891	\$15,359.37	25%	75%	100%	3.7920	1	
RestlHN1	Restaurant	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0763	15	13,140	0.151	1,314	\$100.27	10%	95%	100%	10.0567	1	
RestlHN2	Restaurant	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1526	15	13,140	0.378	3,285	\$501.37	25%	75%	100%	5.0284	1	
RetailN1	Retail	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0792	15	60,011	0.690	6,001	\$475.15	10%	95%	100%	9.6934	1	
RetailN2	Retail	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1584	15	60,011	1.724	15,003	\$2,375.74	25%	75%	100%	4.8465	1	
WarehouseN1	Warehouse	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1603	15	44,747	0.514	4,475	\$717.11	10%	95%	100%	4.7889	1	
WarehouseN2	Warehouse	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3205	15	44,747	1.286	11,187	\$3,585.53	25%	75%	100%	2.3945	1	
GroceHN1	Grocery	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0572	15	3,937	0.045	394	\$22.53	10%	95%	100%	13.4090	1	
GroceHN2	Grocery	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1145	15	3,937	0.113	984	\$112.66	25%	85%	100%	6.4754	1	
InstlHN1	Institutional	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1722	15	2,159	0.062	540	\$87.18	10%	95%	100%	4.4574	1	
InstlHN2	Institutional	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3444	15	2,159	0.121	1,053	\$185.89	25%	85%	100%	2.2287	1	
HealthHN1	Healthcare	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0842	15	15,203	0.175	1,520	\$127.97	10%	95%	100%	9.1174	1	
HealthHN2	Healthcare	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1684	15	15,203	0.437	3,801	\$639.84	25%	85%	100%	4.5587	1	
LodgHN1	Lodging	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1012	15	10,539	0.121	1,054	\$106.65	10%	95%	100%	7.5840	1	
LodgHN2	Lodging	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.2024	15	10,539	0.303	2,635	\$533.27	25%	85%	100%	3.7920	1	
RestlHN1	Restaurant	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0763	15	459	0.005	46	\$3.51	10%	95%	100%	10.0567	1	
RestlHN2	Restaurant	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1526	15	459	0.013	115	\$17.53	25%	85%	100%	5.0284	1	
RetailHN1	Retail	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0792	15	10,313	0.119	1,031	\$81.65	10%	95%	100%	9.6930	1	
RetailHN2	Retail	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1584	15	10,313	0.236	2,578	\$408.25	25%	75%	100%	4.8465	1	
WarehouseHN1	Warehouse	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1603	15	7,843	0.090	784	\$125.69	10%	95%	100%	4.7889	1	
WarehouseHN2	Warehouse	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3205	15	7,843	0.225	1,961	\$628.45	25%	85%	100%	2.3945	1	
MiscHN1	Misc	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0988	15	4,211	0.048	421	\$41.61	10%	95%	100%	7.7672	1	
MiscHN2	Misc	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1976	15	4,211	0.121	1,053	\$208.03	25%	85%	100%	3.8836	1	
MiscFN1	Misc	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0988	15	121,285	1.394	12,128	\$1,198.38	10%	95%	100%	7.6722	1	
MiscFN2	Misc	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1976	15	121,285	3.485	30,321	\$5,991.88	25%	75%	100%	3.8836	1	
InstlHN1	Institutional	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1722	15	7,094	0.082	709	\$122.15	10%	95%	100%	4.4574	1	
InstlHN2	Institutional	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3444	15	7,094	0.204	1,774	\$610.75	25%	75%	100%	2.2287	1	
GroceHN1	Grocery	Incandescent	Turnover	1	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0161	5	309	0.021	186	\$3.00	60%	75%	50%	15.8161	1	
HealthN1	Healthcare	Incandescent	Turnover	1	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0174	5	286	0.020	173	\$3.00	60%	75%	50%	14.6427	1	
HealthN2	Grocery	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1145	15	9,629	0.277	2,407	\$27.57	25%	75%	100%	6.7045	1	
HealthN2	Healthcare	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1684	15	49,948	1.435	12,487	\$2,102.19	25%	75%	100%	4.5587	1	
LodgHN1	Lodging	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1012	15	72,424	0.832	7,242	\$732.89	10%	95%	100%	7.5840	1	
LodgHN2	Lodging	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.2024	15	72,424	2.081	18,106	\$3,664.46	25%	75%	100%	3.7920	1	
RestlHN1	Restaurant	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0763	15	8,649	0.099	865	\$86.01	10%	95%	100%	10.0567	1	
RestlHN2	Restaurant	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1526	15	8,649	0.249	2,162	\$310.03	25%	75%	100%	5.0284	1	
RetailN1	Retail	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0792	15	9,628	0.111	963	\$76.23	10%	95%	100%	9.6930	1	
RetailN2	Retail	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1584	15	9,628	0.277	2,407	\$381.16	25%	75%	100%	4.8465	1	
WarehouseN1	Warehouse	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1603	15	5,975	0.069	598	\$95.76	10%	95%	100%	4.7889	1	
WarehouseN2	Warehouse	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3205	15	5,975	0.172	1,494	\$478.78	25%	75%	100%	2.3945	1	
MiscFN1	Misc	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0988	15	28,936	0.333	2,894	\$285.91	10%	95%	100%	7.7672	1	
MiscFN2	Misc	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1976	15	28,936	0.831	7,234	\$1,429.55	25%	75%	100%	3.8836	1	
MiscFH2	Misc	Fluorescent	Early	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1740	14	2,394	0.083	718	\$125.00	30%	95%	80%	4.1299	1	
MiscFH3	Misc	Fluorescent	Early	3	Photoell dimming control	No prior dimming control	Photozell	\$0.1879	9	2,394	0.138	1,197	\$225.00	50%	95%	95%	2.4016	1	
MiscFN4	Misc	Fluorescent	New	4	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0696	14	2,394	0.083	718	\$50.00	30%	95%	15%	10.3248	1	
MiscFN3	Misc	Fluorescent	New	3	Photoell dimming control	No prior dimming control	Photozell	\$0.1253	9	2,394	0.138	1,197	\$150.00	50%	95%	75%	3.6024	1	
InstlHN1	Institutional	Fluorescent	New	4	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1124	14	1,483	0.051	445	\$50.00	30%					

Duquesne Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
RetailT3	Retail	Fluorescent	Turnover	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1268	9	2,365	0.136	1,183	\$150.00	50%	95%	95%	3,5590	1
WarehouseT3	Warehouse	Fluorescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0761	14	2,201	0.076	657	\$50.00	30%	95%	80%	9,4492	1
WarehouseT4	Warehouse	Fluorescent	Turnover	3	Photocell dimming control	Photocell dimming control	Photocell	\$0.1369	6	2,191	0.126	1,006	\$150.00	50%	95%	95%	3,2609	1
GroceryT11	Grocery	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.0650	6	1,163	0.044	36	\$2.32	22%	90%	95%	4,7166	1
GroceryT14	Grocery	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.0990	6	1,163	0.092	20	\$2.02	13%	60%	95%	3,0959	1
GroceryT15	Grocery	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0307	11	582	0.010	83	\$2.55	14%	75%	95%	18,3730	1
GroceryT14	Grocery	Fluorescent	Early	4	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.7257	11	582	0.010	83	\$60.38	14%	75%	95%	0,7758	0
HealthT16	Healthcare	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1.0943	7	151	0.007	59	\$65.00	39%	40%	95%	0,3259	0
HealthT11	Healthcare	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.0701	7	151	0.004	33	\$2.32	22%	90%	95%	5,0891	1
HealthT14	Healthcare	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.1068	7	151	0.002	19	\$2.02	13%	60%	95%	3,3404	1
HealthT15	Healthcare	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0331	11	540	0.009	77	\$2.55	14%	75%	95%	17,0020	1
HealthT14	Healthcare	Fluorescent	Early	4	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.7769	11	540	0.009	77	\$59.93	14%	75%	95%	0,7246	0
InstitutionT16	Institutional	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$2.2383	15	74	0.003	29	\$65.00	39%	40%	95%	0,3429	0
InstitutionT11	Institutional	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.1433	15	74	0.002	16	\$2.32	22%	90%	95%	5,3540	1
InstitutionT14	Institutional	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.2184	15	74	0.001	9	\$2.02	13%	60%	95%	3,5143	1
InstitutionT15	Institutional	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0677	11	264	0.004	38	\$2.55	14%	75%	95%	8,3121	1
InstitutionT14	Institutional	Fluorescent	Early	4	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.9281	11	264	0.004	38	\$35.00	14%	75%	95%	0,6666	0
LodgingT16	Lodging	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1.1959	8	138	0.006	54	\$65.00	39%	40%	95%	0,3385	0
LodgingT11	Lodging	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.0766	8	138	0.003	30	\$2.32	22%	90%	95%	5,2856	1
LodgingT14	Lodging	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.1167	8	138	0.002	17	\$2.02	13%	60%	95%	3,4694	1
LodgingT15	Lodging	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0362	11	494	0.008	71	\$2.55	14%	75%	95%	15,5568	1
LodgingT14	Lodging	Fluorescent	Early	4	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.4959	11	494	0.008	71	\$35.00	14%	75%	95%	1,1353	1
MiscT16	Misc	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1.3867	9	119	0.005	47	\$65.00	39%	40%	95%	0,3255	0
MiscT11	Misc	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.0888	9	119	0.003	26	\$2.32	22%	90%	95%	5,0828	1
MiscT14	Misc	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.1353	9	119	0.002	15	\$2.02	13%	60%	95%	3,3363	1
MiscT15	Misc	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0420	11	426	0.007	61	\$2.55	14%	75%	95%	13,4170	1
MiscT14	Misc	Fluorescent	Early	4	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.5750	11	426	0.007	61	\$35.00	14%	75%	95%	0,9791	0
OfficeT16	Office	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$2.1044	14	79	0.004	31	\$65.00	39%	40%	95%	0,3415	0
OfficeT11	Office	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.1348	14	79	0.002	17	\$2.32	22%	90%	95%	5,3329	1
OfficeT14	Office	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.2053	14	79	0.001	10	\$2.02	13%	60%	95%	3,5005	1
OfficeT15	Office	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0637	11	281	0.005	40	\$2.55	14%	75%	95%	8,8410	1
OfficeT14	Office	Fluorescent	Early	4	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.8726	11	281	0.005	40	\$35.00	14%	75%	95%	0,6452	0
RetailT16	Retail	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1.3528	9	122	0.006	48	\$65.00	39%	40%	95%	0,3337	0
RetailT11	Retail	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.0866	9	122	0.003	27	\$2.32	22%	90%	95%	5,2100	1
RetailT14	Retail	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.1320	9	122	0.002	15	\$2.02	13%	60%	95%	3,4198	1
RetailT15	Retail	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0409	11	437	0.007	62	\$2.55	14%	75%	95%	13,7527	1
RetailT14	Retail	Fluorescent	Early	4	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.5610	11	437	0.007	62	\$35.00	14%	75%	95%	1,0036	1
RetailT16	Retail	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1.4036	9	118	0.005	44	\$65.00	39%	40%	95%	0,3216	0
RetailT11	Retail	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.0899	9	118	0.003	26	\$2.32	22%	90%	95%	5,0125	1
RetailT14	Retail	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.1369	9	118	0.002	15	\$2.02	13%	60%	95%	3,2961	1
RetailT15	Retail	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0425	11	421	0.007	60	\$2.55	14%	75%	95%	13,2533	1
RetailT14	Retail	Fluorescent	Early	4	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.5820	11	421	0.007	60	\$35.00	14%	75%	95%	0,9673	0
WarehouseT16	Warehouse	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1.5152	10	109	0.005	43	\$65.00	39%	40%	95%	0,3351	0
WarehouseT11	Warehouse	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.0970	10	109	0.003	24	\$2.32	22%	90%	95%	5,2334	1
WarehouseT14	Warehouse	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.1478	10	109	0.002	14	\$2.02	13%	60%	95%	3,4351	1
WarehouseT15	Warehouse	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0459	11	390	0.006	56	\$2.55	14%	75%	95%	12,2792	1
WarehouseT14	Warehouse	Fluorescent	Early	4	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.6283	11	390	0.006	56	\$35.00	14%	75%	95%	0,8961	0
GroceryH1E1	Grocery	HiD	Early	1	4" T8 High Bay fixture - 32 W - 6 lamps HPF	Replace HiD fixture drawing 250W	Fixture	\$0.3797	10	1,893	0.065	565	\$214.50	30%	85%	80%	1,3374	1
GroceryH1E2	Grocery	HiD	Early	2	4" T8 High Bay fixture - 32 W - 8 lamps HPF	Replace HiD fixture drawing 400 W	Fixture	\$0.2995	10	2,772	0.115	1,002	\$300.00	36%	85%	80%	1,6956	1
GroceryH1E3	Grocery	HiD	Early	3	4" T5 HO fixture - 54 W - 4 lamp	Replace HiD Fixture drawing 250 W	Fixture	\$0.3449	10	1,893	0.078	681	\$325.00	36%	85%	80%	1,4724	1
GroceryH1E4	Grocery	HiD	Early	4	4" T5 HO fixture - 54 W - 6 lamp	Replace HiD Fixture drawing 400 W	Fixture	\$0.3403	10	2,772	0.110	955	\$325.00	34%	85%	80%	1,4924	1
GroceryH1E7	Grocery	HiD	Turnover	5	Ceramic Metal Halide lamp	Replace non-ceramic lamp 400 W	Lamp	\$0.0859	3	2,330	0.047	408	\$35.00	18%	85%	55%	1,7524	1
GroceryH1E7	Grocery	HiD	Early	7	Induction High Bay Lighting	Base High Bay HiD, 250W	Fixture	\$0.8147	15	1,893	0.047	844	\$688.00	45%	85%	80%	0,0420	0
GroceryH11	Grocery	HiD	Turnover	1	4" T8 High Bay fixture - 32 W - 6 lamps HPF	Replace HiD fixture drawing 250W	Fixture	\$0.1956	10	1,893	0.065	565	\$110.50	30%	85%	80%	2,5961	1
GroceryH12	Grocery	HiD	Turnover	2	4" T8 High Bay fixture - 32 W - 8 lamps HPF	Replace HiD fixture drawing 400 W	Fixture	\$0.2246	10	2,772	0.115	1,002	\$225.00	36%	85%	80%	2,2908	1
GroceryH13	Grocery	HiD	Turnover	3	4" T5 HO fixture - 54 W - 4 lamp	Replace HiD Fixture drawing 250 W	Fixture	\$0.2128	10	1,893	0.078	681	\$145.00	36%	85%	80%	2,3863	1
GroceryH14	Grocery	HiD	Turnover	4	4" T5 HO fixture - 54 W - 6 lamp	Replace HiD Fixture drawing 400 W	Fixture	\$0.2722	10	2,772	0.110	955	\$260.00	34%	85%	80%	1,8655	1
GroceryH16	Grocery	HiD	Turnover	6	Multi Lamp Hard Wired CFL	Replace HiD Fixture drawing 400 W	Fixture	\$0.3442	10	2,772	0.142	1,235	\$425.00	45%	85%	55%	1,4752	1
GroceryH17	Grocery	HiD	Turnover	7	Induction High Bay Lighting	Base High Bay HiD, 250W	Fixture	\$0.4441	15	1,893	0.097	844	\$375.00	45%	85%	80%	1,7283	1
HealthH1E1	Healthcare	HiD	Early	1	4" T8 High Bay fixture - 32 W - 6 lamps HPF	Replace HiD fixture drawing 250W	Fixture	\$0.4095	10	1,755	0.060	524	\$214.50	30%	85%	80%	1,2400	1
HealthH1E2	Healthcare	HiD	Early	2	4" T8 High Bay fixture - 32 W - 8 lamps HPF	Replace HiD fixture drawing 400 W	Fixture	\$0.3230	10	2,570	0.107	929	\$300.00	36%	85%	80%	1,5722	1
HealthH1E3	Healthcare	HiD	Early	3	4" T5 HO fixture - 54 W - 4 lamp	Replace HiD Fixture drawing 250 W	Fixture	\$0.3720	10	1,755	0.073	632	\$325.00	36%	85%	80%	1,3652	1
HealthH1E4	Healthcare	HiD	Early	4	4" T5 HO fixture - 54 W - 6 lamp	Replace HiD Fixture drawing 400 W	Fixture	\$0.3670	10	2,570	0.102	886	\$325.00	34%	85%	80%	1,3837	1

Duquesne Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
LodgH117	Lodging	Office	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0.5234	15	1,606	0.082	716	\$37,500	45%	85%	80%	1.4662	1
OffiCH11	Office	HID	Early	1	4' T8 High Bay fixture - 32 W - 8 lamps HPP	Replace HID fixture drawing 250W	Fixture	\$0.7875	10	913	0.031	272	\$214.50	30%	85%	80%	0.6448	0
OffiCH12	Office	HID	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPP	Replace HID fixture drawing 400 W	Fixture	\$0.6211	10	1,337	0.056	483	\$300.00	36%	85%	80%	0.8175	0
OffiCH13	Office	HID	Early	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.7153	10	913	0.038	329	\$235.00	36%	85%	80%	0.7099	0
OffiCH14	Office	HID	Early	4	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.7057	10	1,337	0.053	461	\$325.00	34%	85%	80%	0.7195	0
OffiCH15	Office	HID	Turnover	5	Ceramic Metal Halide lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0.1781	5	1,123	0.023	197	\$35.00	18%	85%	55%	1.4298	1
OffiCH17	Office	HID	Early	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$1.6898	15	913	0.047	407	\$688.00	45%	85%	80%	4.4524	0
OffiCH11	Office	HID	Turnover	1	4' T8 High Bay fixture - 32 W - 6 lamps HPP	Replace HID fixture drawing 250W	Fixture	\$0.4057	10	913	0.031	272	\$110.50	30%	85%	80%	1.2517	1
OffiCH12	Office	HID	Turnover	2	4' T8 High Bay fixture - 32 W - 8 lamps HPP	Replace HID fixture drawing 400 W	Fixture	\$0.4659	10	1,337	0.056	483	\$225.00	36%	85%	80%	1.0901	1
OffiCH13	Office	HID	Turnover	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.4414	10	913	0.038	329	\$145.00	36%	85%	80%	1.1506	1
OffiCH14	Office	HID	Turnover	4	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.5646	10	1,337	0.053	461	\$260.00	34%	85%	80%	0.8994	0
OffiCH16	Office	HID	Turnover	6	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0.7139	10	1,337	0.068	595	\$425.00	45%	85%	55%	0.7113	0
OffiCH17	Office	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0.9210	15	913	0.047	407	\$375.00	45%	85%	80%	0.8333	0
RestaH11	Restaurant	HID	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPP	Replace HID fixture drawing 250W	Fixture	\$0.5063	10	1,420	0.049	424	\$214.50	30%	85%	80%	1.0030	1
RestaH12	Restaurant	HID	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPP	Replace HID fixture drawing 400 W	Fixture	\$0.3993	10	2,079	0.086	751	\$300.00	36%	85%	80%	1.2574	1
RestaH13	Restaurant	HID	Early	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.4598	10	1,420	0.059	511	\$235.00	36%	85%	80%	1.1043	1
RestaH14	Restaurant	HID	Early	4	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.4537	10	2,079	0.082	716	\$325.00	34%	85%	80%	1.1193	1
RestaH15	Restaurant	HID	Turnover	5	Ceramic Metal Halide lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0.1145	3	1,747	0.035	306	\$35.00	18%	85%	55%	1.3218	1
RestaH17	Restaurant	HID	Early	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$1.0863	15	1,420	0.073	633	\$688.00	45%	85%	80%	0.7065	0
RestaH11	Restaurant	HID	Turnover	1	4' T8 High Bay fixture - 32 W - 6 lamps HPP	Replace HID fixture drawing 250W	Fixture	\$0.2608	10	1,420	0.049	424	\$110.50	30%	85%	80%	1.9471	1
RestaH12	Restaurant	HID	Turnover	2	4' T8 High Bay fixture - 32 W - 8 lamps HPP	Replace HID fixture drawing 400 W	Fixture	\$0.2995	10	2,079	0.086	751	\$225.00	36%	85%	80%	1.6956	1
RestaH13	Restaurant	HID	Turnover	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.2837	10	1,420	0.059	511	\$145.00	36%	85%	80%	1.7898	1
RestaH14	Restaurant	HID	Turnover	4	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.3630	10	2,079	0.082	716	\$260.00	34%	85%	80%	1.3991	1
RestaH16	Restaurant	HID	Turnover	6	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0.4590	10	2,079	0.106	926	\$425.00	45%	85%	55%	1.1064	1
RestaH17	Restaurant	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0.5921	15	1,420	0.073	633	\$375.00	45%	85%	80%	1.2962	1
RetalH11	Retail	HID	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPP	Replace HID fixture drawing 250W	Fixture	\$0.5253	10	1,368	0.047	408	\$214.50	30%	85%	80%	0.9668	0
RetalH12	Retail	HID	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPP	Replace HID fixture drawing 400 W	Fixture	\$0.4143	10	2,004	0.083	724	\$300.00	36%	85%	80%	1.2257	1
RetalH13	Retail	HID	Early	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.4771	10	1,368	0.057	493	\$235.00	36%	85%	80%	1.0644	1
RetalH14	Retail	HID	Early	4	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.4707	10	2,004	0.079	690	\$325.00	34%	85%	80%	1.0788	1
RetalH15	Retail	HID	Turnover	5	Ceramic Metal Halide lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0.1188	4	1,684	0.034	295	\$35.00	18%	85%	55%	1.6861	1
RetalH17	Retail	HID	Early	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$1.1270	15	1,368	0.070	610	\$688.00	45%	85%	80%	0.6810	0
RetalH11	Retail	HID	Turnover	1	4' T8 High Bay fixture - 32 W - 6 lamps HPP	Replace HID fixture drawing 250W	Fixture	\$0.2706	10	1,368	0.047	408	\$110.50	30%	85%	80%	1.8767	1
RetalH12	Retail	HID	Turnover	2	4' T8 High Bay fixture - 32 W - 8 lamps HPP	Replace HID fixture drawing 400 W	Fixture	\$0.3107	10	2,004	0.083	724	\$225.00	36%	85%	80%	1.6343	1
RetalH13	Retail	HID	Turnover	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.2944	10	1,368	0.057	493	\$145.00	36%	85%	80%	1.7250	1
RetalH14	Retail	HID	Turnover	4	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.3766	10	2,004	0.079	690	\$260.00	34%	85%	80%	1.3485	1
RetalH16	Retail	HID	Turnover	6	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0.4762	10	2,004	0.103	893	\$425.00	45%	85%	55%	1.0664	1
RetalH17	Retail	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0.6143	15	1,368	0.070	610	\$375.00	45%	85%	80%	1.2493	1
MiscH11	Misc	HID	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPP	Replace HID fixture drawing 250W	Fixture	\$0.5189	10	1,385	0.048	413	\$214.50	30%	85%	80%	0.9786	0
MiscH12	Misc	HID	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPP	Replace HID fixture drawing 400 W	Fixture	\$0.4093	10	2,028	0.084	733	\$300.00	36%	85%	80%	1.2407	1
MiscH13	Misc	HID	Early	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.4713	10	1,385	0.057	499	\$235.00	36%	85%	80%	1.0774	1
MiscH14	Misc	HID	Early	4	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.4650	10	2,028	0.080	699	\$325.00	34%	85%	80%	1.0920	1
MiscH15	Misc	HID	Turnover	5	Ceramic Metal Halide lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0.1173	4	1,705	0.034	298	\$35.00	18%	85%	55%	1.7067	1
MiscH17	Misc	HID	Early	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$1.1134	15	1,385	0.071	618	\$688.00	45%	85%	80%	0.6893	0
MiscH11	Misc	HID	Turnover	1	4' T8 High Bay fixture - 32 W - 6 lamps HPP	Replace HID fixture drawing 250W	Fixture	\$0.2673	10	1,385	0.048	413	\$110.50	30%	85%	80%	1.8996	1
MiscH12	Misc	HID	Turnover	2	4' T8 High Bay fixture - 32 W - 8 lamps HPP	Replace HID fixture drawing 400 W	Fixture	\$0.3070	10	2,028	0.084	733	\$225.00	36%	85%	80%	1.6342	1
MiscH13	Misc	HID	Turnover	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.2908	10	1,385	0.057	499	\$145.00	36%	85%	80%	1.7461	1
MiscH14	Misc	HID	Turnover	4	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.3720	10	2,028	0.080	699	\$260.00	34%	85%	80%	1.3649	1
MiscH16	Misc	HID	Turnover	6	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0.4704	10	2,028	0.104	903	\$425.00	45%	85%	55%	1.0794	1
MiscH17	Misc	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0.6069	15	1,385	0.071	618	\$375.00	45%	85%	80%	1.2646	1
GroceH18	Grocery	HID	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1651	10	7,571	0.261	2,271	\$375.00	30%	85%	85%	3.0757	1
GroceH19	Grocery	HID	Early	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1453	10	7,571	0.435	3,786	\$550.00	50%	85%	85%	3.4951	1
GroceH110	Grocery	HID	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1321	10	7,571	0.087	757	\$100.00	10%	85%	45%	3.8447	1
HealthH8	Healthcare	HID	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1781	10	7,020	0.242	2,106	\$375.00	30%	85%	85%	2.8518	1
HealthH9	Healthcare	HID	Early	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1567	10	7,020	0.403	3,510	\$550.00	50%	85%	85%	3.2407	1
HealthH10	Healthcare	HID	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1425	10	7,020	0.081	702	\$100.00	10%	85%	45%	3.5648	1
InstiH18	Institutional	HID	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.3642	10	3,432	0.118	1,030	\$375.00	30%	85%	85%	1.3942	1
InstiH19	Institutional	HID	Early	9	Photocell dimming control	No prior dimming control	Photocell	\$0.3205	10	3,432	0.197	1,716	\$550.00	50%	85%	85%	1.5843	1
InstiH110	Institutional	HID	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.2914	10	3,432	0.039	343	\$100.00	10%	85%	45%	1.7428	1
OffiCH18	Office	HID	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.3424	10	3,650	0.126	1,095	\$375.00	30%	85%	85%	1.4829	1
OffiCH19	Office	HID	Early	9	Photocell dimming control	No prior dimming control	Photocell	\$0.3013	10	3,650	0.210	1,825	\$550.00	50%	85%	85%	1.6852	1
OffiCH110	Office	HID	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.2739	10	3,650	0.042	365	\$100.00	10%	85%	45%	1.8537	1
RestaH18	Restaurant	HID	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2201	10	5,678	0.196	1,704	\$375.00	30%	85%	85%	2.3068	1
RestaH19	Restaurant	HID	Early	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1937	10	5,678	0.326	2,839	\$550.00	50%	85%	85%	2.6214	1
RestaH110	Restaurant	HID	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1761	10	5,								

Duquesne Commercial Measures

Measure	Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
RetailH8	Retail	Healthcare	Turnover	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1675	10	5,473	0.189	1,642	\$27,500	30%	85%	85%	3,0318	1	
RetailH9	Retail	Healthcare	Turnover	9	Photozell dimming control	No prior dimming control	Photozell	\$0.2010	10	5,473	0.314	2,737	\$350,000	30%	85%	85%	2,5625	1	
RetailH10	Retail	Healthcare	Turnover	10	Replace manual switches or no control	Manual Wall Switch	Control Point	\$0.1370	10	5,473	0.063	547	\$75,000	10%	85%	85%	3,7056	1	
WarehouseH8	Warehouse	Healthcare	Turnover	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1808	10	5,070	0.175	1,521	\$27,500	30%	85%	85%	2,9866	1	
WarehouseH9	Warehouse	Healthcare	Turnover	9	Photozell dimming control	No prior dimming control	Photozell	\$0.2170	10	5,070	0.291	2,535	\$50,000	30%	85%	85%	2,3405	1	
WarehouseH10	Warehouse	Healthcare	Turnover	10	Replace manual switches or no control	Manual Wall Switch	Control Point	\$0.1479	10	5,070	0.058	507	\$75,000	10%	85%	45%	3,4327	1	
WarehouseH8	Warehouse	Healthcare	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1781	10	4,680	0.161	1,404	\$250,000	30%	85%	85%	2,8518	1	
WarehouseH9	Warehouse	Healthcare	New	9	Photozell dimming control	No prior dimming control	Photozell	\$0.1923	10	4,680	0.269	2,340	\$450,000	30%	85%	85%	2,6406	1	
WarehouseH10	Warehouse	Healthcare	New	10	Replace manual switches or no control	Manual Wall Switch	Control Point	\$0.1389	10	4,680	0.054	468	\$65,000	10%	25%	45%	3,6562	1	
GroceryH8	Grocery	Healthcare	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1192	10	6,989	0.241	2,097	\$250,000	30%	85%	85%	4,2587	1	
GroceryH9	Grocery	Healthcare	New	9	Photozell dimming control	No prior dimming control	Photozell	\$0.1288	10	6,989	0.402	3,494	\$450,000	30%	85%	85%	3,9432	1	
GroceryH10	Grocery	Healthcare	New	10	Replace manual switches or no control	Manual Wall Switch	Control Point	\$0.0930	10	6,989	0.080	699	\$65,000	10%	25%	45%	5,4599	1	
HealthH8	Healthcare	Healthcare	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1286	10	4,480	0.223	1,944	\$250,000	30%	85%	85%	3,9487	1	
HealthH9	Healthcare	Healthcare	New	9	Photozell dimming control	No prior dimming control	Photozell	\$0.1389	10	4,480	0.372	3,240	\$450,000	30%	85%	85%	3,6562	1	
HealthH10	Healthcare	Healthcare	New	10	Replace manual switches or no control	Manual Wall Switch	Control Point	\$0.1003	10	4,480	0.074	448	\$65,000	10%	25%	45%	5,0624	1	
InstitutionH8	Institutional	Healthcare	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2630	10	3,168	0.109	950	\$250,000	30%	85%	85%	1,9305	1	
InstitutionH9	Institutional	Healthcare	New	9	Photozell dimming control	No prior dimming control	Photozell	\$0.2841	10	3,168	0.182	1,584	\$450,000	30%	85%	85%	1,7875	1	
InstitutionH10	Institutional	Healthcare	New	10	Replace manual switches or no control	Manual Wall Switch	Control Point	\$0.2052	10	3,168	0.036	317	\$65,000	10%	25%	45%	2,4749	1	
LodgingH8	Lodging	Healthcare	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1405	10	5,929	0.204	1,779	\$250,000	30%	85%	85%	3,6130	1	
LodgingH9	Lodging	Healthcare	New	9	Photozell dimming control	No prior dimming control	Photozell	\$0.1518	10	5,929	0.341	2,965	\$450,000	30%	85%	85%	3,3454	1	
LodgingH10	Lodging	Healthcare	New	10	Replace manual switches or no control	Manual Wall Switch	Control Point	\$0.1096	10	5,929	0.068	593	\$65,000	10%	25%	45%	4,6231	1	
OfficeH8	Office	Healthcare	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2473	10	3,370	0.116	1,011	\$250,000	30%	85%	85%	2,0533	1	
OfficeH9	Office	Healthcare	New	9	Photozell dimming control	No prior dimming control	Photozell	\$0.2671	10	3,370	0.194	1,685	\$450,000	30%	85%	85%	1,9012	1	
OfficeH10	Office	Healthcare	New	10	Replace manual switches or no control	Manual Wall Switch	Control Point	\$0.1929	10	3,370	0.039	337	\$65,000	10%	25%	45%	2,6324	1	
RestaurantH8	Restaurant	Healthcare	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1590	10	5,242	0.181	1,572	\$250,000	30%	85%	85%	3,1940	1	
RestaurantH9	Restaurant	Healthcare	New	9	Photozell dimming control	No prior dimming control	Photozell	\$0.1717	10	5,242	0.301	2,621	\$450,000	30%	85%	85%	2,9574	1	
RestaurantH10	Restaurant	Healthcare	New	10	Replace manual switches or no control	Manual Wall Switch	Control Point	\$0.1240	10	5,242	0.060	524	\$65,000	10%	25%	45%	4,0949	1	
RetailH8	Retail	Healthcare	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1650	10	5,052	0.174	1,316	\$65,000	30%	85%	85%	3,0785	1	
RetailH9	Retail	Healthcare	New	9	Photozell dimming control	No prior dimming control	Photozell	\$0.1781	10	5,052	0.290	2,526	\$450,000	30%	85%	85%	2,8505	1	
RetailH10	Retail	Healthcare	New	10	Replace manual switches or no control	Manual Wall Switch	Control Point	\$0.1287	10	5,052	0.058	505	\$65,000	10%	25%	45%	3,9468	1	
MiscH8	Misc	Healthcare	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1630	10	5,114	0.176	1,534	\$250,000	30%	85%	85%	3,1161	1	
MiscH9	Misc	Healthcare	New	9	Photozell dimming control	No prior dimming control	Photozell	\$0.1760	10	5,114	0.294	2,557	\$450,000	30%	85%	85%	2,8852	1	
MiscH10	Misc	Healthcare	New	10	Replace manual switches or no control	Manual Wall Switch	Control Point	\$0.1271	10	5,114	0.059	511	\$65,000	10%	25%	45%	3,9949	1	
OfficeN3	Office	Healthcare	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0464	14	3,594	0.124	1,078	\$50,000	30%	95%	15%	15,4991	1	
OfficeN4	Office	Healthcare	New	4	Photozell dimming control	No prior dimming control	Photozell	\$0.0835	9	3,594	0.207	1,797	\$150,000	30%	95%	95%	5,4078	1	
OfficeI2	Office	Healthcare	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1159	14	3,594	0.124	1,078	\$125,000	30%	95%	80%	6,1996	1	
OfficeI3	Office	Healthcare	Turnover	3	Photozell dimming control	No prior dimming control	Photozell	\$0.1252	9	3,594	0.207	1,797	\$225,000	30%	95%	95%	3,6052	1	
GroceryN3	Grocery	Healthcare	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0224	14	7,455	0.257	2,236	\$150,000	30%	95%	15%	32,1462	1	
GroceryI2	Grocery	Healthcare	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0559	14	7,455	0.257	2,236	\$125,000	30%	95%	80%	12,5585	1	
HealthI3	Healthcare	Healthcare	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0613	14	6,912	0.238	2,074	\$125,000	30%	95%	80%	11,0224	1	
GroceryN4	Grocery	Healthcare	New	4	Photozell dimming control	No prior dimming control	Photozell	\$0.0402	9	7,455	0.428	3,727	\$150,000	30%	95%	95%	11,2161	1	
HealthN3	Healthcare	Healthcare	New	4	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0241	14	6,912	0.238	2,074	\$50,000	30%	95%	15%	29,8050	1	
GroceryI3	Grocery	Healthcare	Turnover	3	Photozell dimming control	No prior dimming control	Photozell	\$0.0604	9	7,455	0.428	3,727	\$225,000	30%	95%	95%	7,4774	1	
HealthI3	Healthcare	Healthcare	Turnover	3	Photozell dimming control	No prior dimming control	Photozell	\$0.0651	9	6,912	0.397	3,456	\$225,000	30%	95%	95%	6,9330	1	
HealthN4	Healthcare	Healthcare	New	4	Photozell dimming control	No prior dimming control	Photozell	\$0.0434	9	6,912	0.397	3,456	\$150,000	30%	95%	95%	10,3995	1	
InstitutionN3	Institutional	Healthcare	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0493	14	3,379	0.117	1,014	\$50,000	30%	95%	15%	14,5718	1	
InstitutionN4	Institutional	Healthcare	New	4	Photozell dimming control	No prior dimming control	Photozell	\$0.0888	9	3,379	0.194	1,690	\$150,000	30%	95%	95%	5,0842	1	
InstitutionI2	Institutional	Healthcare	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1233	14	3,379	0.117	1,014	\$125,000	30%	95%	80%	5,8287	1	
InstitutionI3	Institutional	Healthcare	Turnover	3	Photozell dimming control	No prior dimming control	Photozell	\$0.1332	9	3,379	0.194	1,690	\$225,000	30%	95%	95%	3,3895	1	
LodgingN3	Lodging	Healthcare	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0264	14	6,324	0.218	1,897	\$50,000	30%	95%	15%	27,2724	1	
LodgingN4	Lodging	Healthcare	New	4	Photozell dimming control	No prior dimming control	Photozell	\$0.0474	9	6,324	0.363	3,162	\$150,000	30%	95%	95%	9,5156	1	
LodgingI2	Lodging	Healthcare	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0659	14	6,324	0.218	1,897	\$125,000	30%	95%	80%	10,9990	1	
LodgingI3	Lodging	Healthcare	Turnover	3	Photozell dimming control	No prior dimming control	Photozell	\$0.0712	9	6,324	0.363	3,162	\$225,000	30%	95%	95%	6,3437	1	
RestaurantN3	Restaurant	Healthcare	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0298	14	5,391	0.193	1,677	\$50,000	30%	95%	15%	24,1096	1	
RestaurantN4	Restaurant	Healthcare	New	4	Photozell dimming control	No prior dimming control	Photozell	\$0.0537	9	5,391	0.321	2,796	\$150,000	30%	95%	95%	8,4121	1	
RestaurantI2	Restaurant	Healthcare	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0745	14	5,391	0.193	1,677	\$125,000	30%	95%	80%	9,6439	1	
RestaurantI3	Restaurant	Healthcare	Turnover	3	Photozell dimming control	No prior dimming control	Photozell	\$0.0805	9	5,391	0.321	2,796	\$225,000	30%	95%	95%	5,6080	1	
RetailN3	Retail	Healthcare	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0309	14	5,389	0.186	1,617	\$50,000	30%	95%	15%	23,2375	1	
RetailN4	Retail	Healthcare	New	4	Photozell dimming control	No prior dimming control	Photozell	\$0.0557	9	5,389	0.310	2,694	\$150,000	30%	95%	95%	8,1078	1	
RetailI2	Retail	Healthcare	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0773	14	5,389	0.186	1,617	\$125,000	30%	95%	80%	9,2950	1	
RetailI3	Retail	Healthcare	Turnover	3	Photozell dimming control	No prior dimming control	Photozell	\$0.0835	9	5,389	0.310	2,694	\$225,000	30%	95%	95%	5,4052	1	
WarehouseN3	Warehouse	Healthcare	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0334	14	4,992	0.172	1,498	\$50,000	30%	95%	15%	21,5265	1	
WarehouseN4	Warehouse	Healthcare	New	4	Photozell dimming control	No prior dimming control	Photozell	\$0.0601	9	4,992	0.287	2,496	\$150,000	30%	95%	95%	7,5108	1	
WarehouseI2	Warehouse	Healthcare	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0835	14	4,992	0.172	1,498	\$125,000	30%	95%	80%	8,6016	1	
WarehouseI3	Warehouse	Healthcare	Turnover	3	Photozell dimming control	No prior dimming control	Photozell	\$0.0901	9	4,992	0.406	3,296	\$225,000	30%	95%	95%	5,0672	1	
MiscN3	Misc	Healthcare	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0306	14	5,455	0.188	1,636	\$50,000	30%	95%	15%	23,5211	1	
MiscN4	Misc																		

Duquesne Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
LodgIn6	Lodging	Incandescent	New	6	Hotel Occupancy Sensors	No prior control	Per Room	\$0.4468	10	240	0.019	168	\$75.00	70%	90%	95%	1.1365	0
LodgIn6	Lodging	Incandescent	Turnover	6	Hotel Occupancy Sensors	No prior control	Per Room	\$0.5957	10	240	0.019	168	\$100.00	70%	90%	95%	0.8524	1
ABSN1	All	Signage	New	2	Induction Street Lighting	Base LED Streetlighting	Fixture	\$0.524	15	2,762	0.101	1,619	\$875.00	59%	95%	95%	1.3652	0
ABSN2	All	Signage	New	2	LED or equivalent sign lighting	Replace fluorescent sign lighting	Exit Sign	\$0.58	15	52	0.002	30	\$17.36	58%	95%	7%	1.2690	1
ABSN3	All	Signage	New	3	LED Street Lighting	Std H1D Street Lighting	Pole	\$0.56	15	3,023	0.047	756	\$425.00	25%	95%	95%	1.3117	1
AllSE1	All	Signage	Early	1	Dusk to Dawn	Time Clock Control	Pole	\$0.17	15	3,023	0.076	1,209	\$200.00	40%	95%	50%	4.4596	1
OfficMo122	Office	Motors	Turnover	22	Air Comp Improvements	Air Comp Improvements		\$0.11	15	56148	1.148	8,928	\$990.00	16%	28%	65%	6.9851	1
OfficMoE2	Office	Motors	Early	2	Air Compressor Optimization	Air Compressor Optimization		\$0.16	15	56148	2.174	16,901	\$2,750.00	30%	38%	65%	4.7604	1
GroceMoE1	Grocery	Motors	Early	1	Motor Retrocommissioning	Motor Retrocommissioning	Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.3257	1
AllOr1	All	Other	Turnover	1	Motor Improvements Bundle - Industrial Model	No Motor Improvements	Motor	\$0.48	14	10000	0.128	1,092	\$522.00	11%	90%	95%	1.5053	1
AllOrF2	All	Other	Turnover	2	EE Transformer - CSL 3	NEMA Transformer - 75W	Motor	\$0.60	15	4197	0.187	1,595	\$950.00	23%	90%	95%	1.2901	1
AllOrN1	All	Other	New	1	EE Transformer - CSL 3	NEMA Transformer - 75W	Motor	\$0.60	15	4197	0.187	1,595	\$950.00	23%	90%	95%	1.2901	1
AllRcN26	All	Refrigeration	New	26	Anti-sweat heat (ASH) controls - Freezer	ASH without controls	Per Door	\$0.16	12	2,985	0.029	1,882	\$300.00	63%	95%	85%	3.6933	1
AllRcN27	All	Refrigeration	New	27	Anti-sweat heat (ASH) controls - Cooler	ASH without controls	Per Door	\$0.29	12	1,621	0.028	1,023	\$300.00	63%	95%	85%	2.0185	1
GroceMoN1	Grocery	Motors	New	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.1015	15	15384	0.0282	139.5	\$154	0.91%	74.4%	100%	0.7255	0
GroceMoN2	Grocery	Motors	New	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.1901	15	58940	0.0231	437.7	\$521	0.74%	74.4%	100%	0.6295	0
GroceMoN3	Grocery	Motors	New	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.0693	15	144688	0.0138	644.1	\$689	0.45%	66.3%	100%	0.6908	0
GroceMoN4	Grocery	Motors	New	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.4499	15	29922	0.0121	1135.2	\$511	0.39%	55.8%	100%	1.6337	1
GroceMoN5	Grocery	Motors	New	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.3775	15	624328	0.0284	5711.1	\$2,156	0.91%	55.8%	100%	1.9421	1
GroceMoN6	Grocery	Motors	New	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.5635	15	97600	2.511	19,520	\$11,000.00	20%	55.0%	100%	1.3745	1
GroceMoN7	Grocery	Motors	New	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.4707	15	97600	9.776	27620.7	\$13,000.00	28%	70.0%	100%	1.8611	1
GroceMoN8	Grocery	Motors	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4791	15	97600	0.000	27132.7	\$13,000.00	28%	80.0%	100%	1.5268	1
GroceMoN9	Grocery	Motors	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5459	15	97600	9.776	23814.3	\$13,000.00	24%	70.0%	100%	1.5919	1
GroceMoN10	Grocery	Motors	New	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.4791	15	97600	7.280	27132.7	\$13,000.00	28%	55.0%	100%	1.7143	1
GroceMoN11	Grocery	Motors	New	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5459	15	97600	9.776	23814.3	\$13,000.00	24%	30.0%	100%	1.5919	1
GroceMoT1	Grocery	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.1015	15	15384	0.0282	139.5	\$154	0.91%	74.4%	100%	0.7255	0
GroceMoT2	Grocery	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.1901	15	58940	0.0231	437.7	\$521	0.74%	74.4%	100%	0.6295	0
GroceMoT3	Grocery	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.0693	15	144688	0.0138	644.1	\$689	0.45%	66.3%	100%	0.6908	0
GroceMoT4	Grocery	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.4499	15	29922	0.0121	1135.2	\$511	0.39%	55.8%	100%	1.6337	1
GroceMoT5	Grocery	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.3775	15	624328	0.0284	5711.1	\$2,156	0.91%	55.8%	100%	1.9421	1
GroceMoT6	Grocery	Motors	Turnover	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.5635	15	97600	2.511	19,520	\$11,000.00	20%	55.0%	100%	1.3745	1
GroceMoT7	Grocery	Motors	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.4707	15	97600	9.776	27620.7	\$13,000.00	28%	90.0%	80%	1.8611	1
GroceMoT8	Grocery	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4791	15	97600	0.000	27132.7	\$13,000.00	28%	90.0%	80%	1.5268	1
GroceMoT9	Grocery	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5459	15	97600	9.776	23814.3	\$13,000.00	24%	90.0%	80%	1.5919	1
GroceMoT10	Grocery	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.4791	15	97600	7.280	27132.7	\$13,000.00	28%	80.0%	80%	1.7143	1
GroceMoT11	Grocery	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5459	15	97600	9.776	23814.3	\$13,000.00	24%	55.0%	80%	1.5919	1
GroceMoT12	Grocery	Motors	Turnover	12	Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0.5097	15	292799	0.189	1471.4	\$750	0.5%	35.0%	95%	1.5196	1
GroceMoT13	Grocery	Motors	Turnover	13	Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0.6274	15	63498	0.410	3187.9	\$2,000	0.5%	50.0%	95%	1.2347	1
GroceMoT14	Grocery	Motors	Turnover	14	Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0.4704	15	59847	0.068	531.4	\$250	0.9%	10.0%	95%	1.6465	1
GroceMoT15	Grocery	Motors	Turnover	15	Motors: Rewind 50-100 HP	(E) Motor	Motor	\$0.5437	15	146395	0.046	7356.8	\$4,000	0.5%	70.0%	95%	1.4246	1
GroceMoT16	Grocery	Motors	Turnover	16	Motors: Rewind 51-100 HP	(E) Motor	Motor	\$0.5841	15	147991	0.110	856.0	\$500	0.6%	20.0%	95%	1.3261	1
GroceMoT17	Grocery	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	2.9638	1
GroceMoN12	Grocery	Motors	New	12	Demand Control Ventilation (DCV)	Base Standard Ventilation		\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.7031	1
GroceMoN13	Grocery	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood		\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.0317	0
GroceMoN14	Grocery	Motors	New	14	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is		\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.6196	1
GroceMoN15	Grocery	Motors	New	15	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%		\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.6444	0
GroceMoT18	Grocery	Motors	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation		\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.7031	1
GroceMoT19	Grocery	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood		\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.0317	0
GroceMoT20	Grocery	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is		\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.6196	1
GroceMoT21	Grocery	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%		\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.6444	0
GroceMoT22	Grocery	Motors	Turnover	22	Air Comp Improvements	Air Comp Improvements		\$0.11	15	56148	1.148	8,928	\$990.00	16%	28%	65%	6.9851	1
GroceMoE2	Grocery	Motors	Early	2	Air Compressor Optimization	Air Compressor Optimization		\$0.16	15	56148	2.174	16,901	\$2,750.00	30%	38%	65%	4.7604	1
GroceMoT23	Grocery	Motors	Turnover	23	Motor Retrocommissioning	Motor Retrocommissioning	Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.3257	1
HealthMoN1	Healthcare	Motors	New	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$0.8576	15	19759	0.0282	179.2	\$154	0.91%	74.4%	100%	0.9143	0
HealthMoN2	Healthcare	Motors	New	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$0.9266	15	75700	0.0231	562.2	\$521	0.74%	74.4%	100%	0.8043	0
HealthMoN3	Healthcare	Motors	New	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$0.8325	15	188580	0.0138	827.3	\$689	0.45%	66.3%	100%	0.8854	0
HealthMoN4	Healthcare	Motors	New	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.3503	15	373646	0.0121	1458.0	\$511	0.39%	55.8%	100%	2.0960	1
HealthMoN5	Healthcare	Motors	New	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.2939	15	801855	0.0284	7355.1	\$2,156	0.91%	55.8%	100%	2.4931	1
HealthMoN6	Healthcare	Motors	New	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.4388	15	125352	3.225	25,070	\$11,000.00	20%	55.0%	100%	1.7654	1
HealthMoN7	Healthcare	Motors	New	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.3958	15	125352	9.776	32842.2	\$13,000.00	26%	70.0%	100%	2.0999	1
HealthMoN8	Healthcare	Motors	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.3731	15	125352	0.000	34847.9	\$13,000.00	28%	80.0%	100%	1.9609	1
HealthMoN9	Healthcare	Motors	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control</												

Duquesne Commercial Measures

Measure	Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
InstMoN3	Institutional	Motors	New	3	Enhanced (Ultra-PE) Motor 30-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1,2384	15	124933	0.0138	556.2	\$689	0.45%	66.3%	100%	0.5974	1	0
InstMoN4	Institutional	Motors	New	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0,5211	15	251201	0.0121	980.2	\$511	0.39%	55.8%	100%	1.4117	1	0
InstMoN5	Institutional	Motors	New	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0,4372	15	539086	0.0284	4931.3	\$2,156	0.91%	55.8%	100%	1.6776	1	0
InstMoN6	Institutional	Motors	New	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0,6526	15	84274	2.168	16,855	\$11,000.00	20%	55.0%	100%	1.1869	1	0
InstMoN7	Institutional	Motors	New	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0,5451	15	84274	12.062	23849.5	\$13,000.00	28%	70.0%	100%	1.6528	1	0
InstMoN8	Institutional	Motors	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0,5549	15	84274	0.000	23428.2	\$13,000.00	28%	80.0%	100%	1.3183	1	0
InstMoN9	Institutional	Motors	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0,6348	15	84274	12.062	20478.6	\$13,000.00	24%	70.0%	100%	1.4631	1	0
InstMoN10	Institutional	Motors	New	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0,5569	15	84274	9.145	23343.9	\$13,000.00	28%	55.0%	100%	1.5492	1	0
InstMoN11	Institutional	Motors	New	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0,6348	15	84274	12.062	20478.6	\$13,000.00	24%	30.0%	100%	1.4631	1	0
InstMoT1	Institutional	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1,2757	15	13284	0.0282	120.5	\$154	0.91%	74.4%	100%	0.6348	1	0
InstMoT10	Institutional	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0,5569	15	84274	9.145	23343.9	\$13,000.00	28%	80.0%	80%	1.5492	1	0
InstMoT11	Institutional	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0,6348	15	84274	12.062	20478.6	\$13,000.00	24%	55.0%	80%	1.4631	1	0
InstMoT12	Institutional	Motors	Turnover	12	Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0,5903	15	252822	0.163	1270.5	\$750	0.5%	35.0%	95%	1.3121	1	0
InstMoT13	Institutional	Motors	Turnover	13	Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0,7266	15	547781	0.354	2752.7	\$2,000	0.5%	50.0%	95%	1.0661	1	0
InstMoT14	Institutional	Motors	Turnover	14	Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0,5448	15	51676	0.059	458.9	\$250	0.9%	100%	95%	1.4217	1	0
InstMoT15	Institutional	Motors	Turnover	15	Motors: Rewind 500+ HP	(E) Motor	Motor	\$0,6297	15	1264109	0.817	6352.3	\$4,000	0.3%	70.0%	95%	1.2301	1	0
InstMoT16	Institutional	Motors	Turnover	16	Motors: Rewind 51-100 HP	(E) Motor	Motor	\$0,6765	15	127785	0.095	739.1	\$500	0.6%	20.0%	95%	1.1450	1	0
InstMoT17	Institutional	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0,34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	2.9638	1	0
InstMoT2	Institutional	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1,3783	15	50893	0.0231	377.9	\$521	0.74%	74.4%	100%	0.5456	1	0
HealthM23	Healthcare	Motors	Turnover	23	Motor Retrocommissioning	Motor Retrocommissioning	Motor	\$0,27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.3257	1	0
InstMoT3	Institutional	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1,2384	15	124933	0.0138	556.2	\$689	0.45%	66.3%	100%	0.5974	1	0
InstMoT4	Institutional	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0,5211	15	251201	0.0121	980.2	\$511	0.39%	55.8%	100%	1.4117	1	0
InstMoT5	Institutional	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0,4372	15	539086	0.0284	4931.3	\$2,156	0.91%	55.8%	100%	1.6776	1	0
InstMoT6	Institutional	Motors	Turnover	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0,6526	15	84274	2.168	16,855	\$11,000.00	20%	55.0%	100%	1.1869	1	0
InstMoT7	Institutional	Motors	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0,5451	15	84274	12.062	23849.5	\$13,000.00	28%	90.0%	80%	1.6528	1	0
InstMoT8	Institutional	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0,5549	15	84274	0.000	23428.2	\$13,000.00	28%	90.0%	80%	1.3183	1	0
InstMoN12	Institutional	Motors	New	12	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0,19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	0.7031	1	0
InstMoN13	Institutional	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16,21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.0317	1	0
InstMoN14	Institutional	Motors	New	14	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is	Motor	\$0,21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.6196	1	0
InstMoN15	Institutional	Motors	New	15	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0,80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.6444	0	0
InstMoT18	Institutional	Motors	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0,19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.7031	1	0
InstMoT19	Institutional	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16,21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.0317	0	0
InstMoT20	Institutional	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is	Motor	\$0,21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.6196	1	0
InstMoT21	Institutional	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0,80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.6444	0	0
InstMoT22	Institutional	Motors	Turnover	22	Air Comp Improvements	Air Comp Improvements	Motor	\$0,11	15	56148	1.148	8,928	\$990.00	16%	28%	65%	6.9851	1	0
InstMoE2	Institutional	Motors	Early	2	Air Compressor Optimization	Air Compressor Optimization	Motor	\$0,16	15	56148	2.174	16,901	\$2,750.00	30%	38%	65%	4.7604	1	0
InstMoE1	Institutional	Motors	Early	1	Motor Retrocommissioning	Motor Retrocommissioning	Motor	\$0,27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.3257	1	0
LodgMoN1	Lodging	Motors	New	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1,1114	15	15247	0.0282	138.3	\$154	0.91%	74.4%	100%	0.7196	0	0
LodgMoN2	Lodging	Motors	New	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1,2008	15	58416	0.0231	433.8	\$521	0.74%	74.4%	100%	0.6240	1	0
LodgMoN3	Lodging	Motors	New	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1,0789	15	143401	0.0138	638.4	\$689	0.45%	66.3%	100%	0.6848	0	0
LodgMoN4	Lodging	Motors	New	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0,4540	15	288334	0.0121	1125.1	\$511	0.39%	55.8%	100%	1.6192	1	0
LodgMoN5	Lodging	Motors	New	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0,3809	15	618773	0.0284	5660.3	\$2,156	0.91%	55.8%	100%	1.9249	1	0
LodgMoN6	Lodging	Motors	New	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0,5686	15	96731	2.489	19,346	\$11,000.00	20%	55.0%	100%	1.3623	1	0
LodgMoN7	Lodging	Motors	New	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0,4805	15	96731	10.553	27052.5	\$13,000.00	28%	70.0%	100%	1.7941	1	0
LodgMoN8	Lodging	Motors	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0,4834	15	96731	0.000	26891.3	\$13,000.00	28%	80.0%	100%	1.5132	1	0
LodgMoN9	Lodging	Motors	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0,5631	15	96731	10.177	23086.5	\$13,000.00	24%	70.0%	100%	1.5613	1	0
LodgMoN10	Lodging	Motors	New	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0,4887	15	96731	7.911	26601.1	\$13,000.00	28%	55.0%	100%	1.7007	1	0
LodgMoN11	Lodging	Motors	New	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0,5588	15	96731	10.553	23263.9	\$13,000.00	24%	30.0%	100%	1.5809	1	0
LodgMoT1	Lodging	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1,1114	15	15247	0.0282	138.3	\$154	0.91%	74.4%	100%	0.7196	0	0
LodgMoT2	Lodging	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1,2008	15	58416	0.0231	433.8	\$521	0.74%	74.4%	100%	0.6240	1	0
LodgMoT3	Lodging	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1,0789	15	143401	0.0138	638.4	\$689	0.45%	66.3%	100%	0.6848	0	0
LodgMoT4	Lodging	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0,4540	15	288334	0.0121	1125.1	\$511	0.39%	55.8%	100%	1.6192	1	0
LodgMoT5	Lodging	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0,3809	15	618773	0.0284	5660.3	\$2,156	0.91%	55.8%	100%	1.9249	1	0
LodgMoT6	Lodging	Motors	Turnover	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0,5686	15	96731	2.489	19,346	\$11,000.00	20%	55.0%	100%	1.3623	1	0
LodgMoT7	Lodging	Motors	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0,4805	15	96731	10.553	27052.5	\$13,000.00	28%	90.0%	80%	1.7941	1	0
LodgMoT8	Lodging	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0,4834	15	96731	0.000	26891.3	\$13,000.00	28%	90.0%	80%	1.5132	1	0
LodgMoT9	Lodging	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0,5631	15	96731	10.177	23086.5	\$13,000.00	24%	90.0%	80%	1.5613	1	0
LodgMoT10	Lodging	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0,4887	15	96731	7.911	26601.1							

Duquesne Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC/Est	Economic Flag
miscMo18	misc	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4834	15	96731	0.000	2689.3	\$13,000.00	28%	90.0%	80%	1.5132	1
miscMo19	misc	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5631	15	96731	10.177	2386.5	\$13,000.00	24%	90.0%	80%	1.5132	1
miscMo110	misc	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.4887	15	96731	7.011	2601.1	\$13,000.00	28%	80.0%	100%	1.7107	1
miscMo111	misc	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5588	15	96731	10.553	2323.9	\$13,000.00	24%	55.0%	80%	1.5809	1
miscMo112	misc	Motors	Turnover	12	Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0.5143	15	290194	0.188	1458.3	\$750	0.5%	35.0%	95%	1.5061	1
miscMo113	misc	Motors	Turnover	13	Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0.6330	15	628754	0.406	3159.6	\$2,000	0.5%	50.0%	95%	1.2237	1
miscMo114	misc	Motors	Turnover	14	Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0.4747	15	59314	0.068	526.7	\$250	0.9%	10.0%	95%	1.6319	1
miscMo115	misc	Motors	Turnover	15	Motors: Rewind 500+ HP	(E) Motor	Motor	\$0.5486	15	1450970	0.938	7291.3	\$4,000	0.5%	70.0%	95%	1.4120	1
miscMo116	misc	Motors	Turnover	16	Motors: Rewind 51-100 HP	(E) Motor	Motor	\$0.5894	15	146674	0.109	848.4	\$500	0.6%	20.0%	95%	1.3143	1
miscMo117	misc	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	2.9638	1
miscMoN12	misc	Motors	New	12	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.7031	1
miscMoN13	misc	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.0317	0
miscMoN14	misc	Motors	New	14	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. .35 HP PSC motor operating 2000 hours per year is	Motor	\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.6196	1
miscMoN15	misc	Motors	New	15	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.6444	0
miscMo118	misc	Motors	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.7031	1
miscMo119	misc	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.0317	1
miscMo120	misc	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. .35 HP PSC motor operating 2000 hours per year is	Motor	\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.6196	1
miscMo121	misc	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.6444	0
miscMo122	misc	Motors	Turnover	22	Air Comp Improvements		Motor	\$0.11	15	56148	1.148	8,928	\$990.00	16%	28%	65%	6.9851	1
miscMoE2	misc	Motors	Early	2	Air Compressor Optimization		Motor	\$0.16	15	56148	2.174	16,901	\$2,750.00	30%	38%	65%	4.7604	1
LodgMoE1	Lodging	Motors	Early	1	Motor Retrocommissioning		Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.3257	1
RestaMoN1	Retail	Motors	New	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.1015	15	15384	0.0282	139.5	\$154	0.91%	74.4%	100%	0.7255	0
RestaMoN2	Retail	Motors	New	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.1901	15	58940	0.0231	437.7	\$521	0.74%	74.4%	100%	0.6295	0
RestaMoN3	Retail	Motors	New	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.0693	15	144688	0.0138	644.1	\$689	0.45%	66.3%	100%	0.6908	0
RestaMoN4	Retail	Motors	New	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.4499	15	299922	0.0121	1135.2	\$511	0.39%	55.8%	100%	1.6337	1
RestaMoN5	Retail	Motors	New	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.3775	15	624328	0.0284	5711.1	\$2,156	0.91%	55.8%	100%	1.9421	1
RestaMoN6	Retail	Motors	New	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.5635	15	97600	2.511	19,520	\$11,000.00	20%	55.0%	100%	1.3745	1
RestaMoN7	Retail	Motors	New	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.4701	15	97600	9.776	27,620.7	\$13,000.00	28%	90.0%	80%	1.8061	1
RestaMoN8	Retail	Motors	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4791	15	97600	0.000	27132.7	\$13,000.00	28%	90.0%	100%	1.5268	1
RestaMoN9	Retail	Motors	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5459	15	97600	9.776	23814.3	\$13,000.00	24%	70.0%	100%	1.5919	1
RestaMoN10	Retail	Motors	New	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.4791	15	97600	7.280	27132.7	\$13,000.00	28%	55.0%	100%	1.7143	1
RestaMoN11	Retail	Motors	New	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5459	15	97600	9.776	23814.3	\$13,000.00	24%	30.0%	100%	1.5919	1
RestaMoT1	Retail	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.1015	15	15384	0.0282	139.5	\$154	0.91%	74.4%	100%	0.7255	0
RestaMoT2	Retail	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.1901	15	58940	0.0231	437.7	\$521	0.74%	74.4%	100%	0.6295	0
RestaMoT3	Retail	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.0693	15	144688	0.0138	644.1	\$689	0.45%	66.3%	100%	0.6908	0
RestaMoT4	Retail	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.4499	15	299922	0.0121	1135.2	\$511	0.39%	55.8%	100%	1.6337	1
RestaMoT5	Retail	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.3775	15	624328	0.0284	5711.1	\$2,156	0.91%	55.8%	100%	1.9421	1
RestaMoT6	Retail	Motors	Turnover	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.5635	15	97600	2.511	19,520	\$11,000.00	20%	55.0%	100%	1.3745	1
RestaMoT7	Retail	Motors	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.4701	15	97600	9.776	27,620.7	\$13,000.00	28%	90.0%	80%	1.8061	1
RestaMoT8	Retail	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4791	15	97600	0.000	27132.7	\$13,000.00	28%	90.0%	100%	1.5268	1
RestaMoT9	Retail	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5459	15	97600	9.776	23814.3	\$13,000.00	24%	90.0%	80%	1.5919	1
RestaMoT10	Retail	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.4791	15	97600	7.280	27132.7	\$13,000.00	28%	80.0%	80%	1.7143	1
RestaMoT11	Retail	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5459	15	97600	9.776	23814.3	\$13,000.00	24%	55.0%	80%	1.5919	1
RestaMoT12	Retail	Motors	Turnover	12	Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0.5097	15	292799	0.189	1471.4	\$750	0.5%	35.0%	95%	1.5196	1
RestaMoT13	Retail	Motors	Turnover	13	Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0.6274	15	634938	0.410	3187.9	\$2,000	0.5%	50.0%	95%	1.2347	1
RestaMoT14	Retail	Motors	Turnover	14	Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0.4704	15	59847	0.068	531.4	\$250	0.9%	10.0%	95%	1.6465	1
RestaMoT15	Retail	Motors	Turnover	15	Motors: Rewind 500+ HP	(E) Motor	Motor	\$0.5437	15	1463995	0.946	7356.8	\$4,000	0.5%	70.0%	95%	1.4246	1
RestaMoT16	Retail	Motors	Turnover	16	Motors: Rewind 51-100 HP	(E) Motor	Motor	\$0.5841	15	147991	0.110	856.0	\$500	0.6%	20.0%	95%	1.3261	1
RestaMoT17	Retail	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	2.9638	1
RestaMoN12	Retail	Motors	New	12	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.7031	1
RestaMoN13	Retail	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.0317	0
RestaMoN14	Retail	Motors	New	14	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. .35 HP PSC motor operating 2000 hours per year is	Motor	\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.6196	1
RestaMoN15	Retail	Motors	New	15	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.6444	0
RestaMo118	Retail	Motors	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.7031	1
RestaMo119	Retail	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.0317	1
RestaMo120	Retail	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. .35 HP PSC motor operating 2000 hours per year is	Motor	\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.6196	1
RestaMo121	Retail	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.6444	0
RestaMo122	Retail	Motors	Turnover	22	Air Comp Improvements		Motor	\$0.11	15	56148	1.148	8,928	\$990.00	16%	28%	65%	6.9851	1
RestaMoE2	Retail	Motors	Early	2	Air Compressor Optimization		Motor	\$0.16	15	56148	2.174	16,901	\$2,750.00	30%	38%	65%	4.7604	1
LodgMoT23	Lodging	Motors	Turnover	23	Motor Retrocommissioning		Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.3257	1
RestaMoN1	Restaurant	Motors	New	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.1487	15	14753	0.0282	133.8	\$154	0.91%	74.4%	100%	0.6982	0
RestaMoN2	Restaurant	Motors	New	2	Enhanced (Ultra-PE) Motor													

Duquesne Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TIC/ Test	Economic Flag
RestaMo120	Restaurant	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is	ton	\$0.21	15	5,194	0.120	.935	\$200.09	18.00%	75%	95%	3,6196	1
RestaMo121	Restaurant	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	ton	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	6,6444	0
RestaMo122	Restaurant	Motors	Turnover	22	Air Comp Improvements	Base Fan Motor, 15hp, 1800rpm, 91.0%	ton	\$0.11	15	5,6148	1.148	8,928	\$990.00	1.6%	28%	65%	6,9851	1
miscMo42	Misc	Motors	Early	2	Air Compressor Optimization		ton	\$0.16	15	5,6148	2.174	16,901	\$2,750.00	30%	38%	65%	4,7604	1
miscMoE1	Misc	Motors	Early	1	Motor Retrocommissioning		Motor	\$0.27	7	5,6148	1.156	8,984	\$2,450.00	16%	95%	75%	1,3257	1
WarehMoN1	Warehouse	Motors	New	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1,1114	15	15,247	0.282	138.3	\$154	0.91%	74.4%	100%	0.7196	0
WarehMoN2	Warehouse	Motors	New	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1,2908	15	5,8416	0.231	433.8	\$521	0.74%	74.4%	100%	0.6240	0
WarehMoN3	Warehouse	Motors	New	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1,0789	15	14,3401	0.138	638.4	\$689	0.45%	66.3%	100%	0.6848	0
WarehMoN4	Warehouse	Motors	New	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0,4540	15	28,8334	0.0121	1,125.1	\$511	0.39%	55.8%	100%	1.6192	1
WarehMoN5	Warehouse	Motors	New	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0,3809	15	6,1873	0.0284	5,660.3	\$2,156	0.91%	55.8%	100%	1.9249	1
WarehMoN6	Warehouse	Motors	New	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0,5686	15	9,6731	2.489	19,346	\$11,000.00	20%	55.0%	100%	1.3623	1
WarehMoN7	Warehouse	Motors	New	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0,4805	15	9,6731	10.553	27,052.5	\$13,000.00	28%	70.0%	100%	1.7941	1
WarehMoN8	Warehouse	Motors	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0,4834	15	9,6731	0.000	2,6891.3	\$13,000.00	28%	80.0%	100%	1.5132	1
WarehMoN9	Warehouse	Motors	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0,5631	15	9,6731	10.177	23,086.5	\$13,000.00	24%	70.0%	100%	1.5613	1
WarehMoN10	Warehouse	Motors	New	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0,4887	15	9,6731	7.911	26,601.1	\$13,000.00	28%	55.0%	100%	1.7007	1
WarehMoN11	Warehouse	Motors	New	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0,5588	15	9,6731	10.553	23,263.9	\$13,000.00	24%	30.0%	100%	1.5809	1
WarehMoT1	Warehouse	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1,1114	15	15,247	0.282	138.3	\$154	0.91%	74.4%	100%	0.7196	0
WarehMoT2	Warehouse	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1,2908	15	5,8416	0.231	433.8	\$521	0.74%	74.4%	100%	0.6240	0
WarehMoT3	Warehouse	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1,0789	15	14,3401	0.138	638.4	\$689	0.45%	66.3%	100%	0.6848	0
WarehMoT4	Warehouse	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0,4540	15	28,8334	0.0121	1,125.1	\$511	0.39%	55.8%	100%	1.6192	1
WarehMoT5	Warehouse	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0,3809	15	6,1873	0.0284	5,660.3	\$2,156	0.91%	55.8%	100%	1.9249	1
WarehMoT6	Warehouse	Motors	Turnover	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0,5686	15	9,6731	2.489	19,346	\$11,000.00	20%	55.0%	100%	1.3623	1
WarehMoT7	Warehouse	Motors	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0,4805	15	9,6731	10.553	27,052.5	\$13,000.00	28%	90.0%	80%	1.7941	1
WarehMoT8	Warehouse	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0,4834	15	9,6731	0.000	2,6891.3	\$13,000.00	28%	90.0%	80%	1.5132	1
WarehMoT9	Warehouse	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0,5631	15	9,6731	10.177	23,086.5	\$13,000.00	24%	90.0%	80%	1.5613	1
WarehMoT10	Warehouse	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0,4887	15	9,6731	7.911	26,601.1	\$13,000.00	28%	80.0%	80%	1.7007	1
WarehMoT11	Warehouse	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0,5588	15	9,6731	10.553	23,263.9	\$13,000.00	24%	55.0%	80%	1.5809	1
WarehMoT12	Warehouse	Motors	Turnover	12	Motors: Rewind 125-500 HP	(E) Motor	Motor	\$0,6330	15	2,90134	0.488	1,458.3	\$2,000	0.3%	50.0%	95%	1.5061	0
WarehMoT13	Warehouse	Motors	Turnover	13	Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0,6330	15	6,28754	0.406	3,159.0	\$2,000	0.3%	50.0%	95%	1.2263	1
WarehMoT14	Warehouse	Motors	Turnover	14	Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0,4747	15	5,9314	0.068	526.7	\$250	0.9%	10.0%	95%	1.6319	1
WarehMoT15	Warehouse	Motors	Turnover	15	Motors: Rewind 500+ HP	(E) Motor	Motor	\$0,5486	15	14,50970	0.938	7,291.3	\$4,000	0.5%	70.0%	95%	1.4120	1
WarehMoT16	Warehouse	Motors	Turnover	16	Motors: Rewind 51-100 HP	(E) Motor	Motor	\$0,5894	15	14,6674	0.109	848.4	\$500	0.6%	20.0%	95%	1.3143	1
WarehMoT17	Warehouse	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	2.9638	1
WarehMoN12	Warehouse	Motors	New	12	Demand Control Ventilation (DCV)	Base Standard Ventilation	ton	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.7031	1
WarehMoN13	Warehouse	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	ton	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.0137	0
WarehMoN14	Warehouse	Motors	New	14	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is	ton	\$0.21	15	5,194	0.120	.935	\$200.09	18.00%	75%	95%	3,6196	1
WarehMoN15	Warehouse	Motors	New	15	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	ton	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	6,6444	0
WarehMoT18	Warehouse	Motors	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation	ton	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.7031	1
WarehMoT19	Warehouse	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	ton	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.0137	0
WarehMoT20	Warehouse	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is	ton	\$0.21	15	5,194	0.120	.935	\$200.09	18.00%	75%	95%	3,6196	1
WarehMoT21	Warehouse	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	ton	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	6,6444	0
WarehMoT22	Warehouse	Motors	Turnover	22	Air Comp Improvements		ton	\$0.11	15	5,6148	1.148	8,928	\$990.00	1.6%	28%	65%	6,9851	1
WarehMoT23	Warehouse	Motors	Early	2	Air Compressor Optimization		ton	\$0.16	15	5,6148	2.174	16,901	\$2,750.00	30%	38%	65%	4,7604	1
MiscMoT23	Misc	Motors	Turnover	23	Motor Retrocommissioning		Motor	\$0.27	7	5,6148	1.156	8,984	\$2,450.00	16%	95%	75%	1,3257	1
HealthEn2	Healthcare	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$41.32	15	300	0.23	18	\$ 750.0	6%	20%	95%	0.1224	0
HealthEn3	Healthcare	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$41.32	15	300	0.000	18	\$750.00	6%	100%	95%	0.0178	0
GrocePaE1	Grocery	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3.13	20	769	0.05	64	\$200.00	8%	15%	9%	0.4045	0
GrocePaE2	Grocery	Packaged DX	Early	2	Adding window shade film	No shade film	1 ft window ar	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.0363	0
GrocePaE3	Grocery	Packaged DX	Early	3	Adding window shade screen	No shade screen	1 ft window ar	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.1973	0
GrocePaE4	Grocery	Packaged DX	Early	4	Windows U<0.40, 55 SHGC	Existing window specifications	1 ft window ar	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	0.9850	0
GrocePaE5	Grocery	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$4.39	20	769	0.05	51	\$225.00	7%	95%	95%	0.3061	0
GrocePaE7	Grocery	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$0.62	10	813	0.005	41	\$25.00	5%	100%	65%	0.8283	0
GrocePaE8	Grocery	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	719	0.05	12	\$95.00	2%	45%	80%	0.2609	0
GrocePaE9	Grocery	Packaged DX	Early	9	Hotel Keypad Sensors	No prior controls	room Control	\$0.29	10	690	0.041	342	\$100.00	50%	95%	80%	1.7426	1
GrocePaE10	Grocery	Packaged DX	Early	10	DX GL Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	10	837	0.05	64	\$35.00	8%	100%	45%	0.1131	0
GrocePaE11	Grocery	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	769	0.015	125	\$55.00	16%	100%	45%	1.1580	1
GrocePaE13	Grocery	Packaged DX	Early	13	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.45	7	769	0.05	123	\$55.15	16%	95%	75%	0.8997	0
GrocePaN1	Grocery	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	769	0.05	64	\$87.00	8%	100%	95%	0.9299	0
GrocePaN2	Grocery	Packaged DX	New	2	Adding reflective roof treatment	Sid color roof	ton	\$4.50	20	769	0.05	10	\$45.00	1%	100%	95%	0.6621	0
GrocePaN3	Grocery	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$2.44	20	769	0.05	51	\$125.00	7%	100%	95%	0.5510	0
GrocePaN4	Grocery	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Sid Roof	ton	\$2.48	20	769	0.05	51	\$127.43	7%	45%	95%	0.5405	0
GrocePaN5	Grocery	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	769	0.05	12	\$125.00	2%	100%	95%	0.2535	0
GrocePaN6	Gro																	

Duquesne Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
InstPa5	Institutional	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$5.89	20	573	0.05	38	\$225.00	7%	95%	95%	0.2511	0
InstPa7	Institutional	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$0.83	10	606	0.004	30	\$25.00	5%	100%	65%	0.6172	0
InstPa8	Institutional	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	573	0.05	12	\$95.00	2%	45%	80%	0.2609	0
InstPa9	Institutional	Packaged DX	Early	9	Hotel Keypad Sensors	No prior controls	room Controlle	\$0.29	10	514	0.041	342	\$100.00	66%	95%	80%	1.7426	1
InstPa10	Institutional	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	623	0.05	64	\$35.00	10%	100%	45%	0.1131	0
InstPa11	Institutional	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	573	0.015	125	\$55.00	22%	100%	45%	1.1580	1
InstPa13	Institutional	Packaged DX	Early	13	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.60	7	573	0.05	92	\$55.15	16%	95%	75%	0.7073	0
InstPaN1	Institutional	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	573	0.05	64	\$87.00	11%	100%	95%	0.9299	0
InstPaN2	Institutional	Packaged DX	New	2	Adding reflective roof treatment	Sid color roof	ton	\$4.50	20	573	0.05	10	\$45.00	2%	100%	95%	0.6621	0
InstPaN3	Institutional	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$3.27	20	573	0.05	38	\$125.00	7%	100%	95%	0.4520	0
InstPaN4	Institutional	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Sid Roof	ton	\$3.33	20	573	0.05	38	\$127.43	7%	45%	95%	0.4434	0
InstPaN5	Institutional	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	573	0.05	12	\$125.00	2%	100%	95%	0.2535	0
InstPaN6	Institutional	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.56	20	494	0.04	35	\$90.40	7%	100%	95%	0.5769	0
InstPaN7	Institutional	Packaged DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.75	20	494	0.08	66	\$180.81	13%	100%	95%	0.5384	0
InstPaN8	Institutional	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.93	20	494	0.12	93	\$271.21	19%	100%	95%	0.5848	0
InstPaN9	Institutional	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.44	20	573	0.05	38	\$55.00	7%	100%	95%	1.0273	1
InstPaN10	Institutional	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.44	20	584	0.06	49	\$70.00	8%	100%	95%	1.0273	1
InstPaN11	Institutional	Packaged DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$2.42	20	642	0.06	48	\$115.13	7%	100%	95%	0.6107	0
InstPaN12	Institutional	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$3.03	20	662	0.04	32	\$98.39	5%	100%	95%	0.4875	0
InstPaN13	Institutional	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$4.00	15	584	0.23	187	\$ 750.0	32%	20%	95%	0.2870	0
InstPaN14	Institutional	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$7.17	15	584	0.012	105	\$750.00	18%	100%	95%	0.1073	0
InstPaN15	Institutional	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$1.98	15	573	0.010	86	\$170.00	15%	75%	45%	0.3892	0
InstPaN16	Institutional	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$1.56	15	573	0.014	115	\$170.00	20%	100%	95%	0.4929	0
InstPaN17	Institutional	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$4.06	15	606	0.003	27	\$110.89	5%	100%	95%	0.1893	0
InstPaT1	Institutional	Turnover	1	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	573	0.05	12	\$125.00	2%	100%	95%	0.1983	0	
InstPaT2	Institutional	Turnover	2	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.56	20	494	0.04	35	\$90.40	7%	100%	95%	0.5769	0	
InstPaT3	Institutional	Turnover	3	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.75	20	494	0.08	66	\$180.81	13%	100%	95%	0.5384	0	
InstPaT4	Institutional	Turnover	4	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.93	20	494	0.12	93	\$271.21	19%	100%	95%	0.5848	0	
InstPaT5	Institutional	Turnover	5	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.44	20	573	0.05	38	\$55.00	7%	100%	95%	1.0273	1	
InstPaT6	Institutional	Turnover	6	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.44	20	584	0.06	49	\$70.00	8%	100%	95%	1.0273	1	
InstPaT7	Institutional	Turnover	7	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$2.42	20	642	0.06	48	\$115.13	7%	100%	95%	0.6107	0	
InstPaT8	Institutional	Turnover	8	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$3.03	20	662	0.04	32	\$98.39	5%	100%	95%	0.4875	0	
InstPaT9	Institutional	Turnover	9	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$4.00	15	584	0.23	187	\$ 750.0	32%	5%	95%	0.2870	0	
InstPaT10	Institutional	Turnover	10	Ground Source HP Closed	Air Source Heat Pump	ton	\$7.17	15	584	0.012	105	\$750.00	18%	100%	95%	0.1073	0	
InstPaT11	Institutional	Turnover	11	Air-side Economizer	No Economizer	ton	\$1.98	15	573	0.010	86	\$170.00	15%	75%	45%	0.3892	0	
InstPaT12	Institutional	Turnover	12	Energy Recovery Units	No Energy Recovery	ton	\$1.56	15	573	0.014	115	\$170.00	20%	100%	95%	0.4929	0	
InstPaT13	Institutional	Turnover	13	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$4.06	15	606	0.003	27	\$110.89	5%	100%	95%	0.1893	0	
InstPaN18	Institutional	Packaged DX	New	18	Automated control system	Baseline DX	ton	\$0.83	10	606	0.004	30	\$25.00	5%	100%	65%	0.6172	0
InstPaN19	Institutional	Packaged DX	New	19	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.53	10	514	0.003	28	\$43.00	5%	100%	95%	0.3325	0
InstPaT14	Institutional	Turnover	15	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.53	10	514	0.003	28	\$43.00	5%	100%	95%	0.3325	0	
LodgPa1	Lodging	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3.13	20	684	0.05	64	\$200.00	9%	15%	9%	0.4045	0
LodgPa2	Lodging	Packaged DX	Early	2	Adding window shade film	No shade film	1 ft window ar	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.0363	0
LodgPa3	Lodging	Packaged DX	Early	3	Adding window shade screen	No shade screen	1 ft window ar	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.1973	0
LodgPa4	Lodging	Packaged DX	Early	4	Windows U<0.40, 55 SHGC	Existing window specifications	1 ft window ar	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	0.9850	0
LodgPa5	Lodging	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$4.94	20	684	0.05	46	\$225.00	7%	95%	95%	0.2821	0
LodgPa7	Lodging	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$0.69	10	722	0.004	36	\$25.00	5%	100%	65%	0.7360	0
LodgPa8	Lodging	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	684	0.05	12	\$95.00	2%	45%	80%	0.2609	0
LodgPa9	Lodging	Packaged DX	Early	9	Hotel Keypad Sensors	No prior controls	room Controlle	\$0.29	10	613	0.041	342	\$100.00	56%	95%	80%	1.7426	1
LodgPa10	Lodging	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	743	0.05	64	\$35.00	9%	100%	45%	0.1131	0
LodgPa11	Lodging	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	684	0.015	125	\$55.00	18%	100%	45%	1.1580	1
LodgPa13	Lodging	Packaged DX	Early	13	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.50	7	684	0.05	109	\$55.15	16%	95%	75%	0.8156	0
LodgPaN1	Lodging	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	684	0.05	64	\$87.00	11%	100%	95%	0.9299	0
LodgPaN2	Lodging	Packaged DX	New	2	Adding reflective roof treatment	Sid color roof	ton	\$4.50	20	684	0.05	10	\$45.00	2%	100%	95%	0.6621	0
LodgPaN3	Lodging	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$2.74	20	684	0.05	46	\$125.00	7%	100%	95%	0.5077	0
LodgPaN4	Lodging	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Sid Roof	ton	\$2.80	20	684	0.05	46	\$127.43	7%	45%	95%	0.4980	0
LodgPaN5	Lodging	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	684	0.05	12	\$125.00	2%	100%	95%	0.2535	0
LodgPaN6	Lodging	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.15	20	589	0.04	42	\$90.40	7%	100%	95%	0.6480	0
LodgPaN7	Lodging	Packaged DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.30	20	589	0.08	79	\$180.81	13%	100%	95%	0.6048	0
LodgPaN8	Lodging	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.46	20	589	0.12	110	\$271.19	19%	100%	95%	0.5670	0
LodgPaN9	Lodging	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.21	20	684	0.05	46	\$55.00	7%	100%	95%	1.1539	1
LodgPaN10	Lodging	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.21	20	696	0.06	58	\$70.00	8%	100%	95%	1.1539	1
LodgPaN11	Lodging	Packaged DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$2.03	20	766	0.06	57	\$115.13	7%	100%	95%	0.6860	0
LodgPaN12	Lodging	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$2.54	20	789	0.04	39	\$98.39	5%	100%	95%	0.5476	0
LodgPaN13	Lodging	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$3.36	15	696	0.23	223	\$ 750.0	32%	20%	95%	0.3321	0
LodgPaN14	Lodging	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$6.02	15	696	0.015	125	\$750.00	18%	100%	95%	0.1279	0
LodgPaN15	Lodging	Packaged DX	New															

Duquesne Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TIC/ Test	Economic Flag
MiscPa13	Misc	Packaged DX	Early	13	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.44	7	789	0.05	126	\$55.15	16%	95%	75%	0.0191	0
MiscPaN1	Misc	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	789	0.05	64	\$87.00	8%	100%	95%	0.0299	0
MiscPaN2	Misc	Packaged DX	New	2	Adding reflective roof treatment	Sid color roof	ton	\$4.50	20	789	0.05	10	\$45.00	1%	100%	95%	0.6621	0
MiscPaN3	Misc	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$2.38	20	789	0.05	53	\$125.00	7%	100%	95%	0.5610	0
MiscPaN4	Misc	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Sid Roof	ton	\$2.42	20	789	0.05	53	\$127.43	7%	45%	95%	0.5503	0
MiscPaN5	Misc	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	789	0.05	12	\$125.00	2%	100%	95%	0.2535	0
MiscPaN6	Misc	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.86	20	680	0.04	49	\$90.40	7%	100%	95%	0.7160	0
MiscPaN7	Misc	Packaged DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.99	20	680	0.08	91	\$180.81	13%	100%	95%	0.6682	0
MiscPaN8	Misc	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.13	20	680	0.12	127	\$271.19	19%	100%	95%	0.6265	0
MiscPaN9	Misc	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.05	20	789	0.05	53	\$55.00	7%	100%	95%	1.2749	1
MiscPaN10	Misc	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.05	20	803	0.06	67	\$70.00	8%	100%	95%	1.2749	1
MiscPaN11	Misc	Packaged DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.76	20	884	0.06	65	\$115.13	7%	100%	95%	0.7579	0
MiscPaN12	Misc	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$2.20	20	911	0.04	45	\$98.39	5%	100%	95%	0.6051	0
MiscPaN13	Misc	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.91	15	803	0.23	258	\$ 750.00	32%	20%	95%	0.3557	0
MiscPaN14	Misc	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$5.21	15	803	0.017	144	\$750.00	18%	100%	95%	0.1477	0
MiscPaN15	Misc	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$1.44	15	789	0.014	118	\$170.00	15%	75%	45%	0.5358	0
MiscPaN16	Misc	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$1.13	15	789	0.019	158	\$179.00	20%	100%	95%	0.6785	0
MiscPaN17	Misc	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.95	15	834	0.004	38	\$110.89	5%	100%	95%	0.2607	0
MiscPaT1	Misc	Packaged DX	Turnover	1	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	789	0.05	12	\$125.00	2%	100%	95%	0.1983	0
MiscPaT2	Misc	Packaged DX	Turnover	2	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.86	20	680	0.04	49	\$90.40	7%	100%	95%	0.7160	0
MiscPaT3	Misc	Packaged DX	Turnover	3	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.99	20	680	0.08	91	\$180.81	13%	100%	95%	0.6682	0
MiscPaT4	Misc	Packaged DX	Turnover	4	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.13	20	680	0.12	127	\$271.19	19%	100%	95%	0.6265	0
MiscPaT5	Misc	Packaged DX	Turnover	5	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.05	20	789	0.05	53	\$55.00	7%	100%	95%	1.2749	1
MiscPaT6	Misc	Packaged DX	Turnover	6	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.05	20	803	0.06	67	\$70.00	8%	100%	95%	1.2749	1
MiscPaT7	Misc	Packaged DX	Turnover	7	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.76	20	884	0.06	65	\$115.13	7%	100%	95%	0.7579	0
MiscPaT8	Misc	Packaged DX	Turnover	8	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$2.20	20	911	0.04	45	\$98.39	5%	100%	95%	0.6051	0
MiscPaT9	Misc	Packaged DX	Turnover	9	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.91	15	803	0.23	258	\$ 750.00	32%	5%	95%	0.3557	0
MiscPaT10	Misc	Packaged DX	Turnover	10	Ground Source HP Closed	Air Source Heat Pump	ton	\$5.21	15	803	0.017	144	\$750.00	18%	100%	95%	0.1477	0
MiscPaT11	Misc	Packaged DX	Turnover	11	Air-side Economizer	No Economizer	ton	\$1.44	15	789	0.014	118	\$170.00	15%	75%	45%	0.5358	0
MiscPaT12	Misc	Packaged DX	Turnover	12	Energy Recovery Units	No Energy Recovery	ton	\$1.13	15	789	0.019	158	\$179.00	20%	100%	95%	0.6785	0
MiscPaT13	Misc	Packaged DX	Turnover	13	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.95	15	834	0.004	38	\$110.89	5%	100%	95%	0.2607	0
MiscPaN18	Misc	Packaged DX	New	18	Automated control system	Baseline DX	ton	\$0.60	10	834	0.005	42	\$25.00	5%	100%	65%	0.8497	0
MiscPaN19	Misc	Packaged DX	New	19	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.11	10	708	0.005	39	\$43.00	5%	100%	95%	0.4577	0
MiscPaT15	Misc	Packaged DX	Turnover	15	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.11	10	708	0.005	39	\$43.00	5%	100%	95%	0.4577	0
OfficePa1	Office	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3.13	20	769	0.05	64	\$200.00	8%	15%	9%	0.4045	0
OfficePa2	Office	Packaged DX	Early	2	Adding window shade film	No shade film	sq ft window area	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.0363	0
OfficePa3	Office	Packaged DX	Early	3	Adding window shade screen	No shade screen	sq ft window area	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.1973	0
OfficePa4	Office	Packaged DX	Early	4	Windows U<0.40, 55 SHGC	Existing window specifications	sq ft window area	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	0.9850	0
OfficePa5	Office	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$4.39	20	769	0.05	51	\$225.00	7%	95%	95%	0.3061	0
OfficePa6	Office	Packaged DX	Early	6	Automated control system	Baseline DX	ton	\$0.62	10	813	0.005	41	\$25.00	5%	100%	65%	0.8283	0
OfficePa8	Office	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	769	0.05	12	\$95.00	2%	45%	80%	0.2609	0
OfficePa9	Office	Packaged DX	Early	9	Hotel Keypad Sensors	No prior controls	room Controls	\$0.29	10	690	0.041	342	\$100.00	50%	95%	80%	1.7426	1
OfficePa10	Office	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	837	0.05	64	\$35.00	8%	100%	45%	0.1131	0
OfficePa11	Office	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	769	0.015	125	\$55.00	16%	100%	45%	1.1580	1
OfficePa13	Office	Packaged DX	Early	13	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.45	7	769	0.05	123	\$55.15	16%	95%	75%	0.8997	0
OfficePaN1	Office	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	769	0.05	64	\$87.00	8%	100%	95%	0.9299	0
OfficePaN2	Office	Packaged DX	New	2	Adding reflective roof treatment	Sid color roof	ton	\$4.50	20	769	0.05	10	\$45.00	1%	100%	95%	0.6621	0
OfficePaN3	Office	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$2.44	20	769	0.05	51	\$125.00	7%	100%	95%	0.5510	0
OfficePaN4	Office	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Sid Roof	ton	\$2.48	20	769	0.05	51	\$127.43	7%	45%	95%	0.5405	0
OfficePaN5	Office	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	769	0.05	12	\$125.00	2%	100%	95%	0.2535	0
OfficePaN6	Office	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.91	20	663	0.04	47	\$90.40	7%	100%	95%	0.7032	0
OfficePaN7	Office	Packaged DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.05	20	663	0.08	88	\$180.81	13%	100%	95%	0.6653	0
OfficePaN8	Office	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.18	20	663	0.12	124	\$271.21	19%	100%	95%	0.6153	0
OfficePaN9	Office	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.07	20	769	0.05	51	\$55.00	7%	100%	95%	1.2522	1
OfficePaN10	Office	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.07	20	783	0.06	65	\$70.00	8%	100%	95%	1.2522	1
OfficePaN11	Office	Packaged DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.80	20	862	0.06	64	\$115.13	7%	100%	95%	0.7444	0
OfficePaN12	Office	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$2.26	20	888	0.04	44	\$98.39	5%	100%	95%	0.5943	0
OfficePaN13	Office	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.98	15	783	0.23	251	\$ 750.00	32%	20%	95%	0.3494	0
OfficePaN14	Office	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$5.35	15	783	0.017	140	\$750.00	18%	100%	95%	0.1440	0
OfficePaN15	Office	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$1.47	15	769	0.014	115	\$170.00	15%	75%	45%	0.5224	0
OfficePaN16	Office	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$1.16	15	769	0.018	154	\$179.00	20%	100%	95%	0.6615	0
OfficePaN17	Office	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$3.03	15	813	0.004	37	\$110.89	5%	100%	95%	0.2541	0
OfficePaT1	Office	Packaged DX	Turnover	1	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	769	0.05	12	\$125.00	2%	100%	95%	0.1983	0
OfficePaT2	Office	Packaged DX	Turnover	2	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.91	20	663	0.04	47	\$90.40	7%	100%	95%	0.7032	0
OfficePaT3	Office	Packaged DX	Turnover	3	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.05	20	663	0.08	88	\$180.81</					

Duquesne Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
RestaPaN6	Restaurant	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.78	20	710	0.04	95	\$90.40	7%	100%	95%	0.7384	0
RestaPaN7	Restaurant	Packaged DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.91	20	710	0.08	95	\$180.81	13%	100%	95%	0.6692	0
RestaPaN8	Restaurant	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.04	20	710	0.12	133	\$271.21	19%	100%	95%	0.6461	0
RestaPaN9	Restaurant	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.00	20	824	0.05	55	\$55.00	7%	100%	95%	1.3149	1
RestaPaN10	Restaurant	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.00	20	839	0.06	70	\$70.00	8%	100%	95%	1.3149	1
RestaPaN11	Restaurant	Packaged DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.68	20	923	0.06	68	\$115.13	7%	100%	95%	0.7817	0
RestaPaN12	Restaurant	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$2.11	20	951	0.04	47	\$98.39	5%	100%	95%	0.6240	0
RestaPaN13	Restaurant	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.79	15	839	0.23	269	\$ 750.00	32%	20%	95%	0.3667	0
RestaPaN14	Restaurant	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$4.99	15	839	0.18	150	\$750.00	18%	100%	95%	0.1542	0
RestaPaN15	Restaurant	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$1.38	15	824	0.015	124	\$170.00	15%	75%	45%	0.5595	0
RestaPaN16	Restaurant	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$1.09	15	824	0.020	165	\$179.00	20%	100%	95%	0.7085	0
RestaPaN17	Restaurant	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.83	15	871	0.005	39	\$110.89	5%	100%	95%	0.2722	0
RestaPaT1	Restaurant	Turnover	1		Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	824	0.05	12	\$125.00	1%	100%	95%	0.1983	0
RestaPaT2	Restaurant	Packaged DX	Turnover	2	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.78	20	710	0.04	51	\$90.40	7%	100%	95%	0.7384	0
RestaPaT3	Restaurant	Packaged DX	Turnover	3	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.91	20	710	0.08	95	\$180.81	13%	100%	95%	0.6692	0
RestaPaT4	Restaurant	Packaged DX	Turnover	4	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.04	20	710	0.12	133	\$271.21	19%	100%	95%	0.6461	0
RestaPaT5	Restaurant	Packaged DX	Turnover	5	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.00	20	824	0.05	55	\$55.00	7%	100%	95%	1.3149	1
RestaPaT6	Restaurant	Packaged DX	Turnover	6	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.00	20	839	0.06	70	\$70.00	8%	100%	95%	1.3149	1
RestaPaT7	Restaurant	Packaged DX	Turnover	7	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.68	20	923	0.06	68	\$115.13	7%	100%	95%	0.7817	0
RestaPaT8	Restaurant	Packaged DX	Turnover	8	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$2.11	20	951	0.04	47	\$98.39	5%	100%	95%	0.6240	0
RestaPaT9	Restaurant	Packaged DX	Turnover	9	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.79	15	839	0.23	269	\$ 750.00	32%	5%	95%	0.3667	0
RestaPaT10	Restaurant	Packaged DX	Turnover	10	Ground Source HP Closed	Air Source Heat Pump	ton	\$4.99	15	839	0.18	150	\$750.00	18%	100%	95%	0.1542	0
RestaPaT11	Restaurant	Packaged DX	Turnover	11	Air-side Economizer	No Economizer	ton	\$1.38	15	824	0.015	124	\$170.00	15%	75%	45%	0.5595	0
RestaPaT12	Restaurant	Packaged DX	Turnover	12	Energy Recovery Units	No Energy Recovery	ton	\$1.09	15	824	0.020	165	\$179.00	20%	100%	95%	0.7085	0
RestaPaT13	Restaurant	Packaged DX	Turnover	13	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.83	15	871	0.005	39	\$110.89	5%	100%	95%	0.2722	0
RestaPaN18	Restaurant	Packaged DX	New	18	Automated control system	Baseline DX	ton	\$0.57	10	871	0.005	44	\$25.00	5%	100%	65%	0.8871	0
RestaPaN19	Restaurant	Packaged DX	New	19	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.07	10	739	0.005	40	\$43.00	5%	100%	95%	0.4779	0
RestaPaT15	Restaurant	Turnover	15		PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.07	10	739	0.005	40	\$43.00	5%	100%	95%	0.4779	0
RetaPaE1	Retail	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3.13	20	808	0.05	64	\$200.00	8%	15%	95%	0.4045	0
RetaPaE2	Retail	Packaged DX	Early	2	Adding window shade film	No shade film	sq ft window arc	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.0363	0
RetaPaE3	Retail	Packaged DX	Early	3	Adding window shade film	No shade screen	sq ft window arc	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.1973	0
RetaPaE4	Retail	Packaged DX	Early	4	Windows U<0.40, 55 SHGC	Existing window specifications	sq ft window arc	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	0.9850	0
RetaPaE5	Retail	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$4.18	20	808	0.05	54	\$225.00	7%	95%	95%	0.3169	0
RetaPaE7	Retail	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$0.59	10	854	0.005	43	\$25.00	5%	100%	65%	0.8698	0
RetaPaE8	Retail	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	808	0.05	12	\$95.00	1%	45%	80%	0.2609	0
RetaPaE9	Retail	Packaged DX	Early	9	Hotel Keypad Sensors	No prior controls	room Control	\$0.29	10	725	0.041	342	\$100.00	47%	95%	80%	1.7426	1
RetaPaE10	Retail	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	878	0.05	64	\$35.00	7%	100%	45%	0.1131	0
RetaPaE11	Retail	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	808	0.015	125	\$55.00	15%	100%	45%	1.1580	1
RetaPaE13	Retail	Packaged DX	Early	13	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.43	7	808	0.05	129	\$55.15	16%	95%	75%	0.9375	0
RetaPaN1	Retail	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	808	0.05	64	\$87.00	8%	100%	95%	0.9299	0
RetaPaN2	Retail	Packaged DX	New	2	Adding reflective roof treatment	Sid color roof	ton	\$4.50	20	808	0.05	10	\$45.00	1%	100%	95%	0.6621	0
RetaPaN3	Retail	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$3.20	20	808	0.05	54	\$125.00	7%	100%	95%	0.5704	0
RetaPaN4	Retail	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Sid Roof	ton	\$2.37	20	808	0.05	54	\$127.43	7%	45%	95%	0.5596	0
RetaPaN5	Retail	Packaged DX	New	5	No Insulation	Duct Insulation, Add R8	ton	\$10.42	20	808	0.05	12	\$125.00	1%	100%	95%	0.2535	0
RetaPaN6	Retail	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.82	20	696	0.04	50	\$90.40	7%	100%	95%	0.7281	0
RetaPaN7	Retail	Packaged DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.95	20	696	0.08	93	\$180.81	13%	100%	95%	0.6795	0
RetaPaN8	Retail	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.08	20	696	0.12	131	\$271.21	19%	100%	95%	0.6371	0
RetaPaN9	Retail	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.02	20	808	0.05	54	\$55.00	7%	100%	95%	1.2964	1
RetaPaN10	Retail	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.02	20	823	0.06	69	\$70.00	8%	100%	95%	1.2964	1
RetaPaN11	Retail	Packaged DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.72	20	905	0.06	67	\$115.13	7%	100%	95%	0.7707	0
RetaPaN12	Retail	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$2.15	20	933	0.04	46	\$98.39	5%	100%	95%	0.6153	0
RetaPaN13	Retail	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.84	15	823	0.23	264	\$ 750.00	32%	20%	95%	0.3616	0
RetaPaN14	Retail	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$5.09	15	823	0.18	147	\$750.00	18%	100%	95%	0.1512	0
RetaPaN15	Retail	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$1.40	15	808	0.014	121	\$170.00	15%	75%	45%	0.5486	0
RetaPaN16	Retail	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$1.11	15	808	0.019	162	\$179.00	20%	100%	95%	0.6947	0
RetaPaN17	Retail	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.88	15	854	0.005	38	\$110.89	5%	100%	95%	0.2668	0
RetaPaT1	Retail	Packaged DX	Turnover	1		Duct Insulation, Add R8	ton	\$10.42	15	808	0.05	12	\$125.00	1%	100%	95%	0.1983	0
RetaPaT2	Retail	Packaged DX	Turnover	2	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.82	20	696	0.04	50	\$90.40	7%	100%	95%	0.7281	0
RetaPaT3	Retail	Packaged DX	Turnover	3	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.95	20	696	0.08	93	\$180.81	13%	100%	95%	0.6795	0
RetaPaT4	Retail	Packaged DX	Turnover	4	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.08	20	696	0.12	131	\$271.21	19%	100%	95%	0.6371	0
RetaPaT5	Retail	Packaged DX	Turnover	5	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.02	20	808	0.05	54	\$55.00	7%	100%	95%	1.2964	1
RetaPaT6	Retail	Packaged DX	Turnover	6	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.02	20	823	0.06	69	\$70.00	8%	100%	95%	1.2964	1
RetaPaT7	Retail	Packaged DX	Turnover	7	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.72	20	905	0.06	67	\$115.13	7%	100%	95%	0.7707	0
RetaPaT8	Retail	Packaged DX	Turnover	8	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$2.15	20	933	0.04	46	\$98.39	5%	100%	95%	0.6153	0</

Duquesne Commercial Measures

Measure	Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
WarehPaN12	Warehouse	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$2.78	20	721	0.04	35	\$98.39	5%	100%	95%	0.5155	0	
WarehPaN13	Warehouse	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$3.67	15	636	0.23	204	\$750.00	32%	20%	95%	0.3034	0	
WarehPaN14	Warehouse	Packaged DX	New	14	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$6.58	15	636	0.14	114	\$750.00	18%	100%	95%	0.1169	0	
WarehPaN15	Warehouse	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$1.81	15	625	0.011	94	\$170.00	15%	75%	45%	0.4242	0	
WarehPaN16	Warehouse	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$1.43	15	625	0.015	125	\$170.00	20%	100%	95%	0.5371	0	
WarehPaN17	Warehouse	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$3.73	15	660	0.004	30	\$110.89	5%	100%	95%	0.2063	0	
WarehPaT1	Warehouse	Packaged DX	Turnover	1	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	625	0.05	12	\$125.00	2%	100%	95%	0.1983	0	
WarehPaT2	Warehouse	Packaged DX	Turnover	2	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.35	20	538	0.04	38	\$90.40	7%	100%	95%	0.6100	0	
WarehPaT3	Warehouse	Packaged DX	Turnover	3	<65k, 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.52	20	538	0.08	72	\$180.81	13%	100%	95%	0.5693	0	
WarehPaT4	Warehouse	Packaged DX	Turnover	4	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.69	20	538	0.12	101	\$271.21	19%	100%	95%	0.5338	0	
WarehPaT5	Warehouse	Packaged DX	Turnover	5	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.32	20	625	0.05	42	\$55.00	7%	100%	95%	1.0863	1	
WarehPaT6	Warehouse	Packaged DX	Turnover	6	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.32	20	636	0.06	53	\$70.00	8%	100%	95%	1.0863	1	
WarehPaT7	Warehouse	Packaged DX	Turnover	7	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$2.22	20	700	0.06	52	\$115.13	7%	100%	95%	0.6458	0	
WarehPaT8	Warehouse	Packaged DX	Turnover	8	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$2.78	20	721	0.04	35	\$98.39	5%	100%	95%	0.5155	0	
WarehPaT9	Warehouse	Packaged DX	Turnover	9	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$3.67	15	636	0.23	204	\$750.00	32%	5%	95%	0.3034	0	
WarehPaT10	Warehouse	Packaged DX	Turnover	10	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$6.58	15	636	0.14	114	\$750.00	18%	100%	95%	0.1169	0	
WarehPaT11	Warehouse	Packaged DX	Turnover	11	Air-side Economizer	No Economizer	ton	\$1.81	15	625	0.011	94	\$170.00	15%	75%	45%	0.4242	0	
WarehPaT12	Warehouse	Packaged DX	Turnover	12	Energy Recovery Units	No Energy Recovery	ton	\$1.43	15	625	0.015	125	\$170.00	20%	100%	95%	0.5371	0	
WarehPaT13	Warehouse	Packaged DX	Turnover	13	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$3.73	15	660	0.004	30	\$110.89	5%	100%	95%	0.2063	0	
WarehPaN18	Warehouse	Packaged DX	New	18	Automated control system	Baseline DX	ton	\$0.76	10	660	0.004	33	\$25.00	5%	100%	65%	0.6726	0	
WarehPaN19	Warehouse	Packaged DX	New	19	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.41	10	561	0.004	31	\$43.00	5%	100%	95%	0.3623	0	
WarehPaT15	Warehouse	Packaged DX	Turnover	15	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.41	10	561	0.004	31	\$43.00	5%	100%	95%	0.3623	0	
HealthN4	Healthcare	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$6.11	15	300	0.000	18	\$110.89	6%	100%	95%	0.1202	0	
HealthH1	Healthcare	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$6.11	15	300	0.000	18	\$110.89	6%	100%	95%	0.1202	0	
GroceHe1	Grocery	Heating	Early	1	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0.2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.2523	1	
GroceHe2	Grocery	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2-375	sq ft	\$4.44	20	1,288	0.05	45	\$200.00	3%	100%	95%	0.3145	0	
GroceHe3	Grocery	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.67	20	1,288	0.05	75	\$125.00	6%	100%	95%	0.7302	0	
GroceHe4	Grocery	Heating	Early	4	Green Roof (New construction or roof replacement)	Sid Roof	sq ft	\$3.75	20	1,288	0.05	34	\$127.43	3%	100%	95%	0.4119	0	
GroceHe5	Grocery	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0.1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	2.5596	1	
GroceHeN1	Grocery	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	1,288	0.05	45	\$87.00	3%	100%	95%	0.7230	0	
GroceHeN2	Grocery	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$9.61	15	1,288	0.23	78	\$750.00	6%	20%	95%	0.1806	0	
GroceHeN3	Grocery	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$9.61	15	1,288	0.001	78	\$750.00	6%	100%	95%	0.0764	0	
GroceHeN4	Grocery	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.42	15	1,288	0.001	78	\$110.89	6%	100%	95%	0.5166	0	
GroceHeT1	Grocery	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.42	15	1,288	0.001	78	\$110.89	6%	100%	95%	0.5166	0	
InstiHe1	Institutional	Heating	Early	1	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0.2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.2523	1	
InstiHe2	Institutional	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2-375	sq ft	\$4.44	20	917	0.05	45	\$200.00	3%	100%	95%	0.3145	0	
InstiHe3	Institutional	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.67	20	917	0.05	75	\$125.00	6%	100%	95%	0.7302	0	
InstiHe4	Institutional	Heating	Early	4	Green Roof (New construction or roof replacement)	Sid Roof	sq ft	\$3.75	20	917	0.05	34	\$127.43	4%	100%	95%	0.4119	0	
InstiHe5	Institutional	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0.1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	2.5596	1	
InstiHeN1	Institutional	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	917	0.05	45	\$87.00	3%	100%	95%	0.7230	0	
InstiHeN2	Institutional	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$13.50	15	917	0.23	56	\$750.00	6%	20%	95%	0.1588	0	
InstiHeN3	Institutional	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$13.50	15	917	0.001	56	\$750.00	6%	100%	95%	0.0544	0	
InstiHeN4	Institutional	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$2.00	15	917	0.001	56	\$110.89	6%	100%	95%	0.3678	0	
InstiHeT1	Institutional	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$2.00	15	917	0.001	56	\$110.89	6%	100%	95%	0.3678	0	
LodgHe1	Lodging	Heating	Early	1	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0.2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.2523	1	
LodgHe2	Lodging	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2-375	sq ft	\$4.44	20	1,559	0.05	45	\$200.00	3%	100%	95%	0.3145	0	
LodgHe3	Lodging	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.67	20	1,559	0.05	75	\$125.00	5%	100%	95%	0.7302	0	
LodgHe4	Lodging	Heating	Early	4	Green Roof (New construction or roof replacement)	Sid Roof	sq ft	\$3.75	20	1,559	0.05	34	\$127.43	2%	100%	95%	0.4119	0	
LodgHe5	Lodging	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0.1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	2.5596	1	
LodgHeN1	Lodging	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	1,559	0.05	45	\$87.00	3%	100%	95%	0.7230	0	
LodgHeN2	Lodging	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$9.74	15	1,559	0.23	94	\$750.00	6%	20%	95%	0.1966	0	
LodgHeN3	Lodging	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$9.74	15	1,559	0.001	94	\$750.00	6%	100%	95%	0.0925	0	
LodgHeN4	Lodging	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.17	15	1,559	0.001	94	\$110.89	6%	100%	95%	0.6254	0	
LodgHeT1	Lodging	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.17	15	1,559	0.001	94	\$110.89	6%	100%	95%	0.6254	0	
MiscHe1	Misc	Heating	Early	1	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0.2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.2523	1	
MiscHe2	Misc	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2-375	sq ft	\$4.44	20	1,066	0.05	45	\$200.00	4%	100%	95%	0.3145	0	
MiscHe3	Misc	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.67	20	1,066	0.05	75	\$125.00	7%	100%	95%	0.7302	0	
MiscHe4	Misc	Heating	Early	4	Green Roof (New construction or roof replacement)	Sid Roof	sq ft	\$3.75	20	1,066	0.05	34	\$127.43	3%	100%	95%	0.4119	0	
MiscHe5	Misc	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0.1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	2.5596	1	
MiscHeN1	Misc	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	1,066	0.05	45	\$87.00	4%	100%	95%	0.7230	0	
MiscHeN2	Misc	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$11.60	15	1,066	0.23	65	\$750.00	6%	20%	95%	0.1676	0	
MiscHeN3	Misc	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$11.60	15	1,066	0.001	65	\$750.00	6%	100%	95%	0.0633	0	
MiscHeN4	Misc	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.72	15	1,066	0.001	65	\$110.89	6%	100%	95%	0.4278	0	
MiscHeT1	Misc	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.72	15	1,066	0.001	65	\$110.89	6					

Duquesne Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kW Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag	
WarchH2	Warehouse	Heating	Early	1	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0.2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.2523	1	
WarchH2	Warehouse	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$4.44	20	1,106	0.05	45	\$20.00	4%	100%	95%	0.3145	0	
WarchH3	Warehouse	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$11.67	20	1,106	0.05	75	\$125.00	7%	100%	95%	0.7302	0	
WarchH4	Warehouse	Heating	Early	4	Green Roof (New construction or roof replacement)	Sid Roof	sq ft	\$3.75	20	1,106	0.05	34	\$127.43	3%	100%	95%	0.4119	0	
WarchH5	Warehouse	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0.1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	2.5596	1	
WarchIen1	Warehouse	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	1,106	0.05	45	\$87.00	4%	100%	95%	0.7230	0	
WarchIen2	Warehouse	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$11.19	15	1,106	0.23	67	\$	750.0	6%	20%	95%	0.1699	0
WarchIen3	Warehouse	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$11.19	15	1,106	0.001	67	\$750.00	6%	100%	95%	0.0656	0	
WarchIen4	Warehouse	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.65	15	1,106	0.001	67	\$110.89	6%	100%	95%	0.4438	0	
WarchIen4	Warehouse	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.65	15	1,106	0.001	67	\$110.89	6%	100%	95%	0.4438	0	
GroceChE1	Grocery	Chiller	Early	1	Duct Sealing, down to 15%	Leakage of 29%	ton	\$1.8103	15	5,248	0.010	52,4784	\$95.00	1%	40%	\$0.90	0.4369	0	
GroceChE2	Grocery	Chiller	Early	2	Duct Insulation, Add R8	No Insulation	ton	\$2.3819	15	5,248	0.010	52,4784	\$125.00	1%	50%	95%	0.3320	0	
GroceChE3	Grocery	Chiller	Early	3	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0.4764	15	5,248	0.052	262.3920	\$125.00	5%	75%	75%	1.6600	1	
GroceChE4	Grocery	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0.4287	15	5,248	0.207	1,049.6	\$450.00	20%	75%	75%	1.8445	1	
GroceChE5	Grocery	Chiller	Early	5	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.4343	7	5,248	0.166	840	\$364.67	16%	75%	75%	0.8853	0	
GroceChE6	Grocery	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	5,248	0.05	245	\$200.00	3%	15%	95%	0.9679	0	
GroceChE7	Grocery	Chiller	Early	7	Adding window shade film	No shade film	sq ft window area	\$7.0453	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.0371	0	
GroceChE8	Grocery	Chiller	Early	8	Adding window shade screen	No shade screen	sq ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.2028	0	
GroceChE9	Grocery	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.43	20	5,248	0.05	157	\$225.00	3%	75%	95%	0.7492	0	
GroceChN1	Grocery	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.47	20	5,248	0.05	184	\$87.00	4%	15%	95%	2.2215	1	
GroceChN2	Grocery	Chiller	New	2	Adding window shade screen	No shade screen	sq ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.2028	0	
GroceChN3	Grocery	Chiller	New	3	Adding reflective roof treatment	Sid color roof	sq ft roof area	\$4.50	20	5,248	0.05	10	\$45.00	0%	100%	95%	0.6610	0	
GroceChN4	Grocery	Chiller	New	4	Green Roof (New construction or roof replacement)	Sid Roof	sq ft	\$2.48	20	5,248	0.05	51	\$127.43	1%	45%	95%	0.5385	0	
GroceChN5	Grocery	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.4026	15	5,248	0.76	633	\$255.00	12%	95%	95%	2.7930	1	
GroceChN6	Grocery	Chiller	New	6	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.2226	15	5,248	1.944	1,629	\$362.50	31%	95%	95%	5.0521	1	
GroceChN7	Grocery	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/ton	ton	\$0.1154	15	12,577	1.728	1,448	\$167.00	12%	95%	95%	9.7479	1	
GroceChN8	Grocery	Chiller	New	8	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.4383	15	5,248	0.052	262.3920	\$115.00	5%	95%	75%	1.8044	1	
GroceChN9	Grocery	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.2323	15	5,248	0.166	1,049.6	\$450.00	20%	95%	75%	3.2021	1	
GroceChN10	Grocery	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$2.3819	15	5,248	0.010	52,4784	\$125.00	1%	100%	95%	0.3320	0	
GroceChT1	Grocery	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.4658	15	5,248	0.76	633	\$295.00	12%	95%	95%	2.4143	1	
GroceChT2	Grocery	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.2840	15	5,248	1.944	1,629	\$462.50	31%	95%	95%	3.9598	1	
GroceChT3	Grocery	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW/ton	ton	\$0.4530	15	5,248	1.944	918	\$416.00	18%	95%	95%	3.1650	1	
GroceChN11	Grocery	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW/ton	ton	\$0.4530	15	5,248	1.944	918	\$416.00	18%	95%	95%	3.1650	1	
GroceChT5	Grocery	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.4840	15	5,248	0.052	262.3920	\$127.00	5%	95%	75%	1.6339	1	
GroceChT4	Grocery	Chiller	Turnover	4	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/ton	ton	\$0.1430	15	12,577	1.728	1,448	\$207.00	12%	95%	95%	7.8643	1	
InstiChE1	Institutional	Chiller	Early	1	Duct Sealing, down to 15%	Leakage of 29%	ton	\$2.5513	15	3,724	0.007	37,2360	\$95.00	1%	40%	\$0.90	0.3100	0	
InstiChE2	Institutional	Chiller	Early	2	Duct Insulation, Add R8	No Insulation	ton	\$3.3570	15	3,724	0.007	37,2360	\$125.00	1%	50%	95%	0.2356	0	
InstiChE3	Institutional	Chiller	Early	3	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0.6714	15	3,724	0.037	186.1800	\$125.00	5%	75%	75%	1.1779	1	
InstiChE4	Institutional	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0.6043	15	3,724	0.147	744.7	\$450.00	20%	75%	75%	1.3088	1	
InstiChE5	Institutional	Chiller	Early	5	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.6121	7	3,724	0.118	596	\$364.67	16%	75%	75%	0.8598	0	
InstiChE6	Institutional	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	3,724	0.05	245	\$200.00	3%	15%	95%	0.9679	0	
InstiChE7	Institutional	Chiller	Early	7	Adding window shade film	No shade film	sq ft window area	\$7.0453	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.0371	0	
InstiChE8	Institutional	Chiller	Early	8	Adding window shade screen	No shade screen	sq ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.2028	0	
InstiChE9	Institutional	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$2.01	20	3,724	0.05	112	\$225.00	3%	75%	95%	0.5378	0	
InstiChN1	Institutional	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.67	20	3,724	0.05	130	\$87.00	4%	15%	95%	1.6441	1	
InstiChN2	Institutional	Chiller	New	2	Adding window shade screen	No shade screen	sq ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.2028	0	
InstiChN3	Institutional	Chiller	New	3	Adding reflective roof treatment	Sid color roof	sq ft roof area	\$4.50	20	3,724	0.05	10	\$45.00	0%	100%	95%	0.6610	0	
InstiChN4	Institutional	Chiller	New	4	Green Roof (New construction or roof replacement)	Sid Roof	sq ft	\$3.33	20	3,724	0.05	38	\$127.43	1%	45%	95%	0.4419	0	
InstiChN5	Institutional	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.5674	15	3,724	0.76	449	\$255.00	12%	95%	95%	2.2702	1	
InstiChN6	Institutional	Chiller	New	6	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.3137	15	3,724	1.944	1,156	\$362.50	31%	95%	95%	4.1064	1	
InstiChN7	Institutional	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/ton	ton	\$0.1626	15	8,924	1.728	1,027	\$167.00	12%	95%	95%	7.9232	1	
InstiChN8	Institutional	Chiller	New	8	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.6177	15	3,724	0.037	186.1800	\$115.00	5%	95%	75%	1.2803	1	
InstiChN9	Institutional	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.3357	15	3,724	0.147	744.7	\$250.00	20%	95%	75%	2.3558	1	
InstiChN10	Institutional	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$3.3570	15	3,724	0.007	37,2360	\$125.00	1%	100%	95%	0.2356	0	
InstiChT1	Institutional	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.6564	15	3,724	0.76	449	\$295.00	12%	95%	95%	1.9623	1	
InstiChT2	Institutional	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.4002	15	3,724	1.944	1,156	\$462.50	31%	95%	95%	3.2185	1	
InstiChT3	Institutional	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW/ton	ton	\$0.6384	15	3,724	1.944	652	\$416.00	18%	95%	95%	2.7003	1	
InstiChN11	Institutional	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW/ton	ton	\$0.6384	15	3,724	1.944	652	\$416.00	18%	95%	95%	2.7003	1	
InstiChT5	Institutional	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.6821	15	3,724	0.037	186.1800	\$127.00	5%	95%	75%	1.1593	1	
InstiChT4	Institutional	Chiller	Turnover	4	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/ton	ton	\$0.2015	15	8,924	1.728	1,027	\$207.00	12%	95%	95%	6.3921	1	
LodgeChE1	Lodging	Chiller	Early	1	Duct Sealing, down to 15%	Leakage of 29%	ton	\$2.1394	15	4,440	0.009	44,4048	\$95.00	1%	40%	\$0.90	0.3696	0	
LodgeChE2	Lodging	Chiller	Early	2	Duct Insulation, Add R8	No Insulation	ton	\$2.8150	15	4,440	0.009	44,4048	\$125.00	1%	50%	95%	0.2809	0	
LodgeChE3	Lodging	Chiller	Early	3	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0.5630	15	4,440	0.044	222.0240	\$125.00	5%	75%	75%	1.4047	1	
LodgeChE4	Lodging	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0.5067	15	4,440	0.175	888.1	\$450.00	20%	75%	75%	1.5607	1	
LodgeChE																			

Duquesne Commercial Measures

Measure	Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
MiscChN1	Misc	Chiller	New	1		Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.48	20	5,157	0.05	181	\$87.00	4%	15%	95%	2,1872	1
MiscChN2	Misc	Chiller	New	2		Adding window shade screen	No shade screen	sq ft window area	\$3,900.1	15	1,54	0.000	0.38	\$1.50	25%	70%	95%	0.2028	0
MiscChN3	Misc	Chiller	New	3		Adding reflective roof treatment	Sid roof	sq ft roof area	\$4,540	20	5,157	0.05	10	\$45.00	0%	100%	95%	0.6610	0
MiscChN4	Misc	Chiller	New	4		Green Roof (New construction or roof replacement)	Sid Roof	sq ft	\$2.42	20	5,157	0.05	55	\$127.43	1%	45%	95%	0.5482	0
MiscChN5	Misc	Chiller	New	5		High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.4097	15	5,157	0.76	622	\$255.00	12%	95%	95%	2.7619	1
MiscChN6	Misc	Chiller	New	6		VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.2265	15	5,157	1.944	1,601	\$362.50	31%	95%	95%	4.9960	1
MiscChN7	Misc	Chiller	New	7		Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/ton	ton	\$0.1174	15	12,360	1.728	1,423	\$167.00	12%	95%	95%	9.6366	1
MiscChN8	Misc	Chiller	New	8		EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.4460	15	5,157	0.051	257,8680	\$11,500	5%	95%	75%	1.7733	1
MiscChN9	Misc	Chiller	New	9		Energy Recovery Units	No Energy Recovery	ton	\$0.2424	15	5,157	0.204	1,031.5	\$250.00	20%	95%	75%	3.2628	1
MiscChN10	Misc	Chiller	New	10		Duct Insulation, Add R8	No Insulation	ton	\$2,423.7	15	5,157	0.010	51,5736	\$125.00	1%	100%	95%	0.3263	0
MiscChT1	Misc	Chiller	Turnover	1		High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.4739	15	5,157	0.76	622	\$295.00	12%	95%	95%	2.3874	1
MiscChT2	Misc	Chiller	Turnover	2		VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.2890	15	5,157	1.944	1,601	\$462.50	31%	95%	95%	3.9158	1
MiscChT3	Misc	Chiller	Turnover	3		Water-side Economizer	Std Chiller, 0.58 kW/ton	ton	\$0.4609	15	5,157	1.944	903	\$416.00	18%	95%	95%	3.1374	1
MiscChN11	Misc	Chiller	New	11		Water-side Economizer	Std Chiller, 0.58 kW/ton	ton	\$0.4609	15	5,157	1.944	903	\$416.00	18%	95%	95%	3.1374	1
MiscChT5	Misc	Chiller	Turnover	5		EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.4925	15	5,157	0.051	257,8680	\$127.00	5%	95%	75%	1.6057	1
MiscChT4	Misc	Chiller	Turnover	4		Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/ton	ton	\$0.1455	15	12,360	1.728	1,423	\$207.00	12%	95%	95%	7.7769	1
OfficChE1	Office	Chiller	Early	1		Duct Sealing, down to 15%	Leakage of 29%	ton	\$1,901.0	15	4,997	0.010	49,9728	\$95.00	1%	40%	\$0.90	0.4160	0
OfficChE2	Office	Chiller	Early	2		No Insulation	No Insulation	ton	\$2,5014	15	4,997	0.010	49,9728	\$125.00	1%	50%	95%	0.3162	0
OfficChE3	Office	Chiller	Early	3		EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0.5003	15	4,997	0.049	249,8640	\$125.00	5%	75%	75%	1.5808	1
OfficChE4	Office	Chiller	Early	4		Energy Recovery Units	No Energy Recovery	ton	\$0.4502	15	4,997	0.197	999.5	\$450.00	20%	75%	75%	1.7564	1
OfficChE5	Office	Chiller	Early	5		Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.4561	7	4,997	0.158	800	\$364.67	16%	75%	75%	0.8049	0
OfficChE6	Office	Chiller	Early	6		Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	4,997	0.05	245	\$200.00	5%	15%	95%	0.9679	0
OfficChE7	Office	Chiller	Early	7		Adding window shade film	No shade film	sq ft window area	\$7,045.3	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.0371	0
OfficChE8	Office	Chiller	Early	8		Adding window shade screen	No shade screen	sq ft window area	\$3,900.1	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.2028	0
OfficChE9	Office	Chiller	Early	9		Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.50	20	4,997	0.05	150	\$225.00	3%	75%	95%	0.7177	0
OfficChN1	Office	Chiller	New	1		Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.50	20	4,997	0.05	175	\$87.00	4%	15%	95%	2.1266	1
OfficChN2	Office	Chiller	New	2		Adding window shade screen	No shade screen	sq ft window area	\$3,900.1	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.2028	0
OfficChN3	Office	Chiller	New	3		Adding reflective roof treatment	Sid roof	sq ft roof area	\$4,540	20	4,997	0.05	10	\$45.00	0%	100%	95%	0.6610	0
OfficChN4	Office	Chiller	New	4		Green Roof (New construction or roof replacement)	Sid Roof	sq ft	\$2.48	20	4,997	0.05	51	\$127.43	1%	45%	95%	0.5385	0
OfficChN5	Office	Chiller	New	5		High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.4228	15	4,997	0.76	603	\$255.00	12%	95%	95%	2.7070	1
OfficChN6	Office	Chiller	New	6		VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.2337	15	4,997	1.944	1,551	\$362.50	31%	95%	95%	4.8966	1
OfficChN7	Office	Chiller	New	7		Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/ton	ton	\$0.1211	15	11,976	1.728	1,379	\$167.00	12%	95%	95%	9.4480	1
OfficChN8	Office	Chiller	New	8		EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.4603	15	4,997	0.049	249,8640	\$11,500	5%	95%	75%	1.7182	1
OfficChN9	Office	Chiller	New	9		Energy Recovery Units	No Energy Recovery	ton	\$0.2501	15	4,997	0.197	999.5	\$250.00	20%	95%	75%	3.1616	1
OfficChN10	Office	Chiller	New	10		Duct Insulation, Add R8	No Insulation	ton	\$2,5014	15	4,997	0.010	49,9728	\$125.00	1%	100%	95%	0.3162	0
OfficChT1	Office	Chiller	Turnover	1		High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.4891	15	4,997	0.76	603	\$295.00	12%	95%	95%	2.3400	1
OfficChT2	Office	Chiller	Turnover	2		VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.2982	15	4,997	1.944	1,551	\$462.50	31%	95%	95%	3.8379	1
OfficChT3	Office	Chiller	Turnover	3		Water-side Economizer	Std Chiller, 0.58 kW/ton	ton	\$0.4757	15	4,997	1.944	875	\$416.00	18%	95%	95%	3.0886	1
OfficChN11	Office	Chiller	New	11		Water-side Economizer	Std Chiller, 0.58 kW/ton	ton	\$0.4757	15	4,997	1.944	875	\$416.00	18%	95%	95%	3.0886	1
OfficChT5	Office	Chiller	Turnover	5		EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.5083	15	4,997	0.049	249,8640	\$127.00	5%	95%	75%	1.5559	1
OfficChT4	Office	Chiller	Turnover	4		Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/ton	ton	\$0.1502	15	11,976	1.728	1,379	\$207.00	12%	95%	95%	7.6223	1
RestaChE1	Restaurant	Chiller	Early	1		Duct Sealing, down to 15%	Leakage of 29%	ton	\$1,775.0	15	5,352	0.011	53,5224	\$95.00	1%	40%	\$0.90	0.4455	0
RestaChE2	Restaurant	Chiller	Early	2		Duct Insulation, Add R8	No Insulation	ton	\$2,335.5	15	5,352	0.011	53,5224	\$125.00	1%	50%	95%	0.3386	0
RestaChE3	Restaurant	Chiller	Early	3		EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0.4671	15	5,352	0.053	267,6120	\$125.00	5%	75%	75%	1.6961	1
RestaChE4	Restaurant	Chiller	Early	4		Energy Recovery Units	No Energy Recovery	ton	\$0.4204	15	5,352	0.211	1,070.4	\$450.00	20%	75%	75%	1.8812	1
RestaChE5	Restaurant	Chiller	Early	5		Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.4258	7	5,352	0.169	856	\$364.67	16%	75%	75%	0.8621	0
RestaChE6	Restaurant	Chiller	Early	6		Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	5,352	0.05	245	\$200.00	5%	15%	95%	0.9679	0
RestaChE7	Restaurant	Chiller	Early	7		Adding window shade film	No shade film	sq ft window area	\$7,045.3	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.0371	0
RestaChE8	Restaurant	Chiller	Early	8		Adding window shade screen	No shade screen	sq ft window area	\$3,900.1	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.2028	0
RestaChE9	Restaurant	Chiller	Early	9		Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.40	20	5,352	0.05	161	\$225.00	3%	75%	95%	0.7623	0
RestaChN1	Restaurant	Chiller	New	1		Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.46	20	5,352	0.05	187	\$87.00	4%	15%	95%	2.2610	1
RestaChN2	Restaurant	Chiller	New	2		Adding window shade screen	No shade screen	sq ft window area	\$3,900.1	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.2028	0
RestaChN3	Restaurant	Chiller	New	3		Adding reflective roof treatment	Sid roof	sq ft roof area	\$4,540	20	5,352	0.05	10	\$45.00	0%	100%	95%	0.6610	0
RestaChN4	Restaurant	Chiller	New	4		Green Roof (New construction or roof replacement)	Sid Roof	sq ft	\$2.32	20	5,352	0.05	55	\$127.43	1%	45%	95%	0.5654	0
RestaChN5	Restaurant	Chiller	New	5		High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.3948	15	5,352	0.76	646	\$255.00	12%	95%	95%	2.8888	1
RestaChN6	Restaurant	Chiller	New	6		VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.2182	15	5,352	1.944	1,661	\$362.50	31%	95%	95%	5.1169	1
RestaChN7	Restaurant	Chiller	New	7		Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/ton	ton	\$0.1131	15	12,827	1.728	1,476	\$167.00	12%	95%	95%	9.8729	1
RestaChN8	Restaurant	Chiller	New	8		EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.4297	15	5,352	0.053	267,6120	\$11,500	5%	95%	75%	1.8403	1
RestaChN9	Restaurant	Chiller	New	9		Energy Recovery Units	No Energy Recovery	ton	\$0.2335	15	5,352	0.211	1,070.4	\$250.00	20%	95%	75%	3.3861	1
RestaChN10	Restaurant	Chiller	New	10		Duct Insulation, Add R8	No Insulation	ton	\$2,335.5	15	5,352	0.011	53,5224	\$125.00	1%	100%	95%	0.3386	0
RestaChT1	Restaurant	Chiller	Turnover	1		High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.4567	15	5,352	0.76	646	\$295.00	12%	95%	95%	2.4452	1
RestaChT2	Restaurant	Chiller	Turnover	2		VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.2784	15	5,352	1.944	1,661	\$462.50	31%	95%	95%	4.0105	1
RestaChT3	Restaurant	Chiller	Turnover	3		Water-side Economizer	Std Chiller, 0.58 kW/ton	ton	\$0.4441	15	5,352	1.944	937	\$416					

Duquesne Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
WarehChB4	Warehouse	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0.5545	15	4,058	0.160	811.5	\$450.00	20%	75%	75%	1.4262	1
WarehChE5	Warehouse	Chiller	Early	5	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.5617	7	4,058	0.128	649	\$364.67	16%	75%	75%	0.6536	0
WarehChE6	Warehouse	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	4,058	0.05	245	\$204.00	6%	15%	95%	0.9679	0
WarehChE7	Warehouse	Chiller	Early	7	Adding window shade film	No shade film	sq ft window area	\$7.0453	8	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.0371	0
WarehChE8	Warehouse	Chiller	Early	8	Adding window shade screen	No shade screen	sq ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.2028	0
WarehChE9	Warehouse	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.85	20	4,058	0.05	122	\$225.00	3%	75%	95%	0.5998	0
WarehChN1	Warehouse	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.61	20	4,058	0.05	142	\$87.00	4%	15%	95%	1.7707	1
WarehChN2	Warehouse	Chiller	New	2	Adding window shade screen	No shade screen	sq ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.2028	0
WarehChN3	Warehouse	Chiller	New	3	Adding reflective roof treatment	Std color roof	sq ft roof area	\$4.50	20	4,058	0.05	10	\$45.00	0%	100%	95%	0.6610	0
WarehChN4	Warehouse	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$3.06	20	4,058	0.05	42	\$127.43	1%	45%	95%	0.4672	0
WarehChN5	Warehouse	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.5207	15	4,058	0.76	490	\$255.00	12%	95%	95%	2.3847	1
WarehChN6	Warehouse	Chiller	New	6	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.2879	15	4,058	1.944	1,259	\$362.50	31%	95%	95%	4.5137	1
WarehChN7	Warehouse	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.1492	15	9,724	1.728	1,119	\$167.00	12%	95%	95%	8.3231	1
WarehChN8	Warehouse	Chiller	New	8	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.5668	15	4,058	0.040	202,8840	\$115.00	5%	95%	75%	1.3952	1
WarehChN9	Warehouse	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.3081	15	4,058	0.160	811.5	\$250.00	20%	95%	75%	2.5671	1
WarehChN10	Warehouse	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$3.0806	15	4,058	0.008	40,5768	\$125.00	1%	100%	95%	0.2567	0
WarehChT1	Warehouse	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.6024	15	4,058	0.76	490	\$295.00	12%	95%	95%	2.0614	1
WarehChT2	Warehouse	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.3673	15	4,058	1.944	1,259	\$462.50	31%	95%	95%	3.3810	1
WarehChT3	Warehouse	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.5858	15	4,058	1.944	710	\$416.00	18%	95%	95%	2.8022	1
WarehChN11	Warehouse	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.5858	15	4,058	1.944	710	\$416.00	18%	95%	95%	2.8022	1
WarehChT5	Warehouse	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.6260	15	4,058	0.040	202,8840	\$127.00	5%	95%	75%	1.2633	1
WarehChT4	Warehouse	Chiller	Turnover	4	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.1849	15	9,724	1.728	1,119	\$207.00	12%	95%	95%	6.7148	1
WarehHeT2	Warehouse	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.10	10	3,774	0.008	566	\$55.00	15%	100%	45%	4.9878	1
GroceHeT2	Grocery	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.08	10	4,394	0.010	659	\$55.00	15%	100%	45%	5.8063	1
HealthHeT2	Healthcare	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.36	10	1,022	0.002	153	\$55.00	15%	100%	45%	1.3505	1
InstnHeT2	Institutional	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.12	10	3,128	0.007	469	\$55.00	15%	100%	45%	4.1335	1
MiscHeT2	Misc	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.10	10	3,639	0.008	546	\$55.00	15%	100%	45%	4.8087	1
OfficeHeT2	Office	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.13	10	2,806	0.006	421	\$55.00	15%	100%	45%	3.7089	1
RestalHeT2	Restaurant	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.09	10	4,274	0.009	641	\$55.00	15%	100%	45%	5.6477	1
RetailHeT2	Retail	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.08	10	4,394	0.010	659	\$55.00	15%	100%	45%	5.8063	1
LodgHeT2	Lodging	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.07	10	5,319	0.012	798	\$55.00	15%	100%	45%	7.0289	1
OfficeMoT1	Office	Motors	Early	1	Motor Retrocommissioning		Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.3257	1
OfficeMoT23	Office	Motors	Turnover	23	Motor Retrocommissioning		Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.3257	1
RestMoT1	Restaurant	Motors	Early	1	Motor Retrocommissioning		Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.3257	1
InstnMoT19	Institutional	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.6348	15	84274	12.062	20478.6	\$13,000.00	24%	90.0%	80%	1.4631	1
RestMoT23	Restaurant	Motors	Turnover	23	Motor Retrocommissioning		Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.3257	1
RetaMoT1	Retail	Motors	Early	1	Motor Retrocommissioning		Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.3257	1
RetaMoT23	Retail	Motors	Turnover	23	Motor Retrocommissioning		Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.3257	1
WarehMoE1	Warehouse	Motors	Early	1	Motor Retrocommissioning		Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.3257	1
WarehMoT23	Warehouse	Motors	Turnover	23	Motor Retrocommissioning		Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.3257	1

Met-Ed Commercial Measures

Measure	New Commercial	New End	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kW Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC	Other	Economic Flag
HealthCh1	Healthcare	Chiller	Early	1	Duct Sealing, down to 15%	Leakage of 29%	\$0.9204	15	10,322	0.020	\$3,2168	\$95.00	1%	40%	50%	0.89	0	
HealthCh2	Healthcare	Chiller	Early	2	Duct Insulation, Add R8	No Insulation	\$1,2010	15	10,322	0.020	\$10,1668	\$125.00	1%	50%	95%	0.68	0	
HealthCh3	Healthcare	Chiller	Early	3	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton	\$0,2422	15	10,322	0.402	516,0840	\$125.00	5%	75%	95%	3.40	1	
HealthCh4	Healthcare	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	\$0,2180	15	10,322	0.407	2,064.3	\$450.00	20%	75%	95%	3.78	1	
HealthCh5	Healthcare	Chiller	Early	5	Re-commissioning	Current Controls not working properly, setpoints not optimized,	\$0,2208	7	10,322	0.326	1,651	\$364.67	16%	75%	95%	1.57	1	
HealthCh6	Healthcare	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2.375	\$0.82	15	10,322	0.05	245	\$200.00	2%	15%	95%	1.01	1	
HealthCh7	Healthcare	Chiller	Early	7	Adding window shade film	No shade film	\$7,0453	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.04	0	
HealthCh8	Healthcare	Chiller	Early	8	Adding window shade screen	No shade screen	\$3,9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.21	0	
HealthCh9	Healthcare	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	\$0.73	20	10,322	0.05	310	\$225.00	3%	75%	95%	1.41	1	
HealthChN1	Healthcare	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	\$0.24	20	10,322	0.05	361	\$87.00	4%	15%	95%	4.19	1	
HealthChN2	Healthcare	Chiller	New	2	Adding window shade screen	No shade screen	\$3,9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.21	0	
HealthChN3	Healthcare	Chiller	New	3	Adding reflective roof treatment	Std color roof	\$4.50	20	10,322	0.05	10	\$45.00	0%	100%	95%	0.95	0	
HealthChN4	Healthcare	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	\$1.20	20	10,322	0.05	106	\$127.43	1%	45%	95%	1.02	1	
HealthChN5	Healthcare	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	\$0,2047	15	10,322	0.76	1,246	\$255.00	12%	95%	95%	5.21	1	
HealthChN6	Healthcare	Chiller	New	6	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/ton	\$0,1132	15	10,322	1.944	3,203	\$362.50	31%	95%	95%	9.43	1	
HealthChN7	Healthcare	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.30 kW/ton	\$0,0587	15	24,736	1.728	2,847	\$167.00	12%	95%	95%	18.19	1	
HealthChN8	Healthcare	Chiller	New	8	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	\$0,2228	15	10,322	0.102	516,0840	\$115.00	5%	95%	75%	3.69	1	
HealthChN9	Healthcare	Chiller	New	9	Energy Recovery Units	No Energy Recovery	\$0,1211	15	10,322	0.407	2,064.3	\$250.00	20%	95%	75%	6.80	1	
HealthChN10	Healthcare	Chiller	New	10	Duct Insulation, Add R8	No Insulation	\$1,2110	15	10,322	0.020	103,2168	\$125.00	1%	100%	95%	0.68	0	
HealthChT1	Healthcare	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	\$0,2368	15	10,322	0.76	1,246	\$295.00	12%	95%	95%	4.51	1	
HealthChT2	Healthcare	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/ton	\$0,1444	15	10,322	1.944	3,203	\$462.50	31%	95%	95%	7.39	1	
HealthChT3	Healthcare	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW/ton	\$0,2303	15	10,322	1.944	1,806	\$416.00	18%	95%	95%	5.85	1	
HealthChN11	Healthcare	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW/ton	\$0,2303	15	10,322	1.944	1,806	\$416.00	18%	95%	95%	5.85	1	
HealthChT5	Healthcare	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	\$0,2461	15	10,322	0.102	516,0840	\$127.00	5%	95%	75%	3.35	1	
HealthChT4	Healthcare	Chiller	Turnover	4	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.30 kW/ton	\$0,0727	15	24,736	1.728	2,847	\$207.00	2%	95%	95%	14.68	1	
OfficeH1	Office	Fluorescent	Early	1	Premium Efficiency T8 Lighting Replacement (32W lamps with low	Replace (E) T12 Lamp - Bundle	\$0,5712	14	394	0.011	97	\$55.38	25%	95%	41%	1.27	1	
OfficeH16	Grocery	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) High Efficiency 32 W T8 Lamp	\$1,0146	6	163	0.007	64	\$65.00	39%	40%	95%	0.27	0	
OfficeH17	Office	Fluorescent	Early	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	\$0,2641	14	1,378	0.054	473	\$132.00	31%	95%	95%	2.75	1	
OfficeH13	Office	Fluorescent	Early	3	Photo-cell dimming control	No prior dimming control	\$0,2852	9	1,378	0.091	789	\$225.00	50%	95%	95%	1.43	0	
LodgingL6	Lodging	Incandescent	Early	6	Hotel Occupancy Sensors	No prior control	\$0,7447	10	240	0.019	168	\$125.00	70%	90%	95%	0.64	0	
OfficeHn1	Office	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	\$0,1781	15	20,340	0.234	2,034	\$362.18	10%	95%	100%	4.38	1	
OfficeHn2	Office	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	\$0,3561	15	20,340	0.584	5,085	\$1,810.90	25%	75%	100%	2.19	1	
HealthHe1	Healthcare	Heating	Early	1	Re-commissioning	Current Controls not working properly, setpoints not optimized,	\$0,2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.05	1	
HealthHe2	Healthcare	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2.375	\$4.44	20	298	0.05	45	\$200.00	15%	10%	95%	0.38	0	
HealthHe3	Healthcare	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	\$1.67	20	298	0.05	75	\$125.00	25%	10%	95%	0.82	0	
HealthHe4	Healthcare	Heating	Early	4	Green Roof (New construction or roof replacement)	Std Roof	\$3.75	20	298	0.05	34	\$127.43	11%	10%	95%	0.51	0	
HealthHe5	Healthcare	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	\$0,1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	2.30	1	
HealthHeN1	Healthcare	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	\$1.93	20	298	0.05	45	\$87.00	15%	10%	95%	0.86	0	
WarehouseH1	Warehouse	HID	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPF	Replace HID fixture drawing 250W	\$0,5670	10	1,268	0.043	378	\$214.50	30%	85%	80%	0.85	0	
WarehouseH2	Warehouse	HID	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPF	Replace HID fixture drawing 400 W	\$0,4077	10	1,268	0.057	673	\$175.00	35%	85%	80%	1.07	0	
WarehouseH3	Warehouse	HID	Early	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID fixture drawing 250 W	\$0,5150	10	1,856	0.052	456	\$325.00	36%	85%	80%	0.93	0	
WarehouseH4	Warehouse	HID	Early	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID fixture drawing 400 W	\$0,5081	10	1,856	0.074	640	\$325.00	34%	85%	80%	0.94	0	
WarehouseH5	Warehouse	HID	Turnover	5	Ceramic Metal Halide Lamp	Replace non-ceramic hal lamp 400 W	\$0,1282	4	1,560	0.031	273	\$35.00	18%	85%	55%	1.40	1	
WarehouseH8	Warehouse	HID	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	\$0,2465	10	5,070	0.175	1,521	\$375.00	30%	85%	85%	1.94	1	
WarehouseH9	Warehouse	HID	Early	9	Photo-cell dimming control	No prior dimming control	\$0,2170	10	5,070	0.291	2,535	\$550.00	50%	85%	85%	2.21	1	
WarehouseH10	Warehouse	HID	Early	10	Central lighting control system	Replace manual switches or no control	\$0,1972	10	5,070	0.058	507	\$100.00	10%	85%	45%	2.43	1	
WarehouseH7	Warehouse	HID	Early	7	Induction High Bay Lighting	Base High Bay HID, 250W	\$1,2166	15	1,268	0.065	566	\$688.00	45%	85%	80%	0.64	0	
WarehouseH11	Warehouse	HID	Turnover	1	4' T8 High Bay fixture - 32 W - 6 lamps HPF	Replace HID fixture drawing 250W	\$0,2921	10	1,268	0.043	378	\$110.50	30%	85%	80%	1.64	1	
WarehouseH12	Warehouse	HID	Turnover	2	4' T8 High Bay fixture - 32 W - 8 lamps HPF	Replace HID fixture drawing 400 W	\$0,3354	10	1,856	0.077	671	\$225.00	36%	85%	80%	1.43	1	
WarehouseH13	Warehouse	HID	Turnover	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID fixture drawing 250 W	\$0,3178	10	1,268	0.052	456	\$145.00	36%	85%	80%	1.51	1	
WarehouseH14	Warehouse	HID	Turnover	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID fixture drawing 400 W	\$0,4065	10	1,856	0.074	640	\$260.00	34%	85%	80%	1.18	1	
WarehouseH16	Warehouse	HID	Turnover	6	Multi Lamp Hard Wired CFL	Replace High Bay Fixture Drawing 400 W	\$0,5140	10	1,856	0.095	827	\$425.00	45%	85%	55%	0.93	0	
WarehouseH17	Warehouse	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	\$0,6631	15	1,268	0.065	566	\$375.00	45%	85%	80%	1.18	1	
OfficeIn2	Office	Incandescent	Early	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	\$0,1159	14	3,594	0.124	1,078	\$125.00	30%	95%	80%	6.27	1	
OfficeIn3	Office	Incandescent	Early	3	Photo-cell dimming control	No prior dimming control	\$0,1252	9	3,594	0.207	1,797	\$225.00	50%	95%	95%	3.26	1	
GroceryN1	Grocery	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	\$0,0572	15	9,629	0.111	963	\$55.11	10%	95%	100%	13.61	1	
HealthAn1	Healthcare	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	\$0,0842	15	49,948	0.574	4,995	\$420.44	10%	95%	100%	9.27	1	
AllaAn1	All	Large Appliance	New	1	EnergyStar vending machine	Standard vending machine	\$0,2672	15	3,619	0.140	1,310	\$350.00	36%	100%	50%	2.89	1	
AllaAn2	All	Large Appliance	New	2	Beverage machine control	Vending machine with no sensor	\$0,1021	5	3,619	0.178	1,665	\$170.00	46%	100%	50%	2.19	1	
AllaAn3	All	Large Appliance	New	3	Other cold product control	Vending machine with no sensor	\$0,1111	5	3,504	0.172	1,612	\$179.00	46%	100%	50%	2.01	1	
AllaAn4	All	Large Appliance	New	4	Non-cooled snack control	Vending machine with no sensor	\$0,4671	5	745	0.037	343	\$160.00	46%	100%	50%	0.48	0	
AllaAn5	All	Large Appliance	New	5	EnergyStar dishwasher	Std Dishwasher	\$0,4015	12	250	0.015	137	\$55.00	55%	100%	50%	1.50	1	
AllaAn6	All	Large Appliance	New	6	EnergyStar refrigerator	Std Refrigerator	\$0,3000	12	750	0.011	100	\$30.00	13%	100%	50%	2.01	1	
AllaAn7	All	Large Appliance	New	7	Low-temperature dish machine	High temp dish machine with booster heater	\$0,0634	15	17,451	0.894	8,362	\$530.00	48%	100%	50%	12.20	1	
AllaAn8	All	Large Appliance	New	8	High-efficiency washer	Standard washer, electric hot water	\$0,4380	10	2,262	0.102	959	\$420.00	42%	100%	50%	1.08	1	
AllaAn9	All	Large Appliance	New	9	High-efficiency coin-op washer w/ Electric Water Heat	Coin-op wash, w/out electric hot water	\$1,7872	10	1,180	0.025	235	\$420.00	20%	100%	50%	0.26	0	
AllaAn10	All	Large Appliance	New	10	High-efficiency coin-op													

Met-Ed Commercial Measures

Measure Lookout	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
OfficMo10	Office	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.5413	15	81970	4.542	24017.1	\$13,000.00	29%	80.0%	80%	1.53	1
OfficMo11	Office	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5474	15	81970	6.257	22131.8	\$13,000.00	27%	35.0%	80%	1.50	1
OfficMo12	Office	Motors	Turnover	12	Motors Rewind 125-200 HP	(E) Motor	Motor	\$0.6069	15	245090	0.159	235.7	\$7.50	0.5%	35.0%	95%	1.30	1
OfficMo13	Office	Motors	Turnover	13	Motors Rewind 201-500 HP	(E) Motor	Motor	\$0.7470	15	532803	0.344	2677.4	\$2,000	0.5%	50.0%	95%	1.06	1
OfficMo14	Office	Motors	Turnover	14	Motors Rewind 200-50 HP	(E) Motor	Motor	\$0.5601	15	50263	0.057	446.3	\$250	0.9%	10.0%	95%	1.41	1
OfficMo15	Office	Motors	Turnover	15	Motors Rewind 50+ HP	(E) Motor	Motor	\$0.6474	15	1229546	0.795	6178.6	\$4,000	0.5%	70.0%	95%	1.22	1
OfficMo16	Office	Motors	Turnover	16	Motors Rewind 51-100 HP	(E) Motor	Motor	\$0.6955	15	124291	0.092	718.9	\$500	0.6%	20.0%	95%	1.14	1
OfficMo17	Office	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	3.00	1
OfficMoN12	Office	Motors	New	12	Demand Control Ventilation (DCV)	Base Standard Ventilation	ton	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.57	1
OfficMoN13	Office	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	ton	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.03	0
OfficMoN14	Office	Motors	New	14	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is	ton	\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.70	1
OfficMoN15	Office	Motors	New	15	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	ton	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.61	0
OfficMoN18	Office	Motors	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation	ton	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.57	1
OfficMoN19	Office	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	ton	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.03	0
OfficMoN20	Office	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is	ton	\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.70	1
OfficMoN21	Office	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	ton	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.61	0
AIOH01	All	Office Equipment	Early	1	PC network power management	No central control	PC	\$0.14	5	410	0.023	215	\$30.00	52.44%	75%	80%	1.60	1
AIOH02	All	Office Equipment	Early	2	Occupancy sensor controls/Smart Strip	Computers, other plug loads	sensor	\$0.60	5	413	0.010	124	\$75.00	30.02%	55%	95%	0.36	0
AION01	All	Office Equipment	New	1	ENERGY STAR® Office Equipment	Std Office Equipment	PC	\$1.09	5	4,000	0.021	200	\$218.00	5.00%	90%	80%	0.21	0
AION02	All	Office Equipment	New	2	Energy Star - Water Cooler	Std Water Cooler	unit	\$1.06	5	453	0.022	204	\$215.67	45.08%	35%	80%	0.21	0
AION03	All	Office Equipment	New	3	80 Plus® PC-desktop	Standard personal computer, desktop	PC	\$0.19	5	410	0.014	130	\$25.00	31.71%	100%	55%	1.16	1
AION06	All	Office Equipment	New	6	Data Center - Server/Storage Virtualization	No Virtualization	unit	\$1.76	5	4,818	0.452	4,227	\$7,434	87.73%	70%	80%	0.13	0
AIOF01	All	Office Equipment	Turnover	1	ENERGY STAR® Office Equipment	Std Office Equipment	PC	\$1.09	5	4,000	0.021	200	\$218.00	5.00%	90%	80%	0.21	0
AIOF02	All	Office Equipment	Turnover	2	Energy Star - Water Cooler	Std Water Cooler	unit	\$1.06	5	453	0.022	204	\$215.67	45.08%	35%	80%	0.21	0
AIOF03	All	Office Equipment	Turnover	3	80 Plus® PC-desktop	Standard personal computer, desktop	PC	\$0.19	5	410	0.014	130	\$25.00	31.71%	100%	55%	1.16	1
AIOF06	All	Office Equipment	Turnover	6	Data Center - Server/Storage Virtualization	No Virtualization	unit	\$1.76	5	4,818	0.452	4,227	\$7,434	87.73%	70%	80%	0.13	0
HeatPa1	Healthcare	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2,375	sq ft	\$3.13	20	1,589	0.005	64	\$200.00	4%	15%	95%	0.46	0
HeatPa2	Healthcare	Packaged DX	Early	2	Adding window shade film	No shade film	sq ft window art	\$0.45	5	1,589	0.005	64	\$200.00	5%	50%	95%	0.20	0
HeatPa3	Healthcare	Packaged DX	Early	3	Adding window shade screen	No shade screen	sq ft window art	\$3.90	15	1,584	0.000	0.38	\$1.50	25%	70%	95%	0.20	0
HeatPa4	Healthcare	Packaged DX	Early	4	Windows U<0.40, 55 SHGC	Existing window specifications	sq ft window art	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	0.93	0
HeatPa5	Healthcare	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$2.12	20	1,589	0.005	106	\$225.00	7%	95%	95%	0.58	0
HeatPa7	Healthcare	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$0.30	10	1,679	0.010	84	\$25.00	5%	100%	65%	1.62	1
HeatPa8	Healthcare	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	1,589	0.05	12	\$95.00	1%	45%	80%	0.39	0
HeatPa9	Healthcare	Packaged DX	Early	9	Hotel Keypad Sensors	No prior controls	room Control	\$0.29	10	1,426	0.041	342	\$100.00	24%	95%	80%	1.65	1
HeatPa10	Healthcare	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	1,728	0.05	64	\$35.00	4%	100%	45%	0.20	0
HeatPa11	Healthcare	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	1,589	0.015	125	\$55.00	8%	100%	45%	1.10	1
HeatPa13	Healthcare	Packaged DX	Early	13	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.22	7	1,589	0.005	254	\$55.15	16%	95%	75%	1.60	1
HeatPaN1	Healthcare	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	1,589	0.005	64	\$87.00	4%	100%	95%	1.06	1
HeatPaN2	Healthcare	Packaged DX	New	2	Adding reflective roof treatment	Std color roof	ton	\$4.30	20	1,589	0.05	10	\$45.00	1%	100%	95%	0.95	0
HeatPaN3	Healthcare	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$2.12	20	1,589	0.005	106	\$225.00	7%	100%	95%	1.05	1
HeatPaN4	Healthcare	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Std Roof	ton	\$1.20	20	1,589	0.005	106	\$127.43	7%	45%	95%	1.03	1
HeatPaN5	Healthcare	Packaged DX	New	5	Roof Insulation, Addt R8	No Insulation	ton	\$10.42	20	1,589	0.05	12	\$125.00	1%	100%	95%	0.36	0
HeatPaN6	Healthcare	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$0.92	20	1,369	0.04	98	\$90.40	7%	100%	95%	1.34	1
HeatPaN7	Healthcare	Packaged DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$0.99	20	1,369	0.08	183	\$180.81	13%	100%	95%	1.25	1
HeatPaN8	Healthcare	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.06	20	1,369	0.12	257	\$271.21	19%	100%	95%	1.17	1
HeatPaN9	Healthcare	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.52	20	1,589	0.05	106	\$55.00	7%	100%	95%	2.39	1
HeatPaN10	Healthcare	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.52	20	1,618	0.06	135	\$70.00	8%	100%	95%	2.39	1
HeatPaN11	Healthcare	Packaged DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$0.87	20	1,780	0.06	132	\$115.13	7%	100%	95%	1.42	1
HeatPaN12	Healthcare	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$1.09	20	1,835	0.04	90	\$98.39	5%	100%	95%	1.13	1
HeatPaN13	Healthcare	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$1.44	15	1,618	0.23	519	\$ 750.00	32%	20%	95%	0.68	0
HeatPaN14	Healthcare	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$2.59	15	1,618	0.035	290	\$750.00	18%	10%	95%	0.30	0
HeatPaN15	Healthcare	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$0.71	15	1,589	0.028	238	\$170.00	15%	75%	45%	1.10	1
HeatPaN16	Healthcare	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$0.56	15	1,589	0.038	318	\$179.00	20%	100%	95%	1.39	1
HeatPaN17	Healthcare	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$1.47	15	1,679	0.009	76	\$110.89	5%	100%	95%	0.53	0
HeatPa21	Healthcare	Packaged DX	Turnover	1	Duct Insulation, Addt R8	No Insulation	ton	\$10.42	15	1,589	0.05	12	\$125.00	1%	100%	95%	0.30	0
HeatPa22	Healthcare	Packaged DX	Turnover	2	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$0.92	20	1,369	0.04	98	\$90.40	7%	100%	95%	1.34	1
HeatPa23	Healthcare	Packaged DX	Turnover	3	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$0.99	20	1,369	0.08	183	\$180.81	13%	100%	95%	1.25	1
HeatPa24	Healthcare	Packaged DX	Turnover	4	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.06	20	1,369	0.12	257	\$271.21	19%	100%	95%	1.17	1
HeatPa25	Healthcare	Packaged DX	Turnover	5	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.52	20	1,589	0.05	106	\$55.00	7%	100%	95%	2.39	1
HeatPa26	Healthcare	Packaged DX	Turnover	6	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.52	20	1,618	0.06	135	\$70.00	8%	100%	95%	2.39	1
HeatPa27	Healthcare	Packaged DX	Turnover	7	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$0.87	20	1,780	0.06	132	\$115.13	7%	100%	95%	1.42	1
HeatPa28	Healthcare	Packaged DX	Turnover	8	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$1.09	20	1,835	0.04	90	\$98.39	5%	100%	95%	1.13	1
HeatPa29	Healthcare	Packaged DX	Turnover	9	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$1.44	15	1,618	0.23	519	\$ 750.00	32%	20%	95%	0.68	0
HeatPa30	Healthcare	Packaged DX	Turnover	10	Ground Source HP Closed	Air Source Heat Pump	ton	\$2.59	15	1,618	0.035	290	\$750.00	18%	10%	95%	0.30	0
HeatPa31	Healthcare	Packaged DX	Turnover	11	Air-side Economizer	No Economizer	ton	\$0.71	15	1,589	0.028							

Met-Ed Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak kW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
AIIRcT12	All	Refrigeration	Turnover	12	Compressor VSD retrofit	Base Refrigeration System - Grocery	Compressor VSD retrofit	\$0.35	13	5,436	0.101	761	\$267,000	14%	75%	86%	1.94	1
AIIRcT13	All	Refrigeration	Turnover	13	Quick acting freezer doors	Base single-speed fan	Quick acting freezer doors	\$0.62	10	38,544	4.461	33,637	\$20,966,000	87%	75%	86%	0.78	0
AIIRcT14	All	Refrigeration	Turnover	14	VFD on cooling tower fans	Base single-speed fan	VFD on cooling tower fans	\$0.29	15	71,688	0.681	3,132	\$1,617,400	72%	35%	85%	2.69	1
AIIRcT15	All	Refrigeration	Turnover	15	Reach-in Cooler, Shaded Pole to PSC 1-37 Watt	Base single-speed fan	Reach-in Cooler, Shaded Pole to PSC 1-37 Watt	\$0.60	15	832	0.047	352	\$212,250	42%	75%	49%	1.31	1
AIIRcT16	All	Refrigeration	Turnover	16	Reach-in Cooler, PSC to ECM 1-37 Watt	Base single-speed fan	Reach-in Cooler, PSC to ECM 1-37 Watt	\$0.54	15	467	0.022	169	\$91,250	36%	75%	49%	1.34	1
AIIRcT17	All	Refrigeration	Turnover	17	Reach-in Cooler, Shaded Pole to ECM 1-37 Watt	Base single-speed fan	Reach-in Cooler, Shaded Pole to ECM 1-37 Watt	\$0.59	15	832	0.069	521	\$306,250	63%	75%	49%	1.46	1
AIIRcT18	All	Refrigeration	Turnover	18	Reach-in Freezer, Shaded Pole to ECM 1-14 Watt	Base single-speed fan	Reach-in Freezer, Shaded Pole to ECM 1-14 Watt	\$0.49	15	832	0.082	622	\$306,250	75%	75%	49%	1.60	1
AIIRcT19	All	Refrigeration	Turnover	19	Reach-in Shaded Pole to PSC Evaporator Fan Motor	Base single-speed fan	Reach-in Shaded Pole to PSC Evaporator Fan Motor	\$0.55	15	832	0.051	386	\$212,250	46%	75%	49%	1.44	1
AIIRcT20	All	Refrigeration	Turnover	20	Reach-in Shaded Pole to ECM Evaporator Fan Motor	Base single-speed fan	Reach-in Shaded Pole to ECM Evaporator Fan Motor	\$0.49	15	467	0.025	185	\$91,250	40%	75%	49%	1.60	1
AIIRcT21	All	Refrigeration	Turnover	21	Walk-in Cooler, PSC to ECM 16-49 Watt	Base single-speed fan	Walk-in Cooler, PSC to ECM 16-49 Watt	\$0.54	15	832	0.076	571	\$306,250	69%	75%	49%	1.47	1
AIIRcT22	All	Refrigeration	Turnover	22	Walk-in Freezer, PSC to ECM 16-49 Watt	Base single-speed fan	Walk-in Freezer, PSC to ECM 16-49 Watt	\$0.35	15	711	0.034	258	\$91,250	36%	75%	49%	2.23	1
AIIRcT23	All	Refrigeration	Turnover	23	Walk-in Freezer, Shaded Pole to ECM 16-49 Watt	Base single-speed fan	Walk-in Freezer, Shaded Pole to ECM 16-49 Watt	\$0.30	15	711	0.041	309	\$91,250	43%	75%	49%	2.68	1
AIIRcT24	All	Refrigeration	Turnover	24	Walk-in Freezer, Shaded Pole to ECM 16-49 Watt	Base single-speed fan	Walk-in Freezer, Shaded Pole to ECM 16-49 Watt	\$0.44	15	1,175	0.093	704	\$306,250	60%	75%	49%	1.82	1
AIIRcT25	All	Refrigeration	Turnover	25	Walk-in PSC to ECM	Base single-speed fan	Walk-in PSC to ECM	\$0.36	15	1,175	0.112	842	\$306,250	72%	75%	49%	2.17	1
AIIRcT26	All	Refrigeration	Turnover	26	Walk-in Shaded Pole to ECM	Base single-speed fan	Walk-in Shaded Pole to ECM	\$0.32	15	711	0.038	283	\$91,250	40%	75%	49%	2.45	1
AIIS1T1	All	Signage	Turnover	1	Induction Street Lighting	Base HID Streetlighting	Induction Street Lighting	\$0.57	15	2,762	0.101	1,619	\$925,000	59%	95%	95%	1.29	1
AIIS1T2	All	Signage	Turnover	2	LED exit sign - 1 sided	Incandescent exit sign	LED exit sign - 1 sided	\$0.15	15	175	0.024	158	\$23,500	90%	65%	70%	5.30	1
AIIS1T3	All	Signage	Turnover	3	LED exit sign - 2 sided	Incandescent exit sign	LED exit sign - 2 sided	\$0.16	15	350	0.048	228	\$37,500	65%	65%	70%	5.01	1
AIIS1T4	All	Signage	Turnover	4	Photoluminescent Exit Sign	Incandescent exit sign	Photoluminescent Exit Sign	\$0.17	15	175	0.011	175	\$30,100	100%	50%	70%	4.30	1
AIIS1T5	All	Signage	Turnover	5	LED or equivalent sign lighting - 1 sided	Replace fluorescent sign lighting	LED or equivalent sign lighting - 1 sided	\$0.28	15	79	0.009	61	\$17,360	78%	48%	7%	2.78	1
AIIS1T6	All	Signage	Turnover	6	LED or equivalent sign lighting - 2 sided	Replace fluorescent sign lighting	LED or equivalent sign lighting - 2 sided	\$0.12	15	175	0.002	140	\$17,360	80%	48%	7%	5.72	1
AIIS1T7	All	Signage	Turnover	7	LED Street Lighting	Std HID Street Lighting	LED Street Lighting	\$0.63	15	2,762	0.047	756	\$475,000	27%	95%	95%	1.17	1
AIIS1T8	All	Signage	Turnover	8	Red LED Traffic Light	Red Traffic Light	Red LED Traffic Light	\$0.37	10	332	0.019	299	\$112,000	90%	95%	75%	1.18	1
AIIS1T9	All	Signage	Turnover	9	Yellow LED Traffic Light	Yellow Standard Traffic Light	Yellow LED Traffic Light	\$12.10	10	12	0.001	10	\$121,000	83%	95%	75%	0.04	0
AIIS1T10	All	Signage	Turnover	10	Green LED Traffic Light	Green Standard Traffic Light	Green LED Traffic Light	\$0.77	10	260	0.014	226	\$174,000	87%	95%	75%	0.58	0
AIIS1T11	All	Signage	Turnover	11	Hand/Man LED	Pedestrian Standard	Hand/Man LED	\$0.19	10	1,016	0.059	946	\$182,000	93%	95%	75%	2.30	1
AIIS1T12	All	Water Heating	Turnover	1	Ultrasonic Faucet Control	Manual Faucet Control	Ultrasonic Faucet Control	\$1,000	10	1,750	0.010	125	\$125	3%	75%	75%	0.46	1
AIW4T2	All	Water Heating	Turnover	2	Faucet Aerators	Std Flow faucet	Faucet Aerators	\$0.246	12	4,122	0.006	61	\$15	6%	75%	75%	2.42	1
AIW4T3	All	Water Heating	Turnover	3	Hot Water (DHW) Pipe Insulation	No insulation present	Hot Water (DHW) Pipe Insulation	\$0.292	14	4,122	0.011	124.00	\$36.23	3%	75%	75%	2.43	1
AIW4T4	All	Water Heating	Turnover	4	Low-Flow Showerheads	Std Flow showerhead	Low-Flow Showerheads	\$0.108	9	4,122	0.042	461	\$50	11%	75%	75%	3.64	1
AIW4T5	All	Water Heating	Turnover	5	Water Heater Thermostat Seaback	Constant setpoint	Water Heater Thermostat Seaback	\$0.029	2	4,122	0.053	577.09	\$17	14%	75%	75%	3.14	1
AIW4N1	All	Water Heating	New	1	Ultrasonic Faucet Control	Manual Faucet Control	Ultrasonic Faucet Control	\$0.400	10	4,122	0.011	125	\$50	3%	75%	75%	1.16	1
AIW4N2	All	Water Heating	New	2	Faucet Aerators	Std Flow faucet	Faucet Aerators	\$0.082	12	4,122	0.006	61	\$5	6%	75%	75%	7.26	1
AIW4N3	All	Water Heating	New	3	Hot Water (DHW) Pipe Insulation	No insulation present	Hot Water (DHW) Pipe Insulation	\$0.292	14	4,122	0.011	124.00	\$36.23	3%	75%	75%	2.43	1
AIW4N4	All	Water Heating	New	4	Low-Flow Showerheads	Std Flow showerhead	Low-Flow Showerheads	\$0.108	9	4,122	0.042	461	\$50	11%	75%	75%	3.64	1
AIW4N5	All	Water Heating	New	5	Water Heater Thermostat Seaback	Constant setpoint	Water Heater Thermostat Seaback	\$0.029	2	4,122	0.053	577.09	\$17	14%	75%	75%	3.14	1
AIW4N6	All	Water Heating	New	6	High Efficiency Water Heater (Electric) EF: 93, 28-50 Gal	Std Efficiency water heater	High Efficiency Water Heater (Electric) EF: 93, 28-50 Gal	\$0.541	14	4,122	0.012	133	\$72	3%	75%	100%	1.31	1
AIW4N7	All	Water Heating	New	7	Heat Pump Water Heater (air source)	Base Water Heating	Heat Pump Water Heater (air source)	\$0.576	14	4,122	0.176	1,914.00	\$988	46%	75%	100%	1.38	1
AIW4N8	All	Water Heating	New	8	Heat Recovery Unit	Base Water Heating	Heat Recovery Unit	\$0.362	14	4,122	0.190	2,073	\$750	50%	50%	100%	1.06	0
AIW4N9	All	Water Heating	New	9	Solar Water Heater	Base Water Heating	Solar Water Heater	\$1,206	14	4,122	0.193	2,106	\$2,540	82.0%	65%	95%	0.59	0
AIW4T6	All	Water Heating	Turnover	6	High Efficiency Water Heater (Electric) EF: 93, 28-50 Gal	Std Efficiency water heater	High Efficiency Water Heater (Electric) EF: 93, 28-50 Gal	\$0.541	14	4,122	0.012	133	\$72	3%	75%	100%	1.31	1
AIW4T7	All	Water Heating	Turnover	7	Heat Pump Water Heater (air source)	Base Water Heating	Heat Pump Water Heater (air source)	\$0.576	14	4,122	0.176	1,914.00	\$988	46%	75%	100%	1.38	1
AIW4T8	All	Water Heating	Turnover	8	Heat Recovery Unit	Base Water Heating	Heat Recovery Unit	\$0.458	14	4,122	0.190	2,073	\$950	50.3%	50%	95%	1.55	1
AIW4T9	All	Water Heating	Turnover	9	Solar Water Heater	Base Water Heating	Solar Water Heater	\$1,401	14	4,122	0.193	2,106	\$2,950	82.0%	65%	95%	0.51	0
GroceRcN1	All	Refrigeration	New	20	Demand Defrost Electric	Base Refrigeration System - Grocery	Demand Defrost Electric	\$0.91	15	4	0.000	0	\$0.05	1%	95%	92%	0.87	0
AIIRcT27	All	Refrigeration	Turnover	27	Demand Defrost Electric	Base Refrigeration System - Grocery	Demand Defrost Electric	\$0.91	15	4	0.000	0	\$0.05	1%	95%	92%	0.87	0
GroceRcN3	All	Refrigeration	New	21	Demand Hot Gas Defrost	Base Refrigeration System - Grocery	Demand Hot Gas Defrost	\$0.35	15	4	0.000	0	\$0.05	3%	95%	92%	2.23	1
AIIRcT28	All	Refrigeration	Turnover	28	Demand Hot Gas Defrost	Base Refrigeration System - Grocery	Demand Hot Gas Defrost	\$0.35	15	4	0.000	0	\$0.05	3%	95%	92%	2.23	1
GroceRcN4	All	Refrigeration	New	22	Efficient compressor motor - scroll	Base Refrigeration System - Grocery	Efficient compressor motor - scroll	\$0.09	15	15,825	0.084	633	\$60,000	4%	95%	92%	8.34	1
AIIRcT29	All	Refrigeration	Turnover	29	Efficient compressor motor - scroll	Base Refrigeration System - Grocery	Efficient compressor motor - scroll	\$0.09	15	15,825	0.084	633	\$60,000	4%	95%	92%	8.34	1
GroceRcN6	All	Refrigeration	New	23	High R-Value Glass Doors	Base Refrigeration System - Grocery	High R-Value Glass Doors	\$0.67	10	3,986	0.106	797	\$57,500	20.0%	95%	92%	0.72	0
GroceRcN7	All	Refrigeration	New	24	Refrigeration Commissioning	Base Refrigeration System - Grocery	Refrigeration Commissioning	\$0.31	7	8,800	0.187	1,408	\$440,000	16%	95%	92%	1.05	1
AIIRcE1	All	Refrigeration	Early	1	Refrigeration Commissioning	Base Refrigeration System - Grocery	Refrigeration Commissioning	\$0.25	7	8,800	0.117	880	\$220,000	10%	95%	92%	1.31	1
GroceRcN8	All	Refrigeration	New	25	Strip curtains for walk-ins	Base Refrigeration System - Grocery	Strip curtains for walk-ins	\$0.50	15	29,900	0.079	598	\$300,000	2%	45%	78%	1.57	1
AIIRcT30	All	Refrigeration	Turnover	30	Strip curtains for walk-ins	Base Refrigeration System - Grocery	Strip curtains for walk-ins	\$0.50	15	29,900	0.079	598	\$300,000	2%	45%	78%	1.57	1
HealthPaN18	Healthcare	Packaged DX	New	18	Automated control system	Baseline DX	Automated control system	\$0.30	10	1,629	0.010	84	\$25,000	5%	100%	65%	1.62	1
HealthPaN19	Healthcare	Packaged DX	New	19	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	PTAC (12.0 EER/10,000 BTU)	\$0.55	10	1,476	0.009	78	\$43,500	5%	100%	95%	0.87	0
HealthPa115	Healthcare	Packaged DX	Turnover	15	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	PTAC (12.0 EER/10,000 BTU)	\$0.55	10	1,476	0.009	78	\$43,500	5%	100%	95%	0.87	0
AIIGoN1	All	Cooking	New	1	Commercial Hot Food Holding Cabinets (Energy Star)	Standard Cabinet	Commercial Hot Food Holding Cabinets (Energy Star)	\$0.94	12	23,411	0.187	1,592	\$1,500,000	7%	40%	95%	0.65	0
AIIGoN2	All	Cooking	New	2	High Efficiency Fryers (Energy Star)	Standard Fryer	High Efficiency Fryers (Energy Star)	\$5.45	12	18,196	0.027	233	\$1,271,000	1%	40%	95%	0.11	0
AIIGoN3	All	Cooking	New	3	High Efficiency Griddle	Standard Griddle	High Efficiency Griddle	\$0.66	12	17,056	0.304	2,595	\$1,700,000	15%	40%	95%	0.93	0
AIIGoN4	All	Cooking	New	4	High Efficiency Induction Cooking	Standard Cooking	High Efficiency Induction Cooking	\$1.04	12	29,376	0.248	2,118	\$2,213,000	7%	40%	95%	0.59	0
AIIGoN5	All	Cooking	New	5	Electric Steam cooker	Standard Cooker	Electric Steam cooker	\$0.40	12	46,813	0.439	3,745	\$1,500,000	8%	40%	95%	1.53	1
AIIGoN6	All	Cooking	New	6	Electric convection oven	Standard Oven	Electric convection oven	\$1.20	15	12,193	0.265	2,262	\$2,713,000	19%	40%	95%	0.65	0
AIIGoN7	All	Cooking	New	7	Electric combination oven	Standard Oven	Electric combination oven	\$1.12	12	39,353	1.769							

Met-Ed Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Measure Life	Baseline kWh	Summer Peak KW	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
OfficeN1	Office	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	15	2,727	0.031	273	\$48.56	10%	95%	100%	4.38	1
OfficeN2	Office	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	15	2,727	0.078	682	\$242.78	25%	75%	100%	2.19	1
InstlnN1	Institutional	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	15	62,741	0.721	6,274	\$1,800.26	10%	95%	100%	4.53	1
InstlnN2	Institutional	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	15	62,741	1.803	15,685	\$5,401.30	25%	75%	100%	2.27	1
HealthN1	Healthcare	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	15	441,728	5.077	44,173	\$3,718.25	10%	95%	100%	9.27	1
HealthN2	Healthcare	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	15	441,728	12.691	110,432	\$18,591.24	25%	75%	100%	4.64	1
GroceN1	Grocery	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	15	6,020	0.690	6,002	\$343.52	10%	95%	100%	13.64	1
GroceN2	Grocery	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	15	6,020	1.724	15,005	\$1,717.60	25%	75%	100%	6.82	1
LodgN1	Lodging	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	15	303,563	3.489	30,356	\$3,071.87	10%	95%	100%	7.71	1
LodgN2	Lodging	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	15	303,563	8.722	75,891	\$15,359.37	25%	75%	100%	3.86	1
RestaN1	Restaurant	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	15	13,140	0.151	1,314	\$100.27	10%	95%	100%	10.23	1
RestaN2	Restaurant	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	15	13,140	0.378	3,285	\$501.57	25%	75%	100%	5.11	1
RetaN1	Retail	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	15	6,001	0.690	6,001	\$475.15	10%	95%	100%	9.86	1
RetaN2	Retail	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	15	6,001	1.724	15,003	\$2,375.74	25%	75%	100%	4.93	1
WarehN1	Warehouse	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	15	44,747	0.514	4,475	\$717.11	10%	95%	100%	4.87	1
WarehN2	Warehouse	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	15	44,747	1.286	11,187	\$3,585.53	25%	75%	100%	2.43	1
GroceHN1	Grocery	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	15	3,937	0.045	394	\$22.53	10%	95%	100%	13.64	1
GroceHN2	Grocery	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	15	3,937	0.113	984	\$112.66	25%	85%	100%	6.82	1
InstlHN1	Institutional	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	15	2,159	0.025	216	\$37.18	10%	95%	100%	4.53	1
InstlHN2	Institutional	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	15	2,159	0.062	540	\$185.89	25%	85%	100%	9.27	1
HealthHN1	Healthcare	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	15	15,203	0.175	1,520	\$127.97	10%	95%	100%	2.27	1
HealthHN2	Healthcare	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	15	15,203	0.437	3,801	\$639.84	25%	85%	100%	4.64	1
LodgHN1	Lodging	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	15	10,539	0.121	1,054	\$106.65	10%	95%	100%	7.71	1
LodgHN2	Lodging	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	15	10,539	0.303	2,635	\$533.27	25%	85%	100%	3.86	1
RestaNHN1	Restaurant	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	15	459	0.005	46	\$3.51	10%	95%	100%	10.23	1
RestaNHN2	Restaurant	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	15	459	0.013	115	\$11.53	25%	85%	100%	5.11	1
RetaNHN1	Retail	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	15	10,313	0.119	813	\$81.65	10%	95%	100%	9.86	1
RetaNHN2	Retail	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	15	10,313	0.296	2,381	\$498.25	25%	85%	100%	4.93	1
WarehNHN1	Warehouse	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	15	7,843	0.090	784	\$125.69	10%	95%	100%	4.87	1
WarehNHN2	Warehouse	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	15	7,843	0.225	1,961	\$628.45	25%	85%	100%	2.43	1
MiscHN1	Misc	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	15	4,211	0.048	421	\$41.61	10%	95%	100%	7.90	1
MiscHN2	Misc	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	15	4,211	0.121	1,053	\$208.03	25%	85%	100%	3.95	1
MiscFN1	Misc	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	15	121,285	1.394	12,128	\$1,198.38	10%	95%	100%	7.90	1
MiscFN2	Misc	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	15	121,285	3.485	30,321	\$5,991.88	25%	75%	100%	3.95	1
InstlnN1	Institutional	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	15	7,094	0.082	709	\$122.15	10%	95%	100%	4.53	1
InstlnN2	Institutional	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	15	7,094	0.204	1,774	\$610.75	25%	75%	100%	2.27	1
GroceFN1	Grocery	Incandescent	Turnover	1	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W Lamp	per Building	5	309	0.021	186	\$3.00	60%	75%	50%	14.17	1
HealthFN1	Healthcare	Incandescent	Turnover	1	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W Lamp	per Building	5	286	0.020	173	\$3.00	60%	75%	50%	13.14	1
GroceFN2	Grocery	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	15	9,629	0.277	2,407	\$275.57	25%	75%	100%	6.82	1
HealthFN2	Healthcare	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	15	49,948	1.435	12,487	\$2,910.19	25%	75%	100%	4.64	1
LodgFN1	Lodging	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	15	72,424	0.832	7,242	\$732.89	10%	95%	100%	7.71	1
LodgFN2	Lodging	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	15	72,424	2.081	18,106	\$3,664.46	25%	75%	100%	3.86	1
RestaNFN1	Restaurant	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	15	8,649	0.099	865	\$66.01	10%	95%	100%	10.23	1
RestaNFN2	Restaurant	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	15	8,649	0.249	2,162	\$330.03	25%	75%	100%	5.11	1
RetaNFN1	Retail	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	15	9,628	0.111	963	\$76.23	10%	95%	100%	9.86	1
RetaNFN2	Retail	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	15	9,628	0.277	2,407	\$381.16	25%	75%	100%	4.93	1
WarehFN1	Warehouse	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	15	5,975	0.069	598	\$95.76	10%	95%	100%	4.87	1
WarehFN2	Warehouse	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	15	5,975	0.172	1,494	\$478.78	25%	75%	100%	2.43	1
MiscFN1	Misc	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	15	28,936	0.333	2,894	\$285.91	10%	95%	100%	7.90	1
MiscFN2	Misc	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	15	28,936	0.831	7,234	\$1,429.55	25%	75%	100%	3.95	1
MiscFE2	Misc	Fluorescent	Early	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	10	2,394	0.083	718	\$125.00	50%	95%	80%	4.18	1
MiscFE3	Misc	Fluorescent	Early	3	Photocell dimming control	No prior dimming control	Photocell	10	2,394	0.138	1,197	\$225.00	50%	95%	95%	1.17	1
MiscFN4	Misc	Fluorescent	New	4	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	10	2,394	0.083	718	\$50.00	30%	95%	15%	10.44	1
MiscFN5	Misc	Fluorescent	New	3	Photocell dimming control	No prior dimming control	Photocell	10	2,394	0.138	1,197	\$150.00	50%	95%	75%	3.26	1
InstlFN4	Institutional	Fluorescent	New	4	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	10	1,124	0.051	445	\$50.00	30%	95%	15%	6.47	1
InstlFN3	Institutional	Fluorescent	New	3	Photocell dimming control	No prior dimming control	Photocell	10	1,483	0.085	742	\$150.00	50%	95%	75%	2.02	1
GroceFN4	Grocery	Fluorescent	New	4	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	10	0,509	0.113	982	\$50.00	30%	95%	15%	14.27	1
GroceFN3	Grocery	Fluorescent	New	3	Photocell dimming control	No prior dimming control	Photocell	10	0,917	0.188	1,636	\$150.00	50%	95%	75%	4.45	1
HealthFN4	Healthcare	Fluorescent	New	4	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	10	0,549	0.105	910	\$50.00	30%	95%	15%	13.24	1
HealthFN3	Healthcare	Fluorescent	New	3	Photocell dimming control	No prior dimming control	Photocell	10	0,989	0.174	1,517	\$150.00	50%	95%	75%	4.13	1
LodgFN4	Lodging	Fluorescent	New	4	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	10	0,600	0.146	833	\$50.00	30%	95%	15%	12.11	1
LodgFN3	Lodging	Fluorescent	New	3	Photocell dimming control	No prior dimming control	Photocell	10	1,081	0.160	1,388	\$150.00	50%	95%	75%	3.78	1
OfficeFN4	Office	Fluorescent	New	4	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	10	0,106	0.054	473	\$50.00	30%	95%	15%	6.88	1
OfficeFN3	Office	Fluorescent	New	3	Photocell dimming control	No prior dimming control	Photocell	10	0,191	0.178	789	\$150.00	50%	95%	75%	2.15	1
RestaNFN4	Restaurant	Fluorescent	New	4	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	10	0,679	0.085	736	\$50.00	30%	95%	15%	10.71	1
RestaNFN3	Restaurant	Fluorescent	New	3	Photocell dimming control	No prior dimming control	Photocell	10	1,222	0.141	1,227	\$150.00	50%	95%	75%	3.34	1
RetaNFN4	Retail	Fluorescent	New	4	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	10	0,705	0.141	710	\$50.00	30%	95%	15%	10.32	1
RetaNFN3	Retail	Fluorescent	New	3	Photocell dimming control	No prior dimming control	Photocell	10	1,268	0.136	1,183	\$150.00	50%	95%	75%	3.26	1
WarehFN4	Warehouse	Fluorescent	New	4	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	10	0,761	0.076	657	\$50.00	30%	95%	15%	9.56	1
WarehFN3	Warehouse	Fluorescent	New</														

Met-Ed Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak kW Savings (meter)	Summer Peak kW Savings (meter)	Change case kWh Savings	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
InstrT16	Institutional	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$2,2383	15	74	0.002	29	\$63.00	39%	40%	95%	0.35	0	
InstrT11	Institutional	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0,1433	74	0.002	16	\$2,32	22%	90%	95%	5.44	1	0	
InstrT14	Institutional	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0,2184	15	74	0.001	9	\$2,02	13%	60%	95%	3.57	1	
InstrT15	Institutional	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPI high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0,0677	11	264	0.004	38	\$2,55	14%	75%	95%	8.07	1	
InstrT14	Institutional	Fluorescent	Early	4	Low Power Ballast Replacement	NPI high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0,9281	11	264	0.004	38	\$35.00	14%	75%	95%	0.59	0	
LodgqT16	Lodging	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1,1959	8	138	0.006	54	\$65.00	39%	40%	95%	0.31	0	
LodgqT11	Lodging	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0,0766	8	138	0.003	30	\$2,32	22%	90%	95%	4.77	1	
LodgqT14	Lodging	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0,1167	8	138	0.002	17	\$2,02	13%	60%	95%	3.13	1	
LodgqT15	Lodging	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPI high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0,0362	11	494	0.008	71	\$2,55	14%	75%	95%	15.11	1	
LodgqT14	Lodging	Fluorescent	Early	4	Low Power Ballast Replacement	NPI high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0,4959	11	494	0.008	71	\$35.00	14%	75%	95%	1.10	1	
MiscT16	Misc	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1,3867	9	119	0.005	47	\$65.00	39%	40%	95%	0.29	0	
MiscT11	Misc	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0,0888	9	119	0.003	26	\$2,32	22%	90%	95%	4.60	1	
MiscT14	Misc	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0,1353	9	119	0.002	15	\$2,02	13%	60%	95%	3.02	1	
MiscT15	Misc	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPI high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0,0420	11	426	0.007	61	\$2,55	14%	75%	95%	13.03	1	
MiscT14	Misc	Fluorescent	Early	4	Low Power Ballast Replacement	NPI high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0,5750	11	426	0.007	61	\$35.00	14%	75%	95%	0.95	0	
OfficT16	Office	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$2,1044	14	79	0.004	31	\$65.00	39%	40%	95%	0.35	0	
OfficT11	Office	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0,1348	14	79	0.002	17	\$2,32	22%	90%	95%	5.39	1	
OfficT14	Office	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0,2053	14	79	0.001	10	\$2,02	13%	60%	95%	3.54	1	
OfficT15	Office	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPI high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0,0637	11	281	0.005	40	\$2,55	14%	75%	95%	8.59	1	
OfficT14	Office	Fluorescent	Early	4	Low Power Ballast Replacement	NPI high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0,8726	11	281	0.005	40	\$35.00	14%	75%	95%	0.63	0	
RestatT16	Restaurant	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1,3528	9	122	0.006	48	\$65.00	39%	40%	95%	0.30	0	
RestatT11	Restaurant	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0,0866	9	122	0.003	27	\$2,32	22%	90%	95%	4.71	1	
RestatT14	Restaurant	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0,1320	9	122	0.002	15	\$2,02	13%	60%	95%	3.09	1	
RestatT15	Restaurant	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPI high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0,0409	11	437	0.007	62	\$2,55	14%	75%	95%	13.36	1	
RestatT14	Restaurant	Fluorescent	Early	4	Low Power Ballast Replacement	NPI high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0,5610	11	437	0.007	62	\$35.00	14%	75%	95%	0.97	0	
RetailT16	Retail	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1,4036	9	118	0.005	46	\$65.00	39%	40%	95%	0.29	0	
RetailT11	Retail	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0,0809	9	118	0.003	26	\$2,32	22%	90%	95%	4.54	1	
RetailT14	Retail	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0,1369	9	118	0.002	15	\$2,02	13%	60%	95%	2.98	1	
RetailT15	Retail	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPI high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0,0425	11	421	0.007	60	\$2,55	14%	75%	95%	12.87	1	
RetailT14	Retail	Fluorescent	Early	4	Low Power Ballast Replacement	NPI high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0,5820	11	421	0.007	60	\$35.00	14%	75%	95%	0.94	0	
WarchT16	Warehouse	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1,5152	10	109	0.005	43	\$65.00	39%	40%	95%	0.32	0	
WarchT11	Warehouse	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0,0970	10	109	0.003	24	\$2,32	22%	90%	95%	4.94	1	
WarchT14	Warehouse	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0,1478	10	109	0.002	14	\$2,02	13%	60%	95%	3.24	1	
WarchT15	Warehouse	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPI high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0,0459	11	390	0.006	56	\$2,55	14%	75%	95%	11.93	1	
WarchT14	Warehouse	Fluorescent	Early	4	Low Power Ballast Replacement	NPI high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0,6283	11	390	0.006	56	\$35.00	14%	75%	95%	0.87	0	
GroceH11	Grocery	HID	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPI	Replace HID fixture drawing 250W	Fixture	\$0,3797	10	1,893	0.065	565	\$214.50	30%	85%	80%	1.26	1	
GroceH12	Grocery	HID	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPI	Replace HID fixture drawing 400 W	Fixture	\$0,2995	10	2,772	0.115	1,002	\$300.00	36%	85%	80%	1.60	1	
GroceH13	Grocery	HID	Early	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0,3449	10	1,893	0.078	681	\$235.00	36%	85%	80%	1.39	1	
GroceH14	Grocery	HID	Early	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0,3403	10	2,772	0.110	955	\$325.00	34%	85%	80%	1.41	1	
GroceH15	Grocery	HID	Turnover	5	Ceramic Metal Halide lamp	Replace non-ceramic lamp 400 W	Lamp	\$0,0859	3	2,160	0.047	378	\$35.00	18%	85%	80%	0.66	0	
GroceH17	Grocery	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0,8147	15	1,893	0.097	844	\$688.00	45%	85%	80%	0.96	0	
GroceH11	Grocery	HID	Turnover	1	4' T8 High Bay fixture - 32 W - 6 lamps HPI	Replace HID fixture drawing 250W	Fixture	\$0,1956	10	1,893	0.065	565	\$110.50	30%	85%	80%	2.45	1	
GroceH12	Grocery	HID	Turnover	2	4' T8 High Bay fixture - 32 W - 8 lamps HPI	Replace HID fixture drawing 400 W	Fixture	\$0,2246	10	2,772	0.115	1,002	\$225.00	36%	85%	80%	2.13	1	
GroceH13	Grocery	HID	Turnover	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0,2128	10	1,893	0.078	681	\$145.00	36%	85%	80%	2.25	1	
GroceH14	Grocery	HID	Turnover	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0,2722	10	2,772	0.110	955	\$260.00	34%	85%	80%	1.76	1	
GroceH16	Grocery	HID	Turnover	6	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0,3442	10	2,772	0.142	1,235	\$425.00	45%	85%	55%	1.39	1	
GroceH17	Grocery	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0,4441	15	1,893	0.097	844	\$375.00	45%	85%	80%	1.76	1	
HealthH1	Healthcare	HID	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPI	Replace HID fixture drawing 250W	Fixture	\$0,4095	10	1,755	0.060	524	\$214.50	30%	85%	80%	1.17	1	
HealthH2	Healthcare	HID	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPI	Replace HID fixture drawing 400 W	Fixture	\$0,3230	10	2,570	0.107	929	\$300.00	36%	85%	80%	1.48	1	
HealthH3	Healthcare	HID	Early	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0,3720	10	1,755	0.073	632	\$235.00	36%	85%	80%	1.29	1	
HealthH4	Healthcare	HID	Early	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0,3076	10	2,570	0.102	886	\$325.00	34%	85%	80%	1.31	1	
HealthH5	Healthcare	HID	Turnover	5	Ceramic Metal Halide lamp	Replace non-ceramic lamp 400 W	Lamp	\$0,0926	3	2,160	0.043	378	\$35.00	18%	85%	55%	1.45	1	
HealthH7	Healthcare	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0,8787	15	1,755	0.090	783	\$688.00	45%	85%	80%	0.89	0	
HealthH1	Healthcare	HID	Turnover	1	4' T8 High Bay fixture - 32 W - 6 lamps HPI	Replace HID fixture drawing 250W	Fixture	\$0,2110	10	1,755	0.060	524	\$110.50	30%	85%	80%	2.27	1	
HealthH2	Healthcare	HID	Turnover	2	4' T8 High Bay fixture - 32 W - 8 lamps HPI	Replace HID fixture drawing 400 W	Fixture	\$0,2422	10	2,570	0.107	929	\$225.00	36%	85%	80%	2.45	1	
HealthH3	Healthcare	HID	Turnover	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0,2295	10	1,755	0.073	632	\$145.00	36%	85%	80%	1.98	1	
HealthH4	Healthcare	HID	Turnover	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0,2936	10	2,570	0.102	886	\$260.00	34%	85%	80%	1.63	1	
HealthH6	Healthcare	HID	Turnover	6	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0,3712	10	2,570	0.132	1,145	\$425.00	45%	85%	55%	1.29	1	
HealthH7	Healthcare	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0,4789	15	1,755	0.090	783	\$375.00	45%	85%	80%	1.63	1	
InstrH1	Institutional	HID	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPI	Replace HID fixture drawing 250W	Fixture	\$0,8376	10	858	0.029	256	\$214.50	30%	85%	80%	0.57	0	
InstrH2	Institutional	HID	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPI	Replace HID fixture drawing 400 W	Fixture	\$0,6607	10	1,257	0.052	454	\$300.00	36%	85%	80%	0.73	0	
InstrH3	Institutional	HID	Early	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0,7608	10	858	0.035	309	\$235.00	36%	85%	80%	0.63	0	
InstrH4	Institutional	HID	Early	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0,7506	10	1,257	0.050	433	\$325.00	34%	85%	80%	0.64	0	
InstrH5	Institutional	HID	Turnover	5	Ceramic Metal Halide lamp	Replace non-ceramic lamp 400 W	Lamp	\$0,1894	6	1,056	0.021	18							

Met-Ed Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak kW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
RestaH3	Restaurant	HH	Early	3	4" T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.4598	10	1,420	0.059	511	\$235.00	36%	85%	80%	1.04	1
RestaH4	Restaurant	HH	Early	4	4" T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.4537	10	2,079	0.082	716	\$325.00	34%	85%	80%	1.06	1
RestaH5	Restaurant	HH	Turnover	5	Ceramic Metal Halide lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0.1345	3	1,747	0.035	306	\$35.00	18%	85%	80%	1.24	0
RestaH7	Restaurant	HH	Early	7	Induction High Bay Lighting	Base High Bay H1D, 250W	Fixture	\$1.0863	15	1,420	0.075	633	\$688.00	45%	85%	80%	0.72	0
RestaH11	Restaurant	HH	Turnover	1	4" T8 High Bay fixture - 32 W - 6 lamps HPI	Replace HID fixture drawing 250W	Fixture	\$0.2608	10	1,420	0.049	424	\$110.50	30%	85%	80%	1.84	1
RestaH12	Restaurant	HH	Turnover	2	4" T8 High Bay fixture - 32 W - 8 lamps HPI	Replace HID fixture drawing 400 W	Fixture	\$0.2995	10	2,079	0.086	751	\$225.00	36%	85%	80%	1.60	1
RestaH13	Restaurant	HH	Turnover	3	4" T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.2837	10	1,420	0.059	511	\$145.00	36%	85%	80%	1.69	1
RestaH14	Restaurant	HH	Turnover	4	4" T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.3630	10	2,079	0.082	716	\$260.00	34%	85%	80%	1.32	1
RestaH16	Restaurant	HH	Turnover	6	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0.4590	10	2,079	0.106	926	\$425.00	45%	85%	55%	1.04	1
RestaH17	Restaurant	HH	Turnover	7	Induction High Bay Lighting	Base High Bay H1D, 250W	Fixture	\$0.5921	15	1,420	0.073	633	\$375.00	45%	85%	80%	1.32	1
RetalH11	Retail	HH	Early	1	4" T8 High Bay fixture - 32 W - 6 lamps HPI	Replace HID fixture drawing 250W	Fixture	\$0.5253	10	1,368	0.047	408	\$214.50	30%	85%	80%	0.91	0
RetalH12	Retail	HH	Early	2	4" T8 High Bay fixture - 32 W - 8 lamps HPI	Replace HID fixture drawing 400 W	Fixture	\$0.4143	10	2,004	0.083	724	\$300.00	36%	85%	80%	1.16	1
RetalH13	Retail	HH	Early	3	4" T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.4771	10	1,368	0.057	493	\$235.00	36%	85%	80%	1.01	1
RetalH14	Retail	HH	Early	4	4" T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.4707	10	2,004	0.079	690	\$325.00	34%	85%	80%	1.02	1
RetalH15	Retail	HH	Turnover	5	Ceramic Metal Halide lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0.1188	4	1,684	0.034	295	\$35.00	18%	85%	55%	1.51	1
RetalH17	Retail	HH	Early	7	Induction High Bay Lighting	Base High Bay H1D, 250W	Fixture	\$1.1270	15	1,368	0.070	610	\$688.00	45%	85%	80%	0.69	0
RetalH11	Retail	HH	Turnover	1	4" T8 High Bay fixture - 32 W - 6 lamps HPI	Replace HID fixture drawing 250W	Fixture	\$0.2706	10	1,368	0.047	408	\$110.50	30%	85%	80%	1.77	1
RetalH12	Retail	HH	Turnover	2	4" T8 High Bay fixture - 32 W - 8 lamps HPI	Replace HID fixture drawing 400 W	Fixture	\$0.3107	10	2,004	0.083	724	\$225.00	36%	85%	80%	1.54	1
RetalH13	Retail	HH	Turnover	3	4" T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.2944	10	1,368	0.057	493	\$145.00	36%	85%	80%	1.63	1
RetalH14	Retail	HH	Turnover	4	4" T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.3766	10	2,004	0.079	690	\$260.00	34%	85%	80%	1.27	1
RetalH16	Retail	HH	Turnover	6	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0.4762	10	2,004	0.103	893	\$425.00	45%	85%	55%	1.01	1
RetalH17	Retail	HH	Turnover	7	Induction High Bay Lighting	Base High Bay H1D, 250W	Fixture	\$0.6143	15	1,368	0.070	610	\$375.00	45%	85%	80%	1.27	1
MiscH11	Misc	HH	Early	1	4" T8 High Bay fixture - 32 W - 6 lamps HPI	Replace HID fixture drawing 250W	Fixture	\$0.5189	10	1,368	0.048	413	\$214.50	30%	85%	80%	0.92	0
MiscH12	Misc	HH	Early	2	4" T8 High Bay fixture - 32 W - 8 lamps HPI	Replace HID fixture drawing 400 W	Fixture	\$0.4093	10	2,028	0.084	733	\$300.00	36%	85%	80%	1.17	1
MiscH13	Misc	HH	Early	3	4" T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.4713	10	1,385	0.057	499	\$235.00	36%	85%	80%	1.02	1
MiscH14	Misc	HH	Early	4	4" T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.4650	10	2,028	0.080	699	\$325.00	34%	85%	80%	1.03	1
MiscH15	Misc	HH	Turnover	5	Ceramic Metal Halide lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0.1173	4	1,705	0.034	298	\$35.00	18%	85%	55%	1.53	1
MiscH17	Misc	HH	Turnover	7	Induction High Bay Lighting	Base High Bay H1D, 250W	Fixture	\$1.1134	15	1,385	0.071	613	\$688.00	45%	85%	80%	0.70	0
MiscH11	Misc	HH	Turnover	1	4" T8 High Bay fixture - 32 W - 6 lamps HPI	Replace HID fixture drawing 250W	Fixture	\$0.2673	10	1,385	0.048	413	\$110.50	30%	85%	80%	1.79	1
MiscH12	Misc	HH	Turnover	2	4" T8 High Bay fixture - 32 W - 8 lamps HPI	Replace HID fixture drawing 400 W	Fixture	\$0.3070	10	2,028	0.084	733	\$225.00	36%	85%	80%	1.56	1
MiscH13	Misc	HH	Turnover	3	4" T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.2908	10	1,385	0.057	499	\$145.00	36%	85%	80%	1.65	1
MiscH14	Misc	HH	Turnover	4	4" T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.3720	10	2,028	0.080	699	\$260.00	34%	85%	80%	1.29	1
MiscH16	Misc	HH	Turnover	6	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0.4704	10	2,028	0.104	903	\$425.00	45%	85%	55%	1.02	1
MiscH17	Misc	HH	Turnover	7	Induction High Bay Lighting	Base High Bay H1D, 250W	Fixture	\$0.6069	15	1,385	0.071	618	\$375.00	45%	85%	80%	1.29	1
GroceH18	Grocery	HH	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1651	10	7,571	0.261	2,271	\$375.00	30%	85%	85%	2.90	1
GroceH19	Grocery	HH	Early	9	No prior dimming control	Photocell dimming control	Photocell	\$0.1453	10	7,571	0.435	3,786	\$550.00	50%	85%	85%	3.30	1
GroceH10	Grocery	HH	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1321	10	7,571	0.087	757	\$100.00	10%	85%	45%	3.63	1
HealthH8	Healthcare	HH	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1781	10	7,020	0.242	2,106	\$375.00	30%	85%	85%	2.69	1
HealthH9	Healthcare	HH	Early	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1567	10	7,020	0.403	3,510	\$550.00	50%	85%	85%	3.06	1
HealthH10	Healthcare	HH	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1423	10	7,020	0.081	702	\$100.00	10%	85%	45%	3.37	1
InstH18	Institutional	HH	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.3642	10	3,432	0.118	1,030	\$375.00	30%	85%	85%	1.32	1
InstH19	Institutional	HH	Early	9	Photocell dimming control	No prior dimming control	Photocell	\$0.3205	10	3,432	0.197	1,716	\$550.00	50%	85%	85%	1.50	1
InstH10	Institutional	HH	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.2914	10	3,432	0.039	343	\$100.00	10%	85%	45%	1.65	1
OfficH18	Office	HH	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.3424	10	3,650	0.126	1,095	\$375.00	30%	85%	85%	1.40	1
OfficH19	Office	HH	Early	9	Photocell dimming control	No prior dimming control	Photocell	\$0.3013	10	3,650	0.210	1,825	\$550.00	50%	85%	85%	1.59	1
OfficH10	Office	HH	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.2739	10	3,650	0.042	365	\$100.00	10%	85%	45%	1.75	1
RestaH8	Restaurant	HH	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2201	10	5,678	0.196	1,704	\$375.00	30%	85%	85%	2.18	1
RestaH9	Restaurant	HH	Early	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1937	10	5,678	0.326	2,839	\$550.00	50%	85%	85%	2.48	1
RestaH10	Restaurant	HH	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1761	10	5,678	0.065	568	\$100.00	10%	85%	45%	2.72	1
RetalH8	Retail	HH	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2284	10	5,473	0.189	1,642	\$375.00	30%	85%	85%	2.10	1
RetalH9	Retail	HH	Early	9	Photocell dimming control	No prior dimming control	Photocell	\$0.2010	10	5,473	0.314	2,737	\$550.00	50%	85%	85%	2.39	1
RetalH10	Retail	HH	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1827	10	5,473	0.063	547	\$100.00	10%	85%	45%	2.62	1
MiscH18	Misc	HH	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2256	10	5,540	0.191	1,662	\$375.00	30%	85%	85%	2.13	1
MiscH19	Misc	HH	Early	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1986	10	5,540	0.318	2,770	\$550.00	50%	85%	85%	2.41	1
MiscH10	Misc	HH	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1805	10	5,540	0.064	554	\$100.00	10%	85%	45%	2.66	1
LodgH18	Lodging	HH	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1946	10	6,423	0.221	1,927	\$375.00	30%	85%	85%	2.46	1
LodgH19	Lodging	HH	Early	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1713	10	6,423	0.369	3,212	\$550.00	50%	85%	85%	2.80	1
LodgH10	Lodging	HH	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1557	10	6,423	0.074	642	\$100.00	10%	85%	45%	3.08	1
LodgH18	Lodging	HH	Turnover	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1427	10	6,423	0.221	1,927	\$275.00	30%	85%	85%	3.36	1
LodgH19	Lodging	HH	Turnover	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1713	10	6,423	0.369	3,212	\$550.00	50%	85%	85%	2.80	1
LodgH10	Lodging	HH	Turnover	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1168	10	6,423	0.074	642	\$75.00	10%	85%	45%	4.11	1
GroceH18	Grocery	HH	Turnover	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1211	10	7,571	0.261	2,271	\$275.00	30%	85%	85%	3.96	1
GroceH19	Grocery	HH	Turnover	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1453	10	7,571	0.435	3,786	\$550.00	50%	85%	85%	3.30	1
GroceH10	Grocery	HH	Turnover	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.0991	10	7,571	0.087	757	\$75.00	10%	85%	45%	4.84	1
HealthH8	Healthcare	HH	Turnover	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1306	10	7,020	0.242	2,106	\$375.00	30%	85%	85%	3.67	

Met-Ed Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak kW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
LodgInH8	Lodging	HHI	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1405	10	5,929	0.204	1,779	\$250.00	30%	85%	85%	3.41	1
LodgInH9	Lodging	HHI	New	9	Photozell dimming control	No prior dimming control	Photozell	\$0.1518	10	5,929	0.341	2,965	\$450.00	50%	85%	85%	4.37	1
LodgInH10	Lodging	HHI	New	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1006	10	5,929	0.068	593	\$65.00	10%	25%	45%	3.16	1
OfficInH8	Office	HHI	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2473	10	3,370	0.116	1,011	\$250.00	30%	85%	85%	1.94	1
OfficInH9	Office	HHI	New	9	Photozell dimming control	No prior dimming control	Photozell	\$0.2671	10	3,370	0.194	1,685	\$450.00	50%	85%	85%	1.80	1
OfficInH10	Office	HHI	New	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1929	10	3,370	0.039	337	\$65.00	10%	25%	45%	2.49	1
RestaInH8	Restaurant	HHI	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1590	10	5,242	0.181	1,572	\$250.00	30%	85%	85%	3.02	1
RestaInH9	Restaurant	HHI	New	9	Photozell dimming control	No prior dimming control	Photozell	\$0.1717	10	5,242	0.301	2,621	\$450.00	50%	85%	85%	2.79	1
RestaInH10	Restaurant	HHI	New	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1240	10	5,242	0.060	524	\$65.00	10%	25%	45%	3.87	1
RetaInH8	Retail	HHI	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1650	10	5,052	0.174	1,516	\$250.00	30%	85%	85%	2.91	1
RetaInH9	Retail	HHI	New	9	Photozell dimming control	No prior dimming control	Photozell	\$0.1781	10	5,052	0.290	2,526	\$450.00	50%	85%	85%	2.69	1
RetaInH10	Retail	HHI	New	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1287	10	5,052	0.058	505	\$65.00	10%	25%	45%	3.73	1
miscInH8	misc	HHI	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1630	10	5,114	0.176	1,534	\$250.00	30%	85%	85%	2.94	1
miscInH9	misc	HHI	New	9	Photozell dimming control	No prior dimming control	Photozell	\$0.1760	10	5,114	0.294	2,557	\$450.00	50%	85%	85%	2.72	1
miscInH10	misc	HHI	New	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1271	10	5,114	0.059	511	\$65.00	10%	25%	45%	3.77	1
OfficInN3	Office	Incandescent	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0464	14	3,594	0.124	1,078	\$50.00	30%	95%	15%	15.68	1
OfficInN4	Office	Incandescent	New	4	Photozell dimming control	No prior dimming control	Photozell	\$0.0835	9	3,594	0.207	1,797	\$150.00	30%	95%	95%	4.89	1
OfficIn2	Office	Incandescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1159	14	3,594	0.124	1,078	\$125.00	30%	95%	80%	6.27	1
OfficIn13	Office	Incandescent	Turnover	3	Photozell dimming control	No prior dimming control	Photozell	\$0.1252	9	3,594	0.207	1,797	\$225.00	30%	95%	95%	3.26	1
GroceInN3	Grocery	Incandescent	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0224	14	7,455	0.257	2,236	\$50.00	30%	95%	15%	32.52	1
GroceInT2	Grocery	Incandescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0559	14	7,455	0.257	2,236	\$125.00	30%	95%	80%	13.01	1
HealthN2	Healthcare	Incandescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0603	14	6,912	0.238	2,074	\$125.00	30%	95%	80%	12.06	1
GroceInN4	Grocery	Incandescent	New	4	Photozell dimming control	No prior dimming control	Photozell	\$0.0402	9	7,455	0.428	3,727	\$150.00	30%	95%	95%	10.14	1
HealthN3	Healthcare	Incandescent	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0241	14	6,912	0.238	2,074	\$50.00	30%	95%	15%	30.15	1
GroceInT3	Grocery	Incandescent	Turnover	3	Photozell dimming control	No prior dimming control	Photozell	\$0.0604	9	7,455	0.428	3,727	\$225.00	30%	95%	95%	6.76	1
HealthN3	Healthcare	Incandescent	Turnover	3	Photozell dimming control	No prior dimming control	Photozell	\$0.0651	9	6,912	0.397	3,456	\$225.00	30%	95%	95%	6.27	1
HealthN4	Healthcare	Incandescent	New	4	Photozell dimming control	No prior dimming control	Photozell	\$0.0434	9	6,912	0.397	3,456	\$150.00	30%	95%	95%	9.40	1
InstInN3	Institutional	Incandescent	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0493	14	3,379	0.117	1,014	\$50.00	30%	95%	15%	14.74	1
InstInN4	Institutional	Incandescent	New	4	Photozell dimming control	No prior dimming control	Photozell	\$0.0888	9	3,379	0.194	1,690	\$150.00	30%	95%	95%	4.60	1
InstInT2	Institutional	Incandescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1233	14	3,379	0.117	1,014	\$125.00	30%	95%	80%	5.90	1
InstInT3	Institutional	Incandescent	Turnover	3	Photozell dimming control	No prior dimming control	Photozell	\$0.1332	9	3,379	0.194	1,690	\$225.00	30%	95%	95%	3.06	1
LodgInN3	Lodging	Incandescent	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0264	14	6,324	0.218	1,897	\$50.00	30%	95%	15%	27.59	1
LodgInN4	Lodging	Incandescent	New	4	Photozell dimming control	No prior dimming control	Photozell	\$0.0474	9	6,324	0.363	3,162	\$150.00	30%	95%	95%	8.60	1
LodgInT2	Lodging	Incandescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0659	14	6,324	0.218	1,897	\$125.00	30%	95%	80%	11.04	1
LodgInT3	Lodging	Incandescent	Turnover	3	Photozell dimming control	No prior dimming control	Photozell	\$0.0712	9	6,324	0.363	3,162	\$225.00	30%	95%	95%	5.74	1
RestaInN3	Restaurant	Incandescent	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0298	14	5,931	0.193	1,677	\$50.00	30%	95%	15%	24.39	1
RestaInN4	Restaurant	Incandescent	New	4	Photozell dimming control	No prior dimming control	Photozell	\$0.0537	9	5,931	0.321	2,796	\$150.00	30%	95%	95%	7.61	1
RestaInT2	Restaurant	Incandescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0745	14	5,931	0.193	1,677	\$125.00	30%	95%	80%	9.76	1
RestaInT3	Restaurant	Incandescent	Turnover	3	Photozell dimming control	No prior dimming control	Photozell	\$0.0805	9	5,931	0.321	2,796	\$225.00	30%	95%	95%	5.07	1
RetaInN3	Retail	Incandescent	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0309	14	5,389	0.167	1,467	\$50.00	30%	95%	15%	23.51	1
RetaInN4	Retail	Incandescent	New	4	Photozell dimming control	No prior dimming control	Photozell	\$0.0557	9	5,389	0.310	2,694	\$150.00	30%	95%	95%	7.33	1
RetaInT2	Retail	Incandescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0773	14	5,389	0.167	1,467	\$125.00	30%	95%	80%	9.40	1
RetaInT3	Retail	Incandescent	Turnover	3	Photozell dimming control	No prior dimming control	Photozell	\$0.0835	9	5,389	0.310	2,694	\$225.00	30%	95%	95%	4.89	1
WarehInN3	Warehouse	Incandescent	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0334	14	4,992	0.172	1,498	\$50.00	30%	95%	15%	21.78	1
WarehInN4	Warehouse	Incandescent	New	4	Photozell dimming control	No prior dimming control	Photozell	\$0.0601	9	4,992	0.287	2,496	\$150.00	30%	95%	95%	6.79	1
WarehInT2	Warehouse	Incandescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0835	14	4,992	0.172	1,498	\$125.00	30%	95%	80%	8.71	1
WarehInT3	Warehouse	Incandescent	Turnover	3	Photozell dimming control	No prior dimming control	Photozell	\$0.0901	9	4,992	0.287	2,496	\$225.00	30%	95%	95%	4.53	1
MiscInN3	Misc	Incandescent	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0306	14	5,455	0.188	1,636	\$50.00	30%	95%	15%	23.79	1
MiscInN4	Misc	Incandescent	New	4	Photozell dimming control	No prior dimming control	Photozell	\$0.0550	9	5,455	0.313	2,727	\$150.00	30%	95%	95%	7.42	1
MiscInT2	Misc	Incandescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0764	14	5,455	0.188	1,636	\$125.00	30%	95%	80%	9.52	1
MiscInT3	Misc	Incandescent	Turnover	3	Photozell dimming control	No prior dimming control	Photozell	\$0.0825	9	5,455	0.313	2,727	\$225.00	30%	95%	95%	4.95	1
GroceInT4	Grocery	Incandescent	Turnover	4	LED Lamp - 12 Watt	EISA - 60 Watt equivalent - 43W	Lamp	\$0.1329	5	250	0.021	181	\$23.99	72%	75%	50%	1.72	1
HealthIn4	Healthcare	Incandescent	Turnover	4	LED Lamp - 12 Watt	EISA - 60 Watt equivalent - 43W	Lamp	\$0.1433	5	232	0.019	167	\$23.99	72%	75%	50%	1.59	1
GroceInT3	Grocery	Incandescent	Turnover	3	LED Lamp PAR - 12 Watt	Halogen PAR - 45 W	Lamp	\$0.1908	5	262	0.021	181	\$34.45	69%	75%	90%	1.20	1
HealthT3	Healthcare	Incandescent	Turnover	3	LED Lamp PAR - 12 Watt	Halogen PAR - 45 W	Lamp	\$0.2058	5	243	0.019	167	\$34.45	69%	75%	90%	1.11	1
InstInT1	Institutional	Incandescent	Turnover	1	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0355	5	140	0.010	84	\$3.00	60%	75%	50%	6.42	1
InstInT4	Institutional	Incandescent	Turnover	4	LED Lamp - 12 Watt	EISA - 60 Watt equivalent - 43W	Lamp	\$0.2931	5	114	0.009	82	\$23.99	72%	75%	50%	0.78	0
InstInT5	Institutional	Incandescent	Turnover	5	LED Lamp PAR - 12 Watt	Halogen PAR - 45 W	Lamp	\$0.4209	5	119	0.009	82	\$34.45	69%	75%	90%	0.54	0
LodgInT1	Lodging	Incandescent	Turnover	1	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0190	5	262	0.018	158	\$3.00	60%	75%	50%	12.02	1
LodgInT4	Lodging	Incandescent	Turnover	4	LED Lamp - 12 Watt	EISA - 60 Watt equivalent - 43W	Lamp	\$0.1566	5	212	0.018	153	\$23.99	72%	75%	50%	1.46	1
LodgInT5	Lodging	Incandescent	Turnover	5	LED Lamp PAR - 12 Watt	Halogen PAR - 45 W	Lamp	\$0.2249	5	222	0.018	153	\$34.45	69%	75%	90%	1.01	1
OfficInT1	Office	Incandescent	Turnover	1	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0334	5	149	0.010	90	\$3.00	60%	75%	50%	6.83	1
OfficInT4	Office	Incandescent	Turnover	4	LED Lamp - 12 Watt	EISA - 60 Watt equivalent - 43W	Lamp	\$0.2756	5	121	0.010	87	\$23.99	72%	75%	50%	0.83	0
OfficInT5	Office	Incandescent	Turnover	5	LED Lamp PAR - 12 Watt	Halogen PAR - 45 W	Lamp	\$0.3958	5	126	0.010	87	\$34.45	69%	75%	90%	0.58	0
RestaInT1	Restaurant	Incandescent	Turnover	1	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0215	5	232	0.016	140	\$3.00	60%	75%	50%	10.63	1
RestaInT4	Restaurant	Incandescent	Turnover	4	LED Lamp - 12 Watt	EISA - 60 Watt equivalent - 43W	Lamp	\$0.1772	5	188	0.016	135	\$23.99	72%	75%	50%	1.29	1
RestaInT5	Restaurant	Incandescent	Turnover	5														

Met-Ed Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
GroceMoN8	Grocery	Motors	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4149	15	97600	0.000	13,329.5	\$13,000.00	32%	80.0%	100%	1.72	1
GroceMoN9	Grocery	Motors	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.4915	15	97600	3.941	26449.5	\$13,000.00	27%	70.0%	100%	1.63	1
GroceMoN10	Grocery	Motors	New	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.4515	15	97600	2.798	28791.9	\$13,000.00	30%	55.0%	100%	1.74	1
GroceMoN11	Grocery	Motors	New	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.4915	15	97600	3.941	26449.5	\$13,000.00	27%	30.0%	100%	1.63	1
GroceMoM1	Grocery	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.1015	15	15384	0.0282	139.5	\$154	0.91%	74.4%	100%	0.76	0
GroceMoT2	Grocery	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.1901	15	58940	0.0231	437.7	\$521	0.74%	74.4%	100%	0.63	0
GroceMoT3	Grocery	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.0693	15	144688	0.0138	644.1	\$689	0.45%	66.3%	100%	0.68	0
GroceMoT4	Grocery	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.4499	15	290922	0.0121	1135.2	\$511	0.39%	55.8%	100%	1.60	1
GroceMoT5	Grocery	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.3775	15	624328	0.0284	5711.1	\$2,156	0.91%	55.8%	100%	1.90	1
GroceMoT6	Grocery	Motors	Turnover	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.5635	15	97600	2.511	19,520	\$11,000.00	20%	55.0%	80%	1.40	1
GroceMoT7	Grocery	Motors	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.4367	15	97600	3.941	29767.9	\$13,000.00	31%	90.0%	80%	1.82	1
GroceMoT8	Grocery	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4149	15	97600	0.000	13,329.5	\$13,000.00	32%	90.0%	80%	1.72	1
GroceMoT9	Grocery	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.4915	15	97600	3.941	26449.5	\$13,000.00	27%	90.0%	80%	1.63	1
GroceMoT10	Grocery	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.4515	15	97600	2.798	28791.9	\$13,000.00	30%	80.0%	80%	1.71	1
GroceMoT11	Grocery	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.4915	15	97600	3.941	26449.5	\$13,000.00	27%	55.0%	80%	1.63	1
GroceMoT12	Grocery	Motors	Turnover	12	Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0.5097	15	292790	0.189	1471.4	\$750	0.5%	35.0%	95%	1.55	1
GroceMoT13	Grocery	Motors	Turnover	13	Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0.6274	15	634398	0.410	3187.9	\$2,000	0.5%	50.0%	95%	1.26	1
GroceMoT14	Grocery	Motors	Turnover	14	Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0.4704	15	59847	0.068	531.4	\$250	0.9%	10.0%	95%	1.68	1
GroceMoT15	Grocery	Motors	Turnover	15	Motors: Rewind 500+ HP	(E) Motor	Motor	\$0.5437	15	1463995	0.946	7356.8	\$4,000	0.5%	70.0%	95%	1.45	1
GroceMoT16	Grocery	Motors	Turnover	16	Motors: Rewind 51-100 HP	(E) Motor	Motor	\$0.5841	15	147991	0.110	856.0	\$500	0.6%	20.0%	95%	1.35	1
GroceMoT17	Grocery	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	3.00	1
GroceMoN12	Grocery	Motors	New	12	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.57	1
GroceMoN13	Grocery	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.03	0
GroceMoN14	Grocery	Motors	New	14	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is	Motor	\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.70	1
GroceMoN15	Grocery	Motors	New	15	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.61	0
GroceMoT18	Grocery	Motors	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.57	1
GroceMoT19	Grocery	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.03	0
GroceMoT20	Grocery	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is	Motor	\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.70	1
GroceMoT21	Grocery	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.61	0
GroceMoT22	Grocery	Motors	Turnover	22	Air Comp Improvements	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0.11	15	56,148	1.148	8,928	\$990.00	16%	28%	65%	7.13	1
GroceMoE2	Grocery	Motors	Early	2	Air Compressor Optimization	Motor Retrocommissioning	Motor	\$0.16	15	56,148	2.174	16,901	\$2,750.00	30%	38%	65%	4.86	1
GroceMoT23	Grocery	Motors	Turnover	23	Motor Retrocommissioning	Motor Retrocommissioning	Motor	\$0.27	7	56,148	1.156	8,984	\$2,450.00	16%	95%	75%	1.20	1
HealthMoN1	Healthcare	Motors	New	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$0.8576	15	19759	0.0282	179.2	\$154	0.91%	74.4%	100%	0.94	0
HealthMoN2	Healthcare	Motors	New	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$0.9266	15	75700	0.0231	562.2	\$521	0.74%	74.4%	100%	0.80	0
HealthMoN3	Healthcare	Motors	New	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$0.8325	15	188580	0.0138	827.3	\$689	0.45%	66.3%	100%	0.87	0
HealthMoN4	Healthcare	Motors	New	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.3503	15	373646	0.0121	1458.0	\$511	0.39%	55.8%	100%	2.05	1
HealthMoN5	Healthcare	Motors	New	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.2939	15	801855	0.0284	7335.1	\$2,156	0.91%	55.8%	100%	2.44	1
HealthMoN6	Healthcare	Motors	New	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.4388	15	125352	3.225	25,070	\$11,000.00	20%	55.0%	100%	1.80	1
HealthMoN7	Healthcare	Motors	New	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.3771	15	125352	3.941	34471.8	\$13,000.00	28%	70.0%	100%	2.08	1
HealthMoN8	Healthcare	Motors	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4149	15	125352	0.000	13,329.5	\$13,000.00	32%	80.0%	100%	2.21	1
HealthMoN9	Healthcare	Motors	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.4490	15	125352	3.941	29956.3	\$13,000.00	29%	70.0%	100%	1.77	1
HealthMoN10	Healthcare	Motors	New	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.3758	15	125352	2.798	34597.2	\$13,000.00	28%	55.0%	100%	2.03	1
HealthMoN11	Healthcare	Motors	New	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.4233	15	125352	3.941	30711.3	\$13,000.00	25%	30.0%	100%	1.87	1
HealthMoT1	Healthcare	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$0.8576	15	19759	0.0282	179.2	\$154	0.91%	74.4%	100%	0.94	0
HealthMoT2	Healthcare	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$0.9266	15	75700	0.0231	562.2	\$521	0.74%	74.4%	100%	0.80	0
HealthMoT3	Healthcare	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$0.8325	15	188580	0.0138	827.3	\$689	0.45%	66.3%	100%	0.87	0
HealthMoT4	Healthcare	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.3503	15	373646	0.0121	1458.0	\$511	0.39%	55.8%	100%	2.05	1
HealthMoT5	Healthcare	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.2939	15	801855	0.0284	7335.1	\$2,156	0.91%	55.8%	100%	2.44	1
HealthMoT6	Healthcare	Motors	Turnover	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.4388	15	125352	3.225	25,070	\$11,000.00	20%	55.0%	80%	1.80	1
HealthMoT7	Healthcare	Motors	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.3771	15	125352	3.941	34471.8	\$13,000.00	28%	90.0%	80%	2.08	1
HealthMoT8	Healthcare	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4231	15	125352	0.000	40238.0	\$13,000.00	32%	90.0%	80%	2.21	1
HealthMoT9	Healthcare	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.4490	15	125352	3.941	29956.3	\$13,000.00	29%	90.0%	80%	1.77	1
HealthMoT10	Healthcare	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.3758	15	125352	2.798	34597.2	\$13,000.00	28%	80.0%	80%	2.03	1
HealthMoT11	Healthcare	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.4233	15	125352	3.941	30711.3	\$13,000.00	25%	55.0%	80%	1.87	1
HealthMoT12	Healthcare	Motors	Turnover	12	Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0.3969	15	376056	0.243	1889.7	\$750	0.5%	50.0%	95%	1.99	1
HealthMoT13	Healthcare	Motors	Turnover	13	Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0.4885	15	814788	0.527	4094.4	\$2,000	0.5%	35.0%	95%	1.62	1
HealthMoT14	Healthcare	Motors	Turnover	14	Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0.3663	15	76864	0.088	682.5	\$250	0.9%	10.0%	95%	2.16	1
HealthMoT15	Healthcare	Motors	Turnover	15	Motors: Rewind 500+ HP	(E) Motor	Motor	\$0.4233	15	1880281	1.216	9448.6	\$4,000	0.5%	70.0%	95%	1.87	1
HealthMoT16	Healthcare	Motors	Turnover	16	Motors: Rewind 51-100 HP	(E) Motor	Motor	\$0.4548	15	190072	0.141	1099.4	\$500	0.6%	20.0%	95%	1.74	1
HealthMoT17	Healthcare	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	3.00	1
HealthMoN12	Healthcare	Motors	New	12	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0.19	10	1								

Met-Ed Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
InstMo17	Institutional	Motors	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.5074	15	84274	6.136	25619.3	\$13,000.00	30%	90.0%	80%	1.69	1
InstMo18	Institutional	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4806	15	84274	0.000	2705.19	\$13,000.00	32%	90.0%	80%	1.49	1
InstMo19	Institutional	Motors	New	12	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.57	1
InstMo13	Institutional	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.03	0
InstMo14	Institutional	Motors	New	14	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is	Motor	\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.70	1
InstMo15	Institutional	Motors	New	15	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.61	0
InstMo18	Institutional	Motors	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.57	1
InstMo19	Institutional	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.03	0
InstMo20	Institutional	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is	Motor	\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.70	1
InstMo21	Institutional	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.61	0
InstMo22	Institutional	Motors	Turnover	22	Air Comp Improvements		Motor	\$0.11	15	56148	1.148	8,928	\$990.00	16%	28%	65%	7.13	1
InstMo2	Institutional	Motors	Early	2	Motor Retrocommissioning		Motor	\$0.16	15	56148	2.174	16,901	\$2,750.00	30%	38%	65%	4.86	1
InstMoE1	Institutional	Motors	Early	1	Motor Retrocommissioning		Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.20	1
LodgMoN1	Lodging	Motors	New	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.1114	15	15247	0.0282	138.3	\$154	0.91%	74.4%	100%	0.75	0
LodgMoN2	Lodging	Motors	New	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.2008	15	58416	0.0231	433.8	\$521	0.74%	74.4%	100%	0.62	0
LodgMoN3	Lodging	Motors	New	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.0789	15	143401	0.0138	638.4	\$689	0.45%	66.3%	100%	0.67	0
LodgMoN4	Lodging	Motors	New	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.4540	15	288334	0.0121	1125.1	\$511	0.39%	55.8%	100%	1.59	1
LodgMoN5	Lodging	Motors	New	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.3809	15	618773	0.0284	5660.3	\$2,156	0.91%	55.8%	100%	1.88	1
LodgMoN6	Lodging	Motors	New	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.5686	15	96731	2.489	19,346	\$11,000.00	20%	55.0%	100%	1.39	1
LodgMoN7	Lodging	Motors	New	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.4477	15	96731	4.693	29035.5	\$13,000.00	30%	70.0%	100%	1.81	1
LodgMoN8	Lodging	Motors	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4187	15	96731	0.000	31050.8	\$13,000.00	32%	80.0%	100%	1.71	1
LodgMoN9	Lodging	Motors	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5087	15	96731	4.693	25553.2	\$13,000.00	26%	70.0%	100%	1.62	1
LodgMoN10	Lodging	Motors	New	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.4616	15	96731	3.364	28164.9	\$13,000.00	29%	55.0%	100%	1.70	1
LodgMoN11	Lodging	Motors	New	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5043	15	96731	4.693	25778.9	\$13,000.00	27%	30.0%	100%	1.63	1
LodgMoT1	Lodging	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.1114	15	15247	0.0282	138.3	\$154	0.91%	74.4%	100%	0.75	0
LodgMoT2	Lodging	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.2008	15	58416	0.0231	433.8	\$521	0.74%	74.4%	100%	0.62	0
LodgMoT3	Lodging	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.0789	15	143401	0.0138	638.4	\$689	0.45%	66.3%	100%	0.67	0
LodgMoT4	Lodging	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.4540	15	288334	0.0121	1125.1	\$511	0.39%	55.8%	100%	1.59	1
LodgMoT5	Lodging	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-250 HP	Motor	\$0.3809	15	618773	0.0284	5660.3	\$2,156	0.91%	55.8%	100%	1.88	1
LodgMoT6	Lodging	Motors	Turnover	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.5686	15	96731	2.489	19,346	\$11,000.00	20%	55.0%	100%	1.39	1
LodgMoT7	Lodging	Motors	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.4477	15	96731	4.693	29035.5	\$13,000.00	30%	90.0%	80%	1.81	1
LodgMoT8	Lodging	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4187	15	96731	0.000	31050.8	\$13,000.00	32%	90.0%	80%	1.71	1
LodgMoT9	Lodging	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5087	15	96731	4.693	25553.2	\$13,000.00	26%	90.0%	80%	1.62	1
LodgMoT10	Lodging	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.4616	15	96731	3.364	28164.9	\$13,000.00	29%	80.0%	100%	1.70	1
LodgMoT11	Lodging	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5043	15	96731	4.693	25778.9	\$13,000.00	27%	55.0%	80%	1.63	1
LodgMoT12	Lodging	Motors	Turnover	12	Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0.5143	15	290194	0.188	1458.3	\$750	0.5%	35.0%	95%	1.54	1
LodgMoT13	Lodging	Motors	Turnover	13	Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0.6330	15	628754	0.406	3159.6	\$2,000	0.5%	50.0%	95%	1.25	1
LodgMoT14	Lodging	Motors	Turnover	14	Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0.4747	15	59314	0.068	526.7	\$250	0.9%	10.0%	95%	1.67	1
LodgMoT15	Lodging	Motors	Turnover	15	Motors: Rewind 500+ HP	(E) Motor	Motor	\$0.5486	15	145970	0.938	7291.3	\$4,000	0.5%	70.0%	95%	1.44	1
LodgMoT16	Lodging	Motors	Turnover	16	Motors: Rewind 51-100 HP	(E) Motor	Motor	\$0.5894	15	146674	0.109	848.4	\$500	0.6%	20.0%	95%	1.34	1
LodgMoT17	Lodging	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.7%	25%	95%	3.00	1
LodgMoN12	Lodging	Motors	New	12	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.57	1
LodgMoN13	Lodging	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.03	0
LodgMoN14	Lodging	Motors	New	14	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is	Motor	\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.70	1
LodgMoN15	Lodging	Motors	New	15	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.61	0
LodgMoT18	Lodging	Motors	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.57	1
LodgMoT19	Lodging	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.03	0
LodgMoT20	Lodging	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is	Motor	\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.70	1
LodgMoT21	Lodging	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.61	0
LodgMoT22	Lodging	Motors	Turnover	22	Air Comp Improvements		Motor	\$0.11	15	56148	1.148	8,928	\$990.00	16%	28%	65%	7.13	1
LodgMo2	Lodging	Motors	Early	2	Motor Retrocommissioning		Motor	\$0.16	15	56148	2.174	16,901	\$2,750.00	30%	38%	65%	4.86	1
InstMo23	Institutional	Motors	Turnover	23	Motor Retrocommissioning		Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.20	1
miscMoN1	misc	Motors	New	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.1114	15	15247	0.0282	138.3	\$154	0.91%	74.4%	100%	0.75	0
miscMoN2	misc	Motors	New	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.2008	15	58416	0.0231	433.8	\$521	0.74%	74.4%	100%	0.62	0
miscMoN3	misc	Motors	New	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.0789	15	143401	0.0138	638.4	\$689	0.45%	66.3%	100%	0.67	0
miscMoN4	misc	Motors	New	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.4540	15	288334	0.0121	1125.1	\$511	0.39%	55.8%	100%	1.59	1
miscMoN5	misc	Motors	New	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.3809	15	618773	0.0284	5660.3	\$2,156	0.91%	55.8%	100%	1.88	1
miscMoN6	misc	Motors	New	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.5686	15	96731	2.489	19,346	\$11,000.00	20%	55.0%	100%	1.39	1
miscMoN7	misc	Motors	New	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.4477	15	96731	4.693	29035.5	\$13,000.00	30%	70.0%	100%	1.81	1
miscMoN8	misc	Motors	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4187	15	96731	0.000	31050.8	\$13,000.00	32%	80.0%	100%	1.71	1
miscMoN9	misc	Motors	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5087	15	96731	4.693	25553.2	\$13,000.00	26%	70.0%	100%	1.62	1

Met-Ed Commercial Measures

Measure	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC	Est. Cost	Economic Flag
RetainMo7	Retail	Motors	New	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.4367	15	97600	3.94	29767.9	\$13,000.00	31%	70.0%	100%	1.82	1	
RetainMo8	Retail	Motors	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4349	15	97600	3.94	3129.5	\$13,000.00	32%	80.0%	100%	1.72	1	
RetainMo9	Retail	Motors	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.4915	15	97600	3.94	26449.5	\$13,000.00	30%	70.0%	100%	1.63	1	
RetainMo10	Retail	Motors	New	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.4515	15	97600	2.998	28791.9	\$13,000.00	30%	55.0%	100%	1.71	1	
RetainMo11	Retail	Motors	New	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.4915	15	97600	3.94	26449.5	\$13,000.00	27%	30.0%	100%	1.63	1	
RetainMo11	Retail	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.1015	15	15384	0.0282	139.5	\$154	0.91%	74.4%	100%	0.76	0	
RetainMo12	Retail	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.1901	15	58940	0.0231	437.7	\$521	0.74%	74.4%	100%	0.63	0	
RetainMo13	Retail	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.0693	15	144688	0.0138	644.1	\$689	0.45%	66.3%	100%	0.68	0	
RetainMo14	Retail	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.4499	15	209922	0.0121	1135.2	\$511	0.39%	55.8%	100%	1.60	1	
RetainMo15	Retail	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-250 HP	Motor	\$0.3775	15	624328	0.0284	5711.1	\$2,156	0.91%	55.8%	100%	1.90	1	
RetainMo16	Retail	Motors	Turnover	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.5635	15	97600	2.511	19,520	\$11,000.00	20%	55.0%	80%	1.40	1	
RetainMo17	Retail	Motors	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.4367	15	97600	3.94	29767.9	\$13,000.00	31%	90.0%	80%	1.82	1	
RetainMo18	Retail	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4149	15	97600	0.000	3129.5	\$13,000.00	32%	90.0%	80%	1.72	1	
RetainMo19	Retail	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.4915	15	97600	3.94	26449.5	\$13,000.00	27%	90.0%	80%	1.63	1	
RetainMo19	Retail	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.4515	15	97600	2.998	28791.9	\$13,000.00	30%	80.0%	80%	1.71	1	
RetainMo11	Retail	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.4915	15	97600	3.94	26449.5	\$13,000.00	27%	55.0%	80%	1.63	1	
RetainMo12	Retail	Motors	Turnover	12	Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0.5097	15	292799	0.189	1471.4	\$750	0.5%	35.0%	95%	1.55	1	
RetainMo13	Retail	Motors	Turnover	13	Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0.6274	15	634398	0.410	3187.9	\$2,000	0.5%	50.0%	95%	1.26	1	
RetainMo14	Retail	Motors	Turnover	14	Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0.4704	15	59847	0.068	531.4	\$250	0.9%	10.0%	95%	1.68	1	
RetainMo15	Retail	Motors	Turnover	15	Motors: Rewind 500+ HP	(E) Motor	Motor	\$0.5437	15	1463995	0.946	7356.8	\$4,000	0.5%	70.0%	95%	1.45	1	
RetainMo16	Retail	Motors	Turnover	16	Motors: Rewind 51-100 HP	(E) Motor	Motor	\$0.5841	15	147991	0.110	856.0	\$500	0.6%	20.0%	95%	1.35	1	
RetainMo17	Retail	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	3.00	1	
RetainMo12	Retail	Motors	New	12	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.57	1	
RetainMo13	Retail	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.03	0	
RetainMo14	Retail	Motors	New	14	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is	Motor	\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.70	1	
RetainMo15	Retail	Motors	New	15	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.61	0	
RetainMo18	Retail	Motors	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.57	1	
RetainMo19	Retail	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.03	0	
RetainMo120	Retail	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is	Motor	\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.70	1	
RetainMo121	Retail	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.61	0	
RetainMo122	Retail	Motors	Turnover	22	Air Comp Improvements		Motor	\$0.11	15	56148	1.148	8,928	\$990.00	16%	28%	65%	7.13	1	
RetainMo2	Retail	Motors	Early	2	Air Compressor Optimization		Motor	\$0.16	15	56148	2.174	16,901	\$2,750.00	30%	38%	65%	4.86	1	
LodgMo123	Lodging	Motors	Turnover	23	Motor Retrocommissioning		Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.20	1	
RestMoN1	Restaurant	Motors	New	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.1487	15	14753	0.0282	133.8	\$154	0.91%	74.4%	100%	0.73	0	
RestMoN2	Restaurant	Motors	New	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.2410	15	56520	0.0231	419.7	\$521	0.74%	74.4%	100%	0.60	0	
RestMoN3	Restaurant	Motors	New	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.1151	15	138748	0.0138	617.7	\$689	0.45%	66.3%	100%	0.65	0	
RestMoN4	Restaurant	Motors	New	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.4692	15	278979	0.0121	1088.6	\$511	0.39%	55.8%	100%	1.54	1	
RestMoN5	Restaurant	Motors	New	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.3937	15	598698	0.0284	5476.7	\$2,156	0.91%	55.8%	100%	1.82	1	
RestMoN6	Restaurant	Motors	New	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.5877	15	93593	2.408	18,719	\$11,000.00	20%	55.0%	100%	1.35	1	
RestMoN7	Restaurant	Motors	New	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.4327	15	93593	3.941	28733.0	\$13,000.00	32%	90.0%	80%	1.76	1	
RestMoN8	Restaurant	Motors	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4327	15	93593	0.000	3004.3	\$13,000.00	27%	80.0%	100%	1.65	1	
RestMoN9	Restaurant	Motors	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5107	15	93593	3.941	25457.3	\$13,000.00	27%	70.0%	100%	1.58	1	
RestMoN10	Restaurant	Motors	New	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.4708	15	93593	2.998	27609.9	\$13,000.00	30%	55.0%	100%	1.65	1	
RestMoN11	Restaurant	Motors	New	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5107	15	93593	3.941	25457.3	\$13,000.00	27%	30.0%	100%	1.58	1	
RestMo11	Restaurant	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.1487	15	14753	0.0282	133.8	\$154	0.91%	74.4%	100%	0.73	0	
RestMo12	Restaurant	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.2410	15	56520	0.0231	419.7	\$521	0.74%	74.4%	100%	0.60	0	
RestMo13	Restaurant	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.1151	15	138748	0.0138	617.7	\$689	0.45%	66.3%	100%	0.65	0	
RestMo14	Restaurant	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.4692	15	278979	0.0121	1088.6	\$511	0.39%	55.8%	100%	1.54	1	
RestMo15	Restaurant	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-250 HP	Motor	\$0.3937	15	598698	0.0284	5476.7	\$2,156	0.91%	55.8%	100%	1.82	1	
RestMo16	Restaurant	Motors	Turnover	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.5877	15	93593	2.408	18,719	\$11,000.00	20%	55.0%	80%	1.35	1	
RestMo17	Restaurant	Motors	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.4524	15	93593	3.941	28733.0	\$13,000.00	31%	90.0%	80%	1.76	1	
RestMo18	Restaurant	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4327	15	93593	0.000	3004.3	\$13,000.00	27%	90.0%	80%	1.58	1	
RestMo19	Restaurant	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5107	15	93593	3.941	25457.3	\$13,000.00	27%	90.0%	80%	1.65	1	
RestMo110	Restaurant	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.4708	15	93593	2.998	27609.9	\$13,000.00	30%	80.0%	80%	1.65	1	
RestMo111	Restaurant	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5107	15	93593	3.941	25457.3	\$13,000.00	27%	55.0%	80%	1.58	1	
RestMo112	Restaurant	Motors	Turnover	12	Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0.5316	15	280779	0.182	1410.9	\$750	0.5%	35.0%	95%	1.49	1	
RestMo113	Restaurant	Motors	Turnover	13	Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0.6542	15	608354	0.933	3057.1	\$2,000	0.5%	50.0%	95%	1.21	1	
RestMo114	Restaurant	Motors	Turnover	14	Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0.4906	15	57390	0.066	509.6	\$250	0.9%	10.0%	95%	1.61	1	
RestMo115	Restaurant	Motors	Turnover	15	Motors: Rewind 500+ HP	(E) Motor	Motor	\$0.5670	15	1403894	0.908	7054.7	\$4,000	0.5%	70.0%	95%	1.40	1	
RestMo116	Restaurant	Motors	Turnover	16	Motors: Rewind 51-100 HP	(E) Motor	Motor	\$0.6091	15	141915	0.106								

Met-Ed Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
WarehMo15	Warehouse	Motors	Turnover	15	Motors Rewind 500+ HP	(E) Motor	Motor	\$0.5486	15	1450970	0.938	7291.3	\$4,000	0.5%	70.0%	95%	1.44	1
WarehMo16	Warehouse	Motors	Turnover	16	Motors Rewind 51-100 HP	(E) Motor	Motor	\$0.5894	15	146674	0.109	848.4	\$500	0.07%	20.0%	95%	1.34	1
WarehMo17	Warehouse	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.199	1,477	\$500.00	0.70%	25%	95%	3.00	1
WarehMoN1	Warehouse	Motors	New	12	Demand Control Ventilation (DCV)	Base Standard Ventilation	ton	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.57	1
WarehMoN1	Warehouse	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	ton	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.03	0
WarehMoN1	Warehouse	Motors	New	14	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is	ton	\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.70	1
WarehMoN1	Warehouse	Motors	New	15	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	ton	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.61	0
WarehMoF18	Warehouse	Motors	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation	ton	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.57	1
WarehMoF19	Warehouse	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	ton	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.03	0
WarehMo20	Warehouse	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is	ton	\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.70	1
WarehMo21	Warehouse	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	ton	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.61	0
WarehMo22	Warehouse	Motors	Turnover	22	Air Comp Improvements		ton	\$0.11	15	56148	1.148	8,928	\$990.00	16%	28%	65%	7.13	1
WarehMo22	Warehouse	Motors	Early	2	Air Compressor Optimization		ton	\$0.16	15	56148	2.174	16,901	\$2,750.00	30%	38%	65%	4.86	1
MiscMo23	Misc	Motors	Turnover	23	Motor Retro-commissioning		Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.20	1
HealthE2	Healthcare	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$41.47	15	298	0.23	18	\$750.00	6%	20%	95%	0.20	0
HealthE3	Healthcare	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$41.47	15	298	0.000	18	\$750.00	6%	100%	95%	0.02	0
GrocePaF1	Grocery	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2,375	sq ft	\$3.13	20	970	0.05	64	\$200.00	7%	15%	9%	0.46	0
GrocePaF2	Grocery	Packaged DX	Early	2	Adding window shade film	No shade film	sq ft window area	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.03	0
GrocePaF3	Grocery	Packaged DX	Early	3	Adding window shade screen	No shade screen	sq ft window area	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.20	0
GrocePaF4	Grocery	Packaged DX	Early	4	Windows U<0.40, 55 SHGC	Existing window specifications	sq ft window area	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	0.93	0
GrocePaF5	Grocery	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$3.48	20	970	0.05	65	\$225.00	7%	95%	95%	0.41	0
GrocePaF7	Grocery	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$0.49	10	1,025	0.006	51	\$25.00	5%	100%	65%	0.99	0
GrocePaF8	Grocery	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	722	0.05	12	\$95.00	1%	45%	80%	0.39	0
GrocePaF9	Grocery	Packaged DX	Early	9	Hotel Keypad Sensors	No prior controls	room Control	\$0.29	10	648	0.041	342	\$100.00	39%	95%	80%	1.65	1
GrocePaF10	Grocery	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	1,054	0.05	64	\$35.00	6%	100%	45%	0.20	0
GrocePaF11	Grocery	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	722	0.015	125	\$55.00	13%	100%	45%	1.10	1
GrocePaF13	Grocery	Packaged DX	Early	13	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.36	7	722	0.05	155	\$55.15	16%	95%	75%	0.90	0
GrocePaN1	Grocery	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	722	0.05	64	\$87.00	9%	100%	95%	1.06	1
GrocePaN2	Grocery	Packaged DX	New	2	Adding reflective roof treatment	Std color roof	ton	\$4.50	20	722	0.05	10	\$45.00	1%	100%	95%	0.95	0
GrocePaN3	Grocery	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$1.93	20	970	0.05	65	\$125.00	7%	100%	95%	0.75	0
GrocePaN4	Grocery	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Std Roof	ton	\$1.97	20	970	0.05	65	\$127.43	7%	45%	95%	0.73	0
GrocePaN5	Grocery	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	970	0.05	12	\$125.00	1%	100%	95%	0.36	0
GrocePaN6	Grocery	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.51	20	835	0.04	60	\$90.40	7%	100%	95%	0.95	0
GrocePaN7	Grocery	Packaged DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.62	20	835	0.08	111	\$180.81	13%	100%	95%	0.89	0
GrocePaN8	Grocery	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.73	20	835	0.12	157	\$271.21	19%	100%	95%	0.83	0
GrocePaN9	Grocery	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.85	20	970	0.05	65	\$55.00	7%	100%	95%	1.69	1
GrocePaN10	Grocery	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.85	20	987	0.06	82	\$70.00	8%	100%	95%	1.69	1
GrocePaN11	Grocery	Packaged DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.43	20	1,086	0.06	80	\$115.13	7%	100%	95%	1.01	1
GrocePaN12	Grocery	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$1.79	20	1,120	0.04	55	\$98.39	5%	100%	95%	0.80	0
GrocePaN13	Grocery	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.37	15	298	0.23	317	\$750.00	32%	20%	95%	0.49	0
GrocePaN14	Grocery	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$4.24	15	987	0.021	177	\$750.00	18%	100%	95%	0.18	0
GrocePaN15	Grocery	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$1.17	15	970	0.017	145	\$170.00	15%	75%	45%	0.67	0
GrocePaN16	Grocery	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$0.92	15	970	0.023	194	\$179.00	20%	100%	95%	0.85	0
GrocePaN17	Grocery	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.40	15	1,025	0.006	46	\$110.89	5%	100%	95%	0.33	0
GrocePaF1	Grocery	Packaged DX	Turnover	1	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	970	0.05	12	\$125.00	1%	100%	95%	0.30	0
GrocePaF2	Grocery	Packaged DX	Turnover	2	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.51	20	835	0.04	60	\$90.40	7%	100%	95%	0.95	0
GrocePaF3	Grocery	Packaged DX	Turnover	3	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.62	20	835	0.08	111	\$180.81	13%	100%	95%	0.89	0
GrocePaF4	Grocery	Packaged DX	Turnover	4	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.73	20	835	0.12	157	\$271.21	19%	100%	95%	0.83	0
GrocePaF5	Grocery	Packaged DX	Turnover	5	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.85	20	970	0.05	65	\$55.00	7%	100%	95%	1.69	1
GrocePaF6	Grocery	Packaged DX	Turnover	6	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.85	20	987	0.06	82	\$70.00	8%	100%	95%	1.69	1
GrocePaF7	Grocery	Packaged DX	Turnover	7	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.43	20	1,086	0.06	80	\$115.13	7%	100%	95%	1.01	1
GrocePaF8	Grocery	Packaged DX	Turnover	8	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$1.79	20	1,120	0.04	55	\$98.39	5%	100%	95%	0.80	0
GrocePaF9	Grocery	Packaged DX	Turnover	9	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.37	15	298	0.23	317	\$750.00	32%	20%	95%	0.49	0
GrocePaF10	Grocery	Packaged DX	Turnover	10	Ground Source HP Closed	Air Source Heat Pump	ton	\$4.24	15	987	0.021	177	\$750.00	18%	100%	95%	0.18	0
GrocePaF11	Grocery	Packaged DX	Turnover	11	Air-side Economizer	No Economizer	ton	\$1.17	15	970	0.017	145	\$170.00	15%	75%	45%	0.67	0
GrocePaF12	Grocery	Packaged DX	Turnover	12	Energy Recovery Units	No Energy Recovery	ton	\$0.92	15	970	0.023	194	\$179.00	20%	100%	95%	0.85	0
GrocePaF13	Grocery	Packaged DX	Turnover	13	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.40	15	1,025	0.006	46	\$110.89	5%	100%	95%	0.33	0
GrocePaN18	Grocery	Packaged DX	New	18	Automated control system	Baseline DX	ton	\$0.49	10	1,025	0.006	51	\$25.00	5%	100%	65%	0.99	0
GrocePaN19	Grocery	Packaged DX	New	19	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$0.91	10	870	0.006	47	\$43.00	5%	100%	95%	0.53	0
GrocePaF15	Grocery	Packaged DX	Turnover	15	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$0.91	10	870	0.006	47	\$43.00	5%	100%	95%	0.53	0
InstnPaF1	Institutional	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2,375	sq ft	\$3.13	20	722	0.05	64	\$200.00	9%	15%	9%	0.46	0
InstnPaF2	Institutional	Packaged DX	Early	2	Adding window shade film	No shade film	sq ft window area	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.03	0
InstnPaF3	Institutional	Packaged DX	Early	3	Adding window shade screen	No shade screen	sq ft window area	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.20	0
InstnPaF4	Institutional	Packaged DX	Early	4	Windows U<0.40, 55 SHGC	Existing window specifications	sq ft window area	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	0.93	0
InstnPaF5	Institutional	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$4.67	20	722	0.05	48	\$					

Met-Ed Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
InstiPa10	Institutional	Packaged DX	Turnover	10	Ground Source HP Closed	Air Source Heat Pump	ton	\$5.70	15	735	0.016	132	\$750.00	18%	100%	95%	0.14	0
InstiPa11	Institutional	Packaged DX	Turnover	11	Air-side Economizer	No Economizer	ton	\$1.57	15	722	0.013	108	\$170.00	15%	75%	45%	0.50	0
InstiPa12	Institutional	Packaged DX	Turnover	12	Energy Recovery Units	No Energy Recovery	ton	\$1.24	15	722	0.017	144	\$179.00	20%	100%	95%	0.63	0
InstiPa13	Institutional	Packaged DX	Turnover	13	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$3.23	15	763	0.004	34	\$110.89	5%	100%	95%	0.24	0
InstiPa18	Institutional	Packaged DX	New	18	Automated control system	Baseline DX	ton	\$0.66	10	763	0.005	38	\$25.00	5%	100%	65%	0.74	0
InstiPa19	Institutional	Packaged DX	New	19	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.22	10	648	0.004	35	\$43.00	5%	100%	95%	0.40	0
InstiPa15	Institutional	Packaged DX	Turnover	15	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.22	10	648	0.004	35	\$43.00	5%	100%	95%	0.40	0
LodgPa11	Lodging	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3.13	20	863	0.05	64	\$200.00	7%	15%	9%	0.46	0
LodgPa12	Lodging	Packaged DX	Early	2	Adding window shade film	No shade film	sq ft window area	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.03	0
LodgPa13	Lodging	Packaged DX	Early	3	Adding window shade screen	No shade screen	sq ft window area	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.20	0
LodgPa14	Lodging	Packaged DX	Early	4	Windows U<0.40, 55 SHGC	Existing window specifications	sq ft window area	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	0.93	0
LodgPa15	Lodging	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$3.91	20	863	0.05	58	\$225.00	7%	95%	95%	0.38	0
LodgPa17	Lodging	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$0.55	10	911	0.005	46	\$25.00	5%	100%	65%	0.88	0
LodgPa18	Lodging	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	863	0.05	12	\$95.00	1%	45%	80%	0.39	0
LodgPa19	Lodging	Packaged DX	Early	9	Hotel Keycard Sensors	No prior controls	room Control	\$0.29	10	774	0.041	342	\$100.00	4%	95%	80%	1.65	1
LodgPa10	Lodging	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	938	0.05	64	\$35.00	6%	100%	45%	0.20	0
LodgPa11	Lodging	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	863	0.015	125	\$55.00	14%	100%	45%	1.10	1
LodgPa13	Lodging	Packaged DX	Early	13	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.40	7	863	0.05	138	\$55.15	16%	95%	75%	1.01	1
LodgPaN1	Lodging	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	863	0.05	64	\$87.00	7%	100%	95%	1.06	1
LodgPaN2	Lodging	Packaged DX	New	2	Adding reflective roof treatment	Sld color roof	ton	\$4.50	20	863	0.05	10	\$45.00	1%	100%	95%	0.95	0
LodgPaN3	Lodging	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$2.17	20	863	0.05	58	\$125.00	7%	100%	95%	0.69	0
LodgPaN4	Lodging	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Sld Roof	ton	\$2.22	20	863	0.05	58	\$127.43	7%	45%	95%	0.68	0
LodgPaN5	Lodging	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	863	0.05	12	\$125.00	1%	100%	95%	0.36	0
LodgPaN6	Lodging	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.70	20	743	0.04	53	\$90.40	7%	100%	95%	0.88	0
LodgPaN7	Lodging	Packaged DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.82	20	743	0.08	99	\$180.81	13%	100%	95%	0.83	0
LodgPaN8	Lodging	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.95	20	743	0.12	139	\$271.21	19%	100%	95%	0.77	0
LodgPaN9	Lodging	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.96	20	863	0.05	58	\$55.00	7%	100%	95%	1.57	1
LodgPaN10	Lodging	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.96	20	863	0.06	73	\$70.00	8%	100%	95%	1.57	1
LodgPaN11	Lodging	Packaged DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.61	20	966	0.06	72	\$115.13	7%	100%	95%	0.94	0
LodgPaN12	Lodging	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$2.02	20	996	0.04	49	\$98.39	5%	100%	95%	0.75	0
LodgPaN13	Lodging	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.66	15	878	0.23	282	\$ 750.0	32%	20%	95%	0.45	0
LodgPaN14	Lodging	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$4.77	15	878	0.019	157	\$750.00	18%	100%	95%	0.16	0
LodgPaN15	Lodging	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$1.31	15	863	0.015	129	\$170.00	15%	75%	45%	0.60	0
LodgPaN16	Lodging	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$1.04	15	863	0.021	173	\$179.00	20%	100%	95%	0.76	0
LodgPaN17	Lodging	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.70	15	911	0.005	41	\$110.89	5%	100%	95%	0.29	0
LodgPaT1	Lodging	Packaged DX	Turnover	1	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	863	0.05	12	\$125.00	1%	100%	95%	0.39	0
LodgPaT2	Lodging	Packaged DX	Turnover	2	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.70	20	743	0.04	53	\$90.40	7%	100%	95%	0.88	0
LodgPaT3	Lodging	Packaged DX	Turnover	3	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.82	20	743	0.08	99	\$180.81	13%	100%	95%	0.83	0
LodgPaT4	Lodging	Packaged DX	Turnover	4	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.95	20	743	0.12	139	\$271.21	19%	100%	95%	0.77	0
LodgPaT5	Lodging	Packaged DX	Turnover	5	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.96	20	863	0.05	58	\$55.00	7%	100%	95%	1.57	1
LodgPaT6	Lodging	Packaged DX	Turnover	6	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.96	20	863	0.06	73	\$70.00	8%	100%	95%	1.57	1
LodgPaT7	Lodging	Packaged DX	Turnover	7	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.61	20	966	0.06	72	\$115.13	7%	100%	95%	0.94	0
LodgPaT8	Lodging	Packaged DX	Turnover	8	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$2.02	20	996	0.04	49	\$98.39	5%	100%	95%	0.75	0
LodgPaT9	Lodging	Packaged DX	Turnover	9	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.66	15	878	0.23	282	\$ 750.0	32%	5%	95%	0.45	0
LodgPaT10	Lodging	Packaged DX	Turnover	10	Ground Source HP Closed	Air Source Heat Pump	ton	\$4.77	15	878	0.019	157	\$750.00	18%	100%	95%	0.16	0
LodgPaT11	Lodging	Packaged DX	Turnover	11	Air-side Economizer	No Economizer	ton	\$1.31	15	863	0.015	129	\$170.00	15%	75%	45%	0.60	0
LodgPaT12	Lodging	Packaged DX	Turnover	12	Energy Recovery Units	No Energy Recovery	ton	\$1.04	15	863	0.021	173	\$179.00	20%	100%	95%	0.76	0
LodgPaT13	Lodging	Packaged DX	Turnover	13	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.70	15	911	0.005	41	\$110.89	5%	100%	95%	0.29	0
LodgPaN18	Lodging	Packaged DX	New	18	Automated control system	Baseline DX	ton	\$0.55	10	911	0.005	46	\$25.00	5%	100%	65%	0.88	0
LodgPaN19	Lodging	Packaged DX	New	19	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.02	10	774	0.005	42	\$43.00	5%	100%	95%	0.47	0
LodgPaN15	Lodging	Packaged DX	Turnover	15	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.02	10	774	0.005	42	\$43.00	5%	100%	95%	0.47	0
MiscPa12	Misc	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3.13	20	995	0.05	64	\$200.00	6%	15%	9%	0.46	0
MiscPa13	Misc	Packaged DX	Early	2	Adding window shade film	No shade film	sq ft window area	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.03	0
MiscPa14	Misc	Packaged DX	Early	3	Adding window shade screen	No shade screen	sq ft window area	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.20	0
MiscPa15	Misc	Packaged DX	Early	4	Windows U<0.40, 55 SHGC	Existing window specifications	sq ft window area	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	0.93	0
MiscPa16	Misc	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$3.99	20	995	0.05	66	\$225.00	7%	95%	95%	0.42	0
MiscPa17	Misc	Packaged DX	Early	6	Automated control system	Baseline DX	ton	\$0.48	10	1,051	0.006	53	\$25.00	5%	100%	65%	1.01	1
MiscPa18	Misc	Packaged DX	Early	7	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	995	0.05	12	\$95.00	1%	45%	80%	0.39	0
MiscPa19	Misc	Packaged DX	Early	9	Hotel Keycard Sensors	No prior controls	room Control	\$0.29	10	893	0.041	342	\$100.00	3%	95%	80%	1.65	1
MiscPa10	Misc	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	1,081	0.05	64	\$35.00	6%	100%	45%	0.20	0
MiscPa11	Misc	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	995	0.015	125	\$55.00	13%	100%	45%	1.10	1
MiscPa13	Misc	Packaged DX	Early	13	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.35	7	995	0.05	159	\$55.15	16%	95%	75%	1.12	1
MiscPaN1	Misc	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	995	0.05	64	\$87.00	6%	100%	95%	1.06	1
MiscPaN2	Misc	Packaged DX	New	2	Adding reflective roof treatment	Sld color roof	ton	\$4.50	20	995	0.05	10	\$45.00	1%	100%	95%	0.95	0
MiscPaN3	Misc	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$1.89	20	995	0.05	66	\$125.00	7%	100%	95%	0.76	0
MiscPaN4	Misc	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Sld Roof	ton	\$1.92	20									

Met-Ed Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kW Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (metric)	Change case kWh Savings (metric)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC	Cost	Economic Flag
OfficPa3	Office	Packaged DX	Early	3	Adding window shade screen	No shade screen	sq ft window area	\$3.90	15	2,154	0.000	0.38	\$1.50	25%	70%	95%	0.20	0	0
OfficPa4	Office	Packaged DX	Early	4	Windows U<0.40, 55 SHGC	Existing window specifications	sq ft window area	\$1.40	30	2	0.000	0.38	\$1.50	13%	50%	95%	0.93	0	0
OfficPa5	Office	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$3.48	20	970	0.005	65	\$225.00	7%	95%	80%	0.41	0	0
OfficPa7	Office	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$0.49	10	1,025	0.006	51	\$25.00	5%	100%	65%	0.99	0	0
OfficPa8	Office	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	970	0.005	12	\$95.00	1%	45%	80%	0.39	0	0
OfficPa9	Office	Packaged DX	Early	9	Hotel Keypad Sensors	No prior controls	room Control	\$0.29	10	870	0.041	342	\$100.00	37%	95%	80%	1.65	1	1
OfficPa10	Office	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	1,054	0.005	64	\$35.00	6%	100%	45%	0.20	0	0
OfficPa11	Office	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	970	0.015	125	\$55.00	13%	100%	45%	1.10	1	1
OfficPa13	Office	Packaged DX	Early	13	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.36	7	970	0.005	155	\$55.15	16%	95%	75%	1.10	1	1
OfficPaN1	Office	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	970	0.005	64	\$87.00	7%	100%	95%	1.06	1	1
OfficPaN2	Office	Packaged DX	New	2	Adding reflective roof treatment	Std color roof	ton	\$4.50	20	970	0.005	10	\$45.00	1%	100%	95%	0.95	0	0
OfficPaN3	Office	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$1.93	20	970	0.005	65	\$125.00	7%	100%	95%	0.75	0	0
OfficPaN4	Office	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Std Roof	ton	\$1.97	20	970	0.005	65	\$123.43	7%	45%	95%	0.73	0	0
OfficPaN5	Office	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	970	0.005	12	\$125.00	1%	100%	95%	0.36	0	0
OfficPaN6	Office	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.51	20	835	0.004	60	\$90.40	7%	100%	95%	0.95	0	0
OfficPaN7	Office	Packaged DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.62	20	835	0.008	111	\$180.81	13%	100%	95%	0.89	0	0
OfficPaN8	Office	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.73	20	835	0.012	157	\$271.21	19%	100%	95%	0.83	0	0
OfficPaN9	Office	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.85	20	970	0.005	65	\$55.00	7%	100%	95%	1.69	1	1
OfficPaN10	Office	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.85	20	987	0.006	82	\$70.00	8%	100%	95%	1.69	1	1
OfficPaN11	Office	Packaged DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.43	20	1,086	0.006	80	\$115.13	7%	100%	95%	1.01	1	1
OfficPaN12	Office	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$1.79	20	1,120	0.004	55	\$98.39	5%	100%	95%	0.80	0	0
OfficPaN13	Office	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.37	15	987	0.23	317	\$ 750.00	32%	20%	95%	0.49	0	0
OfficPaN14	Office	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$4.24	15	987	0.021	177	\$750.00	18%	100%	95%	0.18	0	0
OfficPaN15	Office	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$1.17	15	970	0.017	145	\$170.00	15%	75%	45%	0.67	0	0
OfficPaN16	Office	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$0.92	15	970	0.023	194	\$179.00	20%	100%	95%	0.85	0	0
OfficPaN17	Office	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.40	15	1,025	0.006	46	\$110.89	5%	100%	95%	0.33	0	0
OfficPaN18	Office	Packaged DX	Turnover	1	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	970	0.005	12	\$125.00	1%	100%	95%	0.30	0	0
OfficPaN19	Office	Packaged DX	Turnover	2	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.51	20	835	0.004	60	\$90.40	7%	100%	95%	0.95	0	0
OfficPaN20	Office	Packaged DX	Turnover	3	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.62	20	835	0.008	111	\$180.81	13%	100%	95%	0.89	0	0
OfficPaN21	Office	Packaged DX	Turnover	4	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.73	20	835	0.012	157	\$271.21	19%	100%	95%	0.83	0	0
OfficPaN22	Office	Packaged DX	Turnover	5	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.85	20	970	0.005	65	\$55.00	7%	100%	95%	1.69	1	1
OfficPaN23	Office	Packaged DX	Turnover	6	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.85	20	987	0.006	82	\$70.00	8%	100%	95%	1.69	1	1
OfficPaN24	Office	Packaged DX	Turnover	7	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.43	20	1,086	0.006	80	\$115.13	7%	100%	95%	1.01	1	1
OfficPaN25	Office	Packaged DX	Turnover	8	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$1.79	20	1,120	0.004	55	\$98.39	5%	100%	95%	0.80	0	0
OfficPaN26	Office	Packaged DX	Turnover	9	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.37	15	987	0.23	317	\$ 750.00	32%	5%	95%	0.49	0	0
OfficPaN27	Office	Packaged DX	Turnover	10	Ground Source HP Closed	Air Source Heat Pump	ton	\$4.24	15	987	0.021	177	\$750.00	18%	100%	95%	0.18	0	0
OfficPaN28	Office	Packaged DX	Turnover	11	Air-side Economizer	No Economizer	ton	\$1.17	15	970	0.017	145	\$170.00	15%	75%	45%	0.67	0	0
OfficPaN29	Office	Packaged DX	Turnover	12	Energy Recovery Units	No Energy Recovery	ton	\$0.92	15	970	0.023	194	\$179.00	20%	100%	95%	0.85	0	0
OfficPaN30	Office	Packaged DX	Turnover	13	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.40	15	1,025	0.006	46	\$110.89	5%	100%	95%	0.33	0	0
OfficPaN31	Office	Packaged DX	Turnover	14	Automated control system	Baseline DX	ton	\$0.49	10	1,025	0.006	51	\$25.00	5%	100%	65%	0.99	0	0
OfficPaN32	Office	Packaged DX	Turnover	15	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$0.91	10	870	0.006	47	\$43.00	5%	100%	95%	0.53	0	0
OfficPaN33	Office	Packaged DX	Turnover	15	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$0.91	10	870	0.006	47	\$43.00	5%	100%	95%	0.53	0	0
RestPa1	Restaurant	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3.13	20	1,038	0.005	64	\$200.00	6%	15%	9%	0.46	0	0
RestPa2	Restaurant	Packaged DX	Early	2	Adding window shade film	No shade film	sq ft window area	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.03	0	0
RestPa3	Restaurant	Packaged DX	Early	3	Adding window shade screen	No shade screen	sq ft window area	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.20	0	0
RestPa4	Restaurant	Packaged DX	Early	4	Windows U<0.40, 55 SHGC	Existing window specifications	sq ft window area	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	0.93	0	0
RestPa5	Restaurant	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$3.25	20	1,038	0.005	69	\$225.00	7%	95%	95%	0.43	0	0
RestPa7	Restaurant	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$0.46	10	1,097	0.007	55	\$25.00	5%	100%	65%	1.06	1	1
RestPa8	Restaurant	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	1,038	0.005	12	\$95.00	1%	45%	80%	0.39	0	0
RestPa9	Restaurant	Packaged DX	Early	9	Hotel Keypad Sensors	No prior controls	room Control	\$0.29	10	932	0.041	342	\$100.00	37%	95%	80%	1.65	1	1
RestPa10	Restaurant	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	1,129	0.005	64	\$35.00	6%	100%	45%	0.20	0	0
RestPa11	Restaurant	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	1,038	0.015	125	\$55.00	12%	100%	45%	1.10	1	1
RestPa12	Restaurant	Packaged DX	Early	13	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.33	7	1,038	0.005	166	\$55.15	16%	95%	75%	1.15	1	1
RestPaN1	Restaurant	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	1,038	0.005	64	\$87.00	6%	100%	95%	1.06	1	1
RestPaN2	Restaurant	Packaged DX	New	2	Adding reflective roof treatment	Std color roof	ton	\$4.50	20	1,038	0.005	10	\$45.00	1%	100%	95%	0.95	0	0
RestPaN3	Restaurant	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$1.81	20	1,038	0.005	69	\$125.00	7%	100%	95%	0.78	0	0
RestPaN4	Restaurant	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Std Roof	ton	\$1.84	20	1,038	0.005	69	\$127.43	7%	45%	95%	0.76	0	0
RestPaN5	Restaurant	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	1,038	0.005	12	\$125.00	1%	100%	95%	0.36	0	0
RestPaN6	Restaurant	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.41	20	894	0.004	64	\$90.40	7%	100%	95%	0.99	0	0
RestPaN7	Restaurant	Packaged DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.52	20	894	0.008	119	\$180.81	13%	100%	95%	0.93	0	0
RestPaN8	Restaurant	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.62	20	894	0.012	168	\$271.21	19%	100%	95%	0.87	0	0
RestPaN9	Restaurant	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.79	20	1,038	0.005	69	\$55.00	7%	100%	95%	1.77	1	1
RestPaN10	Restaurant	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.79	20	1,057	0.006	88	\$70.						

Met-Ed Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kW Saved)	Measure Life	Baseline kWh	Summer Peak KW	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
RetaiPaN1	Retail	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	1,018	0.05	64	\$87.00	6%	100%	95%	1.06	1
RetaiPaN2	Retail	Packaged DX	New	2	Adding reflective roof treatment	Sid color roof	ton	\$4.50	20	1,018	0.05	10	\$45.00	1%	100%	95%	0.95	0
RetaiPaN3	Retail	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$1.84	20	1,018	0.05	68	\$125.00	7%	100%	95%	0.77	0
RetaiPaN4	Retail	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Sid Roof	ton	\$1.88	20	1,018	0.05	68	\$127.43	7%	45%	95%	0.75	0
RetaiPaN5	Retail	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	1,018	0.05	12	\$125.00	1%	100%	95%	0.36	0
RetaiPaN6	Retail	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.44	20	877	0.04	63	\$90.40	7%	100%	95%	0.98	0
RetaiPaN7	Retail	Packaged DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.55	20	877	0.08	117	\$180.81	13%	100%	95%	0.92	0
RetaiPaN8	Retail	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.65	20	877	0.12	164	\$271.21	19%	100%	95%	0.86	0
RetaiPaN9	Retail	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.81	20	1,018	0.05	68	\$55.00	7%	100%	95%	1.75	1
RetaiPaN10	Retail	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.81	20	1,036	0.06	86	\$70.00	8%	100%	95%	1.75	1
RetaiPaN11	Retail	Packaged DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.36	20	1,140	0.06	84	\$115.13	7%	100%	95%	1.04	1
RetaiPaN12	Retail	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$1.71	20	1,175	0.04	58	\$98.39	5%	100%	95%	0.83	0
RetaiPaN13	Retail	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.25	15	1,036	0.23	333	\$ 750.00	32%	20%	95%	0.50	0
RetaiPaN14	Retail	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$4.04	15	1,036	0.22	186	\$750.00	18%	100%	95%	0.19	0
RetaiPaN15	Retail	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$1.11	15	1,018	0.018	153	\$170.00	15%	75%	45%	0.70	0
RetaiPaN16	Retail	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$0.88	15	1,018	0.024	204	\$179.00	20%	100%	95%	0.89	0
RetaiPaN17	Retail	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.29	15	1,075	0.06	48	\$110.89	5%	100%	95%	0.34	0
RetaiPaT1	Retail	Packaged DX	Turnover	1	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	1,018	0.05	12	\$125.00	1%	100%	95%	0.30	0
RetaiPaT2	Retail	Packaged DX	Turnover	2	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.44	20	877	0.04	63	\$90.40	7%	100%	95%	0.98	0
RetaiPaT3	Retail	Packaged DX	Turnover	3	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.55	20	877	0.08	117	\$180.81	13%	100%	95%	0.92	0
RetaiPaT4	Retail	Packaged DX	Turnover	4	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.65	20	877	0.12	164	\$271.21	19%	100%	95%	0.86	0
RetaiPaT5	Retail	Packaged DX	Turnover	5	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.81	20	1,018	0.05	68	\$55.00	7%	100%	95%	1.75	1
RetaiPaT6	Retail	Packaged DX	Turnover	6	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.81	20	1,036	0.06	86	\$70.00	8%	100%	95%	1.75	1
RetaiPaT7	Retail	Packaged DX	Turnover	7	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.36	20	1,140	0.06	84	\$115.13	7%	100%	95%	1.04	1
RetaiPaT8	Retail	Packaged DX	Turnover	8	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$1.71	20	1,175	0.04	58	\$98.39	5%	100%	95%	0.83	0
RetaiPaT9	Retail	Packaged DX	Turnover	9	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.25	15	1,036	0.23	333	\$ 750.00	32%	5%	95%	0.50	0
RetaiPaT10	Retail	Packaged DX	Turnover	10	Ground Source HP Closed	Air Source Heat Pump	ton	\$4.04	15	1,036	0.22	186	\$750.00	18%	100%	95%	0.19	0
RetaiPaT11	Retail	Packaged DX	Turnover	11	Air-side Economizer	No Economizer	ton	\$1.11	15	1,018	0.018	153	\$170.00	15%	75%	45%	0.70	0
RetaiPaT12	Retail	Packaged DX	Turnover	12	Energy Recovery Units	No Energy Recovery	ton	\$0.88	15	1,018	0.024	204	\$179.00	20%	100%	95%	0.89	0
RetaiPaT13	Retail	Packaged DX	Turnover	13	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.29	15	1,075	0.06	48	\$110.89	5%	100%	95%	0.34	0
RetaiPaN18	Retail	Packaged DX	New	18	Automated control system	Baseline DX	ton	\$0.46	10	1,075	0.006	54	\$25.00	5%	100%	65%	1.04	1
RetaiPaN19	Retail	Packaged DX	New	19	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$0.86	10	913	0.006	50	\$43.00	5%	100%	95%	0.56	0
RetaiPaT15	Retail	Packaged DX	Turnover	15	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$0.86	10	913	0.006	50	\$43.00	5%	100%	95%	0.56	0
WarehPaE1	Warehouse	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3.13	20	788	0.05	64	\$200.00	8%	15%	9%	0.46	0
WarehPaE2	Warehouse	Packaged DX	Early	2	Adding window shade film	No shade film	sq ft window area	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.03	0
WarehPaE3	Warehouse	Packaged DX	Early	3	Adding window shade screen	No shade screen	sq ft window area	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.20	0
WarehPaE4	Warehouse	Packaged DX	Early	4	Windows U<0.40, 55 SHGC	Existing window specifications	sq ft window area	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	0.93	0
WarehPaE5	Warehouse	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$4.29	20	788	0.05	53	\$225.00	7%	95%	95%	0.36	0
WarehPaE7	Warehouse	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$0.60	10	832	0.005	42	\$25.00	5%	100%	65%	0.80	0
WarehPaE8	Warehouse	Packaged DX	Early	8	Duct Sealing, down to 1.5%	Leakage of 1 to 2%	ton	\$7.02	15	788	0.05	12	\$35.00	7%	45%	95%	0.30	0
WarehPaE9	Warehouse	Packaged DX	Early	9	Hotel Keycard Sensors	No prior controls	room controls	\$0.29	10	707	0.041	342	\$100.00	48%	95%	80%	1.65	1
WarehPaE10	Warehouse	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	856	0.05	64	\$35.00	7%	100%	45%	0.20	0
WarehPaE11	Warehouse	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	788	0.015	125	\$55.00	16%	100%	45%	1.10	1
WarehPaE13	Warehouse	Packaged DX	Early	13	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.44	7	788	0.05	126	\$55.15	16%	95%	75%	0.95	0
WarehPaN1	Warehouse	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	788	0.05	64	\$87.00	8%	100%	95%	1.06	1
WarehPaN2	Warehouse	Packaged DX	New	2	Adding reflective roof treatment	Sid color roof	ton	\$4.50	20	788	0.05	10	\$45.00	1%	100%	95%	0.95	0
WarehPaN3	Warehouse	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$2.38	20	788	0.05	53	\$125.00	7%	100%	95%	0.66	0
WarehPaN4	Warehouse	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Sid Roof	ton	\$2.43	20	788	0.05	53	\$127.43	7%	45%	95%	0.64	0
WarehPaN5	Warehouse	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	788	0.05	12	\$125.00	2%	100%	95%	0.36	0
WarehPaN6	Warehouse	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.87	20	678	0.04	48	\$90.40	7%	100%	95%	0.84	0
WarehPaN7	Warehouse	Packaged DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.00	20	678	0.08	90	\$180.81	13%	100%	95%	0.78	0
WarehPaN8	Warehouse	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.13	20	678	0.12	127	\$271.21	19%	100%	95%	0.73	0
WarehPaN9	Warehouse	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.05	20	802	0.06	67	\$70.00	8%	100%	95%	1.49	1
WarehPaN10	Warehouse	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.05	20	802	0.06	67	\$70.00	8%	100%	95%	1.49	1
WarehPaN11	Warehouse	Packaged DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.76	20	882	0.06	65	\$115.13	7%	100%	95%	0.89	0
WarehPaN12	Warehouse	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$2.21	20	909	0.04	45	\$98.39	5%	100%	95%	0.71	0
WarehPaN13	Warehouse	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.91	15	802	0.23	257	\$ 750.00	32%	20%	95%	0.43	0
WarehPaN14	Warehouse	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$5.22	15	802	0.017	144	\$750.00	18%	100%	95%	0.15	0
WarehPaN15	Warehouse	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$1.44	15	788	0.014	118	\$170.00	15%	75%	45%	0.54	0
WarehPaN16	Warehouse	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$1.14	15	788	0.019	158	\$179.00	20%	100%	95%	0.69	0
WarehPaN17	Warehouse	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.96	15	832	0.004	37	\$110.89	5%	100%	95%	0.26	0
WarehPaT1	Warehouse	Packaged DX	Turnover	1	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	788	0.05	12	\$125.00	2%	100%	95%	0.30	0
WarehPaT2	Warehouse	Packaged DX	Turnover	2	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.87	20	678	0.04	48	\$90.40	7%	100%	95%	0.84	0
WarehPaT3	Warehouse	Packaged DX	Turnover	3	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.00	20	678	0.08	90	\$180.81	13%	100%	95%	0.78	0
WarehPaT4	Warehouse	Packaged DX	Turnover	4	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.13	20	678	0.12	127						

Met-Ed Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kW Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
InstHc1	Institutional	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$2.00	15	913	0.001	55	\$110.89	6%	100%	95%	0.36	0
InstHc1	Institutional	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$2.00	15	913	0.001	55	\$110.89	6%	100%	95%	0.36	0
LodgHc1	Lodging	Heating	Early	1	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0.2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.05	1
LodgHc2	Lodging	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$4.44	20	1,553	0.05	45	\$200.00	3%	10%	95%	0.38	0
LodgHc3	Lodging	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.67	20	1,553	0.05	75	\$125.00	5%	10%	95%	0.82	0
LodgHc4	Lodging	Heating	Early	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$3.75	20	1,553	0.05	34	\$127.43	2%	10%	95%	0.51	0
LodgHc5	Lodging	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0.1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	2.30	1
LodgHcN1	Lodging	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	1,553	0.05	45	\$87.00	3%	10%	95%	0.86	0
LodgHcN2	Lodging	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$7.97	15	1,553	0.23	94	\$ 750.0	6%	20%	95%	0.28	0
LodgHcN3	Lodging	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$7.97	15	1,553	0.001	94	\$750.00	6%	100%	95%	0.09	0
LodgHcN4	Lodging	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.18	15	1,553	0.001	94	\$110.89	6%	100%	95%	0.61	0
LodgHcT1	Lodging	Heating	Turnover	1	Air Source Heat Pump (10.6 EER, 3.2 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.18	15	1,553	0.001	94	\$110.89	6%	100%	95%	0.61	0
MiscHc1	Misc	Heating	Early	1	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0.2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.05	1
MiscHc2	Misc	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$4.44	20	1,062	0.05	75	\$125.00	7%	10%	95%	0.82	0
MiscHc3	Misc	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.67	20	1,062	0.05	75	\$125.00	7%	10%	95%	0.82	0
MiscHc4	Misc	Heating	Early	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$3.75	20	1,062	0.05	34	\$127.43	3%	10%	95%	0.51	0
MiscHc5	Misc	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0.1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	2.30	1
MiscHcN1	Misc	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	1,062	0.05	45	\$87.00	4%	10%	95%	0.86	0
MiscHcN2	Misc	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$11.65	15	1,062	0.23	64	\$ 750.0	6%	20%	95%	0.25	0
MiscHcN3	Misc	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$11.65	15	1,062	0.001	64	\$750.00	6%	100%	95%	0.06	0
MiscHcN4	Misc	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.72	15	1,062	0.001	64	\$110.89	6%	100%	95%	0.42	0
MiscHcT1	Misc	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.72	15	1,062	0.001	64	\$110.89	6%	100%	95%	0.42	0
OfficHc1	Office	Heating	Early	1	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0.2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.05	1
OfficHc2	Office	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$4.44	20	819	0.05	45	\$200.00	5%	10%	95%	0.38	0
OfficHc3	Office	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.67	20	819	0.05	75	\$125.00	5%	10%	95%	0.82	0
OfficHc4	Office	Heating	Early	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$3.75	20	819	0.05	34	\$127.43	4%	10%	95%	0.51	0
OfficHc5	Office	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0.1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	2.30	1
OfficHcN1	Office	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	819	0.05	45	\$87.00	7%	10%	95%	0.86	0
OfficHcN2	Office	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$15.11	15	819	0.23	50	\$ 750.0	6%	20%	95%	0.23	0
OfficHcN3	Office	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$15.11	15	819	0.001	50	\$750.00	6%	100%	95%	0.05	0
OfficHcN4	Office	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$2.23	15	819	0.001	50	\$110.89	6%	100%	95%	0.32	0
OfficHcT1	Office	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$2.23	15	819	0.001	50	\$110.89	6%	100%	95%	0.32	0
RestaHc1	Restaurant	Heating	Early	1	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0.2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.05	1
RestaHc2	Restaurant	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$4.44	20	1,248	0.05	45	\$200.00	4%	10%	95%	0.38	0
RestaHc3	Restaurant	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.67	20	1,248	0.05	75	\$125.00	6%	10%	95%	0.82	0
RestaHc4	Restaurant	Heating	Early	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$3.75	20	1,248	0.05	34	\$127.43	3%	10%	95%	0.51	0
RestaHc5	Restaurant	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0.1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	2.30	1
RestaHcN1	Restaurant	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	1,248	0.05	45	\$87.00	4%	10%	95%	0.86	0
RestaHcN2	Restaurant	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$9.92	15	1,248	0.23	64	\$ 750.0	6%	20%	95%	0.26	0
RestaHcN3	Restaurant	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$9.92	15	1,248	0.001	76	\$750.00	6%	100%	95%	0.07	0
RestaHcN4	Restaurant	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.47	15	1,248	0.001	76	\$110.89	6%	100%	95%	0.49	0
RestaHcT1	Restaurant	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.47	15	1,248	0.001	76	\$110.89	6%	100%	95%	0.49	0
RetailHc1	Retail	Heating	Early	1	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0.2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.05	1
RetailHc2	Retail	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$4.44	20	1,282	0.05	45	\$200.00	4%	10%	95%	0.38	0
RetailHc3	Retail	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.67	20	1,282	0.05	75	\$125.00	4%	10%	95%	0.82	0
RetailHc4	Retail	Heating	Early	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$3.75	20	1,282	0.05	34	\$127.43	3%	10%	95%	0.51	0
RetailHc5	Retail	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0.1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	2.30	1
RetailHcN1	Retail	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	1,282	0.05	45	\$87.00	4%	10%	95%	0.86	0
RetailHcN2	Retail	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$9.65	15	1,282	0.23	78	\$ 750.0	6%	20%	95%	0.26	0
RetailHcN3	Retail	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$9.65	15	1,282	0.001	78	\$750.00	6%	100%	95%	0.07	0
RetailHcN4	Retail	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.43	15	1,282	0.001	78	\$110.89	6%	100%	95%	0.51	0
RetailHcT1	Retail	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.43	15	1,282	0.001	78	\$110.89	6%	100%	95%	0.51	0
WarehHc1	Warehouse	Heating	Early	1	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0.2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.05	1
WarehHc2	Warehouse	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$4.44	20	1,102	0.05	45	\$200.00	4%	10%	95%	0.38	0
WarehHc3	Warehouse	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.67	20	1,102	0.05	75	\$125.00	7%	10%	95%	0.82	0
WarehHc4	Warehouse	Heating	Early	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$3.75	20	1,102	0.05	34	\$127.43	3%	10%	95%	0.51	0
WarehHc5	Warehouse	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0.1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	2.30	1
WarehHcN1	Warehouse	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	1,102	0.05	45	\$87.00	4%	10%	95%	0.86	0
WarehHcN2	Warehouse	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$11.23	15	1,102	0.23	67	\$ 750.0	6%	20%	95%	0.25	0
WarehHcN3	Warehouse	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$11.23	15	1,102	0.001	67	\$750.00	6%	100%	95%	0.06	0
WarehHcN4	Warehouse	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.66	15	1,102	0.001	67	\$110.89	6%	100%	95%	0.44	0
WarehHcT1	Warehouse	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.66	15	1,102	0.001	67	\$110.89	6%	100%	95%	0.44	0
GroceCh1	Grocery	Chiller	Early	1	Duct Sealing, down to 15%	Leakage of 29%	ton	\$1,4368	15	6,612	0.13	66,1200	\$95.00	1%	40%	\$0.90	0.57	0
GroceCh2	Grocery	Chiller	Early	2	Duct Insulation, Add R8	No Insulation	ton	\$1,8905	15	6,612	0.13	66,1200	\$125.00	1%	50%	95%	0.44	0
GroceCh3	Grocery	Chiller	Early	3	EIMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0.3781	15	6,612	0.065	330,6000	\$125.00	5%	75%	75%		

Met-Ed Commercial Measures

Measure	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC	Summer Economic Flag
InstitGn2	Institutional	Chiller	New	2	Adding window shade screen	No shade screen	sq ft window area	\$3,900.1	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.21	0
InstitGn3	Institutional	Chiller	New	3	Adding reflective roof treatment	Std color roof	sq ft roof area	\$4.50	20	4,691.0	0.05	10	\$45.00	0%	100%	95%	0.95	0
InstitGn4	Institutional	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$2.65	20	4,691.0	0.05	48	\$127.43	1%	45%	95%	0.61	0
InstitGn5	Institutional	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.4504	15	4,691.0	0.76	566	\$255.00	12%	95%	95%	3.33	1
InstitGn6	Institutional	Chiller	New	6	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.2490	15	4,691.0	1.944	1,456	\$362.50	31%	95%	95%	6.03	1
InstitGn7	Institutional	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/ton	ton	\$0.1290	15	11,242	1.728	1,294	\$167.00	12%	95%	95%	11.63	1
InstitGn8	Institutional	Chiller	New	8	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.4903	15	4,691.0	0.046	234,5520	\$115.00	5%	95%	75%	1.68	1
InstitGn9	Institutional	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.2665	15	4,691.0	1.185	938.2	\$250.00	20%	95%	75%	3.09	1
InstitGn10	Institutional	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$2,664.7	15	4,691.0	0.009	46,910.4	\$125.00	1%	100%	95%	0.31	0
InstitGn11	Institutional	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.5211	15	4,691.0	0.76	566	\$295.00	12%	95%	95%	2.88	1
InstitGn12	Institutional	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.3177	15	4,691.0	1.944	1,456	\$462.50	31%	95%	95%	4.73	1
InstitGn13	Institutional	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW/ton	ton	\$0.5067	15	4,691.0	1.944	821	\$416.00	18%	95%	95%	4.18	1
InstitGn11	Institutional	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW/ton	ton	\$0.5067	15	4,691.0	1.944	821	\$416.00	18%	95%	95%	4.18	1
InstitGn15	Institutional	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.5415	15	4,691.0	0.046	234,5520	\$127.00	5%	95%	75%	1.52	1
InstitGn14	Institutional	Chiller	Turnover	4	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/ton	ton	\$0.1600	15	11,242	1.728	1,294	\$207.00	12%	95%	95%	9.38	1
LodgCh1	Lodging	Chiller	Early	1	Duct Sealing, down to 15%	Leakage of 29%	ton	\$1,095.6	15	5,603.0	0.011	56,0280	\$95.00	1%	40%	\$0.90	0.49	0
LodgCh2	Lodging	Chiller	Early	2	Duct Insulation, Add R8	No Insulation	ton	\$2,231.0	15	5,603.0	0.011	56,0280	\$125.00	1%	50%	95%	0.37	0
LodgCh3	Lodging	Chiller	Early	3	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0.4462	15	5,603.0	0.055	280,1400	\$125.00	5%	75%	75%	1.84	1
LodgCh4	Lodging	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0.4016	15	5,603.0	0.221	1,120.6	\$450.00	20%	75%	75%	2.05	1
LodgCh5	Lodging	Chiller	Early	5	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.4068	7	5,603.0	0.177	896	\$364.67	16%	75%	75%	0.85	0
LodgCh6	Lodging	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	5,603.0	0.05	245	\$200.00	4%	15%	95%	1.01	1
LodgCh7	Lodging	Chiller	Early	7	Adding window shade film	No shade film	sq ft window area	\$7,045.3	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.04	0
LodgCh8	Lodging	Chiller	Early	8	Adding window shade screen	No shade screen	sq ft window area	\$3,900.1	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.21	0
LodgCh9	Lodging	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.34	20	5,603.0	0.05	168	\$225.00	3%	75%	95%	0.83	0
LodgChN1	Lodging	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.44	20	5,603.0	0.05	196	\$87.00	4%	15%	95%	2.45	1
LodgChN2	Lodging	Chiller	New	2	Adding window shade screen	No shade screen	sq ft window area	\$3,900.1	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.21	0
LodgChN3	Lodging	Chiller	New	3	Adding reflective roof treatment	Std color roof	sq ft roof area	\$4.50	20	5,603.0	0.05	10	\$45.00	0%	100%	95%	0.95	0
LodgChN4	Lodging	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$2.65	20	5,603.0	0.05	58	\$127.43	1%	45%	95%	0.68	0
LodgChN5	Lodging	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.3771	15	5,603.0	0.76	676	\$255.00	12%	95%	95%	3.64	1
LodgChN6	Lodging	Chiller	New	6	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.2085	15	5,603.0	1.944	1,739	\$362.50	31%	95%	95%	6.58	1
LodgChN7	Lodging	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/ton	ton	\$0.1080	15	13,427	1.728	1,546	\$167.00	12%	95%	95%	12.01	1
LodgChN8	Lodging	Chiller	New	8	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.4105	15	5,603.0	0.055	280,1400	\$115.00	5%	95%	75%	2.70	1
LodgChN9	Lodging	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.2231	15	5,603.0	0.221	1,120.6	\$250.00	20%	95%	75%	3.69	1
LodgChN10	Lodging	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$2,231.0	15	5,603.0	0.011	56,0280	\$125.00	1%	100%	95%	0.37	0
LodgChT1	Lodging	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.4363	15	5,603.0	0.76	676	\$295.00	12%	95%	95%	3.14	1
LodgChT2	Lodging	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.2660	15	5,603.0	1.944	1,739	\$462.50	31%	95%	95%	5.16	1
LodgChT3	Lodging	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW/ton	ton	\$0.4243	15	5,603.0	1.944	980	\$416.00	18%	95%	95%	4.45	1
LodgChN11	Lodging	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW/ton	ton	\$0.4243	15	5,603.0	1.944	980	\$416.00	18%	95%	95%	4.45	1
MiscCh15	Lodging	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.4533	15	5,603.0	0.055	280,1400	\$127.00	5%	95%	75%	1.82	1
MiscCh14	Misc	Chiller	Early	4	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/ton	ton	\$0.1329	15	13,427	1.728	1,546	\$207.00	12%	95%	95%	10.24	1
MiscCh1	Misc	Chiller	Early	1	Duct Sealing, down to 15%	Leakage of 29%	ton	\$1,461.6	15	6,500.0	0.013	64,997.7	\$95.00	1%	40%	\$0.90	0.56	0
MiscCh2	Misc	Chiller	Early	2	Duct Insulation, Add R8	No Insulation	ton	\$1,923.1	15	6,500.0	0.013	64,997.7	\$125.00	1%	50%	95%	0.43	0
MiscCh3	Misc	Chiller	Early	3	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0.3846	15	6,500.0	0.064	324,9885	\$125.00	5%	75%	75%	2.14	1
MiscCh4	Misc	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0.3462	15	6,500.0	0.257	1,300.0	\$450.00	20%	75%	75%	2.38	1
MiscCh5	Misc	Chiller	Early	5	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.3507	7	6,500.0	0.205	1,040	\$364.67	16%	75%	75%	0.99	0
MiscCh6	Misc	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	6,500.0	0.05	245	\$200.00	4%	15%	95%	1.01	1
MiscCh7	Misc	Chiller	Early	7	Adding window shade film	No shade film	sq ft window area	\$7,045.3	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.04	0
MiscCh8	Misc	Chiller	Early	8	Adding window shade screen	No shade screen	sq ft window area	\$3,900.1	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.21	0
MiscCh9	Misc	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.15	20	6,500.0	0.05	195	\$225.00	3%	75%	95%	0.94	0
MiscChN1	Misc	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.38	20	6,500.0	0.05	227	\$87.00	4%	15%	95%	2.78	1
MiscChN2	Misc	Chiller	New	2	Adding window shade screen	No shade screen	sq ft window area	\$3,900.1	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.21	0
MiscChN3	Misc	Chiller	New	3	Adding reflective roof treatment	Std color roof	sq ft roof area	\$4.50	20	6,500.0	0.05	10	\$45.00	0%	100%	95%	0.95	0
MiscChN4	Misc	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$2.65	20	6,500.0	0.05	46	\$127.43	1%	45%	95%	0.74	1
MiscChN5	Misc	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.3251	15	6,500.0	0.76	784	\$255.00	12%	95%	95%	3.94	1
MiscChN6	Misc	Chiller	New	6	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.1797	15	6,500.0	1.944	2,017	\$362.50	31%	95%	95%	7.12	1
MiscChN7	Misc	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/ton	ton	\$0.0931	15	15,577	1.728	1,793	\$167.00	12%	95%	95%	13.14	1
MiscChN8	Misc	Chiller	New	8	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.3539	15	6,500.0	0.064	324,9885	\$115.00	5%	95%	75%	2.33	1
MiscChN9	Misc	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.1923	15	6,500.0	0.257	1,300.0	\$250.00	20%	95%	75%	4.28	1
MiscChN10	Misc	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$1,923.1	15	6,500.0	0.013	64,997.7	\$125.00	1%	100%	95%	0.43	0
MiscChT1	Misc	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.3761	15	6,500.0	0.76	784	\$295.00	12%	95%	95%	3.40	1
MiscChT2	Misc	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.2293	15	6,500.0	1.944	2,017	\$462.50	31%	95%	95%	5.58	1
MiscChT3	Misc	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW/ton	ton	\$0.3657	15	6,500.0	1.944	1,137	\$416.00	18%	95%	95%	4.71	1
MiscChN11	Misc	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW/ton	ton	\$0.3657	15	6,500.0	1.944	1,137	\$416.00	18%	95%	95%	4.71	1
MiscCh15	Misc	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.3908	15	6,500.0	0.064	324,9885	\$127.00	5%	95%	75%	2.11	1
MiscCh14	Misc	Chiller	Turnover	4														

Met-Ed Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kW Saved)	Measure Life	Baseline kWh	Summer Peak kW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
RestaCh8	Restaurant	Chiller	Early	8	Adding window shade screen	No shade screen	sq ft window area	\$3,901	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.21	0
RestaCh9	Restaurant	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.11	20	6,744	0.05	202	\$225.00	3%	75%	95%	0.97	0
RestaCh1	Restaurant	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.37	20	6,744	0.05	236	\$87.00	4%	15%	95%	2.87	1
RestaCh2	Restaurant	Chiller	New	2	Adding window shade screen	No shade screen	sq ft window area	\$3,901	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.21	0
RestaCh3	Restaurant	Chiller	New	3	Adding reflective roof treatment	Std color roof	sq ft roof area	\$4.50	20	6,744	0.05	10	\$45.00	0%	100%	95%	0.95	0
RestaCh4	Restaurant	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$1.84	20	6,744	0.05	69	\$127.43	1%	45%	95%	0.76	0
RestaCh5	Restaurant	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.3133	15	6,744	0.76	814	\$255.00	12%	95%	95%	4.02	1
RestaCh6	Restaurant	Chiller	New	6	VFD Centrifugal Chiller, 4 kW/Ton	Std Chiller, 0.58 kW/Ton	ton	\$0.1732	15	6,744	1.944	2,093	\$362.50	31%	95%	95%	7.27	1
RestaCh7	Restaurant	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.0898	15	16,163	1.728	1,860	\$167.00	12%	95%	95%	14.03	1
RestaCh8	Restaurant	Chiller	New	8	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.3410	15	6,744	0.067	337,2120	\$115.00	5%	95%	75%	2.41	1
RestaCh9	Restaurant	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.1853	15	6,744	0.266	1,348.8	\$250.00	20%	95%	75%	4.44	1
RestaCh10	Restaurant	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$1.8534	15	6,744	0.013	67,4424	\$125.00	1%	100%	95%	0.44	0
RestaCh11	Restaurant	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.3624	15	6,744	0.76	814	\$295.00	12%	95%	95%	3.47	1
RestaCh12	Restaurant	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.2210	15	6,744	1.944	2,093	\$462.50	31%	95%	95%	5.70	1
RestaCh13	Restaurant	Chiller	Turnover	3	Water-side Economizer	Water-side Economizer	ton	\$0.3525	15	6,744	1.944	1,180	\$416.00	18%	95%	95%	4.79	1
RestaChN11	Restaurant	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.3525	15	6,744	1.944	1,180	\$416.00	18%	95%	95%	4.79	1
RestaCh15	Restaurant	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.3766	15	6,744	0.067	337,2120	\$127.00	5%	95%	75%	2.19	1
RestaCh14	Restaurant	Chiller	Turnover	4	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.1113	15	16,163	1.728	1,860	\$207.00	12%	95%	95%	11.32	1
RestaCh1	Retail	Chiller	Early	1	Duct Sealing, down to 15%	Leakage of 29%	ton	\$1.4368	15	6,612	0.013	66,1200	\$95.00	1%	40%	\$0.90	0.57	0
RestaCh2	Retail	Chiller	Early	2	Duct Insulation, Add R8	No Insulation	ton	\$1.8905	15	6,612	0.013	66,1200	\$125.00	1%	50%	95%	0.44	0
RestaCh3	Retail	Chiller	Early	3	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0.3781	15	6,612	0.065	330,6000	\$125.00	5%	75%	75%	2.18	1
RestaCh4	Retail	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0.3403	15	6,612	0.261	1,322.4	\$450.00	20%	75%	75%	2.42	1
RestaCh5	Retail	Chiller	Early	5	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.3447	7	6,612	0.209	1,058	\$364.67	16%	75%	75%	1.01	1
RestaCh6	Retail	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	6,612	0.05	245	\$200.00	4%	15%	95%	1.01	1
RestaCh7	Retail	Chiller	Early	7	Adding window shade film	No shade film	sq ft window area	\$7,0453	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.04	0
RestaCh8	Retail	Chiller	Early	8	Adding window shade screen	No shade screen	sq ft window area	\$3,901	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.21	0
RestaCh9	Retail	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.13	20	6,612	0.05	198	\$225.00	3%	75%	95%	0.96	0
RestaCh1	Retail	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.38	20	6,612	0.05	231	\$87.00	4%	15%	95%	2.82	1
RestaCh2	Retail	Chiller	New	2	Adding window shade screen	No shade screen	sq ft window area	\$3,901	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.21	0
RestaCh3	Retail	Chiller	New	3	Adding reflective roof treatment	Std color roof	sq ft roof area	\$4.50	20	6,612	0.05	10	\$45.00	0%	100%	95%	0.95	0
RestaCh4	Retail	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$1.88	20	6,612	0.05	68	\$127.43	1%	45%	95%	0.75	0
RestaCh5	Retail	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.3195	15	6,612	0.76	798	\$255.00	12%	95%	95%	3.97	1
RestaCh6	Retail	Chiller	New	6	VFD Centrifugal Chiller, 4 kW/Ton	Std Chiller, 0.58 kW/Ton	ton	\$0.1767	15	6,612	1.944	2,052	\$362.50	31%	95%	95%	7.19	1
RestaCh7	Retail	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.0916	15	15,846	1.728	1,824	\$167.00	12%	95%	95%	13.87	1
RestaCh8	Retail	Chiller	New	8	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.3479	15	6,612	0.065	330,6000	\$115.00	5%	95%	75%	2.37	1
RestaCh9	Retail	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.1891	15	6,612	0.261	1,322.4	\$250.00	20%	95%	75%	4.35	1
RestaCh10	Retail	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$1.8905	15	6,612	0.013	66,1200	\$125.00	1%	100%	95%	0.44	0
RestaChN11	Retail	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.3697	15	6,612	0.76	798	\$295.00	12%	95%	95%	3.44	1
RestaCh12	Retail	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.2254	15	6,612	1.944	2,052	\$462.50	31%	95%	95%	5.63	1
RestaCh13	Retail	Chiller	Turnover	3	Water-side Economizer	Water-side Economizer	ton	\$0.3595	15	6,612	1.944	1,157	\$416.00	18%	95%	95%	4.75	1
RestaChN11	Retail	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.3595	15	6,612	1.944	1,157	\$416.00	18%	95%	95%	4.75	1
RestaCh15	Retail	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.3842	15	6,612	0.065	330,6000	\$127.00	5%	95%	75%	2.14	1
RestaCh14	Retail	Chiller	Turnover	4	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.1135	15	15,846	1.728	1,824	\$207.00	12%	95%	95%	11.19	1
WarehCh1	Warehouse	Chiller	Early	1	Duct Sealing, down to 15%	Leakage of 29%	ton	\$1.8571	15	5,116	0.010	51,1560	\$95.00	1%	40%	\$0.90	0.44	0
WarehCh2	Warehouse	Chiller	Early	2	Duct Insulation, Add R8	No Insulation	ton	\$2.4435	15	5,116	0.010	51,1560	\$125.00	1%	50%	95%	0.34	0
WarehCh3	Warehouse	Chiller	Early	3	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0.4887	15	5,116	0.050	255,7800	\$125.00	5%	75%	75%	1.68	1
WarehCh4	Warehouse	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0.4398	15	5,116	0.202	1,023.1	\$450.00	20%	75%	75%	1.87	1
WarehCh5	Warehouse	Chiller	Early	5	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.4455	7	5,116	0.162	818	\$364.67	16%	75%	0.78	0	
WarehCh6	Warehouse	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	5,116	0.05	245	\$200.00	5%	15%	95%	1.01	1
WarehCh7	Warehouse	Chiller	Early	7	Adding window shade film	No shade film	sq ft window area	\$7,0453	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.04	0
WarehCh8	Warehouse	Chiller	Early	8	Adding window shade screen	No shade screen	sq ft window area	\$3,901	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.21	0
WarehCh9	Warehouse	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.47	20	5,116	0.05	153	\$225.00	3%	75%	95%	0.77	0
WarehChN1	Warehouse	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.49	20	5,116	0.05	179	\$87.00	4%	15%	95%	2.27	1
WarehCh2	Warehouse	Chiller	New	2	Adding window shade screen	No shade screen	sq ft window area	\$3,901	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.21	0
WarehCh3	Warehouse	Chiller	New	3	Adding reflective roof treatment	Std color roof	sq ft roof area	\$4.50	20	5,116	0.05	10	\$45.00	0%	100%	95%	0.95	0
WarehCh4	Warehouse	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$2.43	20	5,116	0.05	53	\$127.43	1%	45%	95%	0.64	0
WarehCh5	Warehouse	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.4130	15	5,116	0.76	617	\$255.00	12%	95%	95%	3.47	1
WarehCh6	Warehouse	Chiller	New	6	VFD Centrifugal Chiller, 4 kW/Ton	Std Chiller, 0.58 kW/Ton	ton	\$0.2283	15	5,116	1.944	1,588	\$362.50	31%	95%	95%	6.29	1
WarehCh7	Warehouse	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.1183	15	12,260	1.728	1,411	\$167.00	12%	95%	95%	12.13	1
WarehCh8	Warehouse	Chiller	New	8	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.4496	15	5,116	0.050	255,7800	\$115.00	5%	95%	75%	1.83	1
WarehCh9	Warehouse	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.2444	15	5,116	0.202	1,023.1	\$250.00	20%	95%	75%	3.37	1
WarehChN10	Warehouse	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$2.4435	15	5,116	0.010	51,1560	\$125.00	1%	100%	95%	0.34	0
WarehCh11	Warehouse	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.4778	15	5,116	0.76	617	\$295.00	12%	95%	95%	3.00	1
WarehCh12	Warehouse	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.2913	15	5,116	1.944	1,588	\$462.50	31%	95%	95%	4.93	1
WarehCh13	Warehouse	Chiller	Turnover	3	Water-side Economizer	Water-side Economizer	ton	\$0.4647	15	5,116	1.944	895	\$416.00	18%	95%	95%	4.30	1
WarehChN11	Warehouse	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.4647	15	5,116								

PECO Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	PJM Summer Peak kW	Change case kWh Savings (annual)	Customer Cost (\$)	Savings %	Applicability	Percent Installed	TRC Test	Economic Flag
HealthC1	Healthcare	Chiller	Early	1	Duct Sealing, add to 15%	No Insulation	ton	\$0,282	15	11,470	0.023	114,700	\$95.00	1%	40%	90%	0.84	0
HealthC2	Healthcare	Chiller	Early	2	Duct Insulation, Add R8	No Insulation	ton	\$1,089	15	11,470	0.023	114,700	\$125.00	1%	50%	95%	0.64	0
HealthC3	Healthcare	Chiller	Early	3	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0,2180	15	11,470	0.113	573,5040	\$125.00	5%	75%	75%	3.20	1
HealthC4	Healthcare	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0,1962	15	11,470	0.453	2,294.0	\$450.00	20%	75%	75%	3.56	1
HealthC5	Healthcare	Chiller	Early	5	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0,1987	7	11,470	0.362	1,835	\$364.67	16%	75%	75%	1.84	1
HealthC6	Healthcare	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	11,470	0.05	245	\$200.00	2%	75%	95%	0.85	0
HealthC7	Healthcare	Chiller	Early	7	Adding window shade film	No shade film	ft window area	\$7,0453	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.04	0
HealthC8	Healthcare	Chiller	Early	8	Adding window shade screen	No shade screen	ft window area	\$3,9901	15	11,470	0.000	0.38	\$1.50	25%	70%	95%	0.18	0
HealthC9	Healthcare	Chiller	Early	9	Roof Insulation going to R30	Existing insulation level = R16	sq ft	\$0.63	20	11,470	0.01	344	\$225.00	3%	75%	95%	1.23	1
HealthN1	Healthcare	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.22	20	11,470	0.05	401	\$87.00	4%	15%	95%	3.62	1
HealthN2	Healthcare	Chiller	New	2	Adding window shade screen	No shade screen	sq ft window area	\$3,9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.18	0
HealthN3	Healthcare	Chiller	New	3	Adding reflective roof treatment	Std color roof	sq ft roof area	\$4.50	20	11,470	0.05	10	\$45.00	0%	100%	95%	1.00	1
HealthN4	Healthcare	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$1.08	20	11,470	0.05	118	\$127.43	1%	45%	95%	0.94	0
HealthN5	Healthcare	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0,1842	15	11,470	0.76	1,384	\$255.00	12%	95%	95%	5.04	1
HealthN6	Healthcare	Chiller	New	6	VFD Centrifugal Chiller, 4 kW/Ton	Std Chiller, 0.58 kW/Ton	ton	\$0,1018	15	11,470	1.944	3,560	\$362.50	34%	95%	95%	9.12	1
HealthN7	Healthcare	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0,2028	15	27,489	1.728	3,164	\$167.00	12%	95%	95%	17.60	1
HealthN8	Healthcare	Chiller	New	8	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0,0654	15	11,470	0.113	573,5040	\$135.00	3%	95%	75%	3.48	1
HealthN9	Healthcare	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0,1090	15	11,470	0.453	2,294.0	\$250.00	20%	95%	75%	6.40	1
HealthN10	Healthcare	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$1,089	15	11,470	0.023	114,700	\$125.00	1%	100%	95%	0.64	0
HealthC11	Healthcare	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0,2131	15	11,470	0.76	1,384	\$295.00	12%	95%	95%	4.36	1
HealthC12	Healthcare	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0,2199	15	11,470	1.944	3,560	\$462.50	34%	95%	95%	7.15	1
HealthC13	Healthcare	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0,2072	15	11,470	1.944	2,007	\$416.00	18%	95%	95%	5.83	1
HealthC14	Healthcare	Chiller	Turnover	4	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0,2072	15	11,470	1.944	2,007	\$416.00	18%	95%	95%	5.83	1
HealthC15	Healthcare	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0,2214	15	11,470	0.113	573,5040	\$127.00	5%	95%	75%	3.15	1
HealthC16	Healthcare	Chiller	Turnover	6	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0,0654	15	27,489	1.728	3,164	\$207.00	12%	95%	95%	14.20	1
OfficeF1	Office	Fluorescent	Early	1	Premium Efficiency T8 Lighting Replacement (32W lamps with low	Replace (E) T12 Lamp - Bundle	Fixture	\$0,5712	14	394	0.011	97	\$55.38	25%	95%	41%	1.08	1
OfficeF16	Grocery	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1,0146	6	163	0.007	64	\$65.00	39%	40%	95%	0.29	0
OfficeF12	Office	Fluorescent	Early	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0,2641	14	1,578	0.054	473	\$125.00	30%	95%	80%	2.34	1
OfficeF13	Office	Fluorescent	Early	3	Photocell dimming control	No prior dimming control	Photocell	\$0,2852	9	1,578	0.091	789	\$225.00	50%	95%	95%	1.50	1
LodginF6	Lodging	Incandescent	Early	6	Hotel Occupancy Sensors	No prior control	Per Room	\$0,7447	10	240	0.019	168	\$125.00	70%	90%	95%	0.63	0
OfficeF1	Office	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0,1781	15	20,340	0.234	2,034	\$362.18	10%	95%	100%	3.65	1
OfficeF12	Office	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0,3561	15	20,340	0.584	5,085	\$1,810.50	25%	75%	100%	1.83	1
HealthIE1	Healthcare	Heating	Early	1	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0,2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.10	1
HealthIE2	Healthcare	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$2.44	20	2,866	0.01	475	\$200.00	1%	10%	95%	0.35	0
HealthIE3	Healthcare	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.67	20	2,866	0.05	75	\$125.00	3%	10%	95%	0.72	0
HealthIE4	Healthcare	Heating	Early	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$3.75	20	2,866	0.05	34	\$127.43	1%	10%	95%	0.48	0
HealthIE5	Healthcare	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0,1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	2.19	1
HealthEN1	Healthcare	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	2,866	0.05	45	\$87.00	2%	10%	95%	0.80	0
WarehH1E	Warehouse	HID	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPF	Replace HID fixture drawing 250W	Fixture	\$0,5670	10	1,268	0.043	378	\$214.50	30%	85%	80%	0.83	0
WarehH1E2	Warehouse	HID	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPF	Replace HID fixture drawing 400 W	Fixture	\$0,4472	10	1,856	0.077	671	\$300.00	36%	85%	80%	1.05	1
WarehH1E3	Warehouse	HID	Early	3	4' T5 HO fixture - 34 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0,3354	10	1,268	0.052	456	\$235.00	36%	85%	80%	0.91	0
WarehH1E4	Warehouse	HID	Early	4	4' T5 HO fixture - 34 W - 4 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0,5178	10	1,856	0.077	640	\$325.00	37%	85%	80%	0.92	0
WarehH1E5	Warehouse	HID	Turnover	5	Ceramic Metal Halide lamp	Replace non-ceramic lamp 400 W	Lamp	\$0,1282	4	1,560	0.051	273	\$35.00	18%	85%	55%	1.25	1
WarehH1E8	Warehouse	HID	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0,2465	10	5,070	0.175	1,521	\$375.00	30%	85%	85%	1.90	1
WarehH1E9	Warehouse	HID	Early	9	Photocell dimming control	No prior dimming control	Photocell	\$0,2170	10	5,070	0.291	2,535	\$550.00	50%	85%	85%	2.16	1
WarehH1E10	Warehouse	HID	Early	10	Control lighting control system	Replace manual switches or no control	Control Point	\$0,1972	10	5,070	0.058	507	\$100.00	10%	85%	45%	2.38	1
WarehH1E7	Warehouse	HID	Early	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$1,2166	15	1,268	0.065	566	\$688.00	45%	85%	80%	0.53	0
WarehH1E11	Warehouse	HID	Turnover	1	4' T8 High Bay fixture - 32 W - 6 lamps HPF	Replace HID fixture drawing 250W	Fixture	\$0,2921	10	1,268	0.043	378	\$110.50	30%	85%	80%	1.40	1
WarehH1E12	Warehouse	HID	Turnover	2	4' T8 High Bay fixture - 32 W - 8 lamps HPF	Replace HID fixture drawing 400 W	Fixture	\$0,3354	10	1,856	0.077	671	\$225.00	36%	85%	80%	1.60	1
WarehH1E13	Warehouse	HID	Turnover	3	4' T5 HO fixture - 34 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0,3178	10	1,268	0.052	456	\$145.00	36%	85%	80%	0.85	0
WarehH1E14	Warehouse	HID	Turnover	4	4' T5 HO fixture - 34 W - 4 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0,4065	10	1,856	0.074	640	\$260.00	34%	85%	80%	1.15	1
WarehH1E6	Warehouse	HID	Turnover	6	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0,5140	10	1,856	0.095	827	\$425.00	45%	85%	55%	0.91	0
WarehH1E7	Warehouse	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0,6631	15	1,268	0.065	566	\$375.00	45%	85%	80%	0.98	0
OfficeI2	Office	Incandescent	Early	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0,1159	14	3,594	0.124	1,078	\$125.00	30%	95%	80%	5.32	1
OfficeI3	Office	Incandescent	Early	3	Photocell dimming control	No prior dimming control	Photocell	\$0,1252	9	3,594	0.207	1,797	\$225.00	50%	95%	95%	3.43	1
GoodcN1	Grocery	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0,0572	15	9,629	0.111	963	\$55.11	10%	95%	100%	11.36	1
HealthN1	Healthcare	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0,0842	15	49,948	0.574	4,995	\$420.44	10%	95%	100%	7.72	1
AllA1	All	Large Appliances	New	1	EnergyStar vending machine	Standard vending machine	machine	\$0,2872	15	3,619	0.180	1,310	\$50.00	36%	100%	50%	2.39	1
AllA2	All	Large Appliances	New	2	Beverage machine with sensor	Vending machine with sensor	machine	\$0,1021	5	3,619	0.172	1,612	\$170.00	46%	100%	50%	2.35	1
AllA3	All	Large Appliances	New	3	Other cold product control	Vending machine with no sensor	machine	\$0,1111	5	3,504	0.172	1,612	\$179.00	46%	100%	50%	2.16	1
AllA4	All	Large Appliances	New	4	Non-cooled snack control	Vending machine with no sensor	machine	\$0,4671	5	745	0.037	343	\$160.00	46%	100%	50%	0.51	0
AllA5	All	Large Appliances	New	5	EnergyStar dishwasher	Std Dishwasher	dishwasher	\$0,4015	12	250	0.015	137	\$55.00	55%	100%	50%	1.33	1
AllA6	All	Large Appliances	New	6	EnergyStar refrigerator	Std Refrigerator	refrigerator	\$0,3000	12	750	0.011	100	\$30.00	13%	100%	50%	1.78	1
AllA7	All	Large Appliances	New	7	Low-temperature dish machine	High temp dish machine with booster heater	removed kW	\$0,0634	15	17,451	0.894	8,362	\$530.00	48%	100%	50%	10.06	1
AllA8	All	Large Appliances	New	8	High-efficiency washer	Standard washer, electric hot water	washer	\$0,4380	10	2,262	0.102	959	\$420.00	42%	100%	50%	1.05	1
AllA9	All	Large Appliances	New	9	High-efficiency con-op washer w/ Electric Water Heat													

PECO Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Savings)	Measure Life (Years)	Baseline kWh	PJM Summer Peak kW Savings (kW)	Change case kWh Savings	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
OfficeMo15	Office	Motors	Turnover	15	Motors: Rewind 500+ HP	(E) Motor	Motor	\$0.6474	15	1229546	0.295	61786	\$4,000	0.57%	70.0%	95%	1.03	1
OfficeMo16	Office	Motors	Turnover	16	Motors: Rewind 51-100 HP	(E) Motor	Motor	\$0.6955	15	124291	0.092	718.9	\$500	0.67%	20.0%	95%	0.96	0
OfficeMo17	Office	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	2.40	1
OfficeMo18	Office	Motors	New	12	Demand Control Ventilation (DCV)	Base Standard Ventilation		\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.53	1
OfficeMo19	Office	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood		\$16.21	10	5,013	0.052	401	\$6,300.21	8%	75%	95%	0.03	0
OfficeMo20	Office	Motors	New	14	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. .35 HP PSC motor operating 2000 hours per year		\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.12	1
OfficeMo21	Office	Motors	New	15	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%		\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.60	0
OfficeMo22	Office	Motors	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation		\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.53	1
OfficeMo23	Office	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood		\$16.21	10	5,013	0.052	401	\$6,300.21	8%	75%	95%	0.03	0
OfficeMo24	Office	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. .35 HP PSC motor operating 2000 hours per year		\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.12	1
OfficeMo25	Office	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%		\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.60	0
AIOfE1	All	Office Equipment	Early	1	PC network power management	No central control	PC	\$0.14	5	410	0.023	215	\$30.00	52.44%	75%	80%	1.72	1
AIOfE2	All	Office Equipment	Early	2	Occupancy sensor controls/Smart Strip	Computers, other plug loads	sensor	\$0.60	5	413	0.010	124	\$75.00	30.02%	55%	95%	0.39	0
AIOfN1	All	Office Equipment	New	1	ENERGY STAR® Office Equipment	Std Office Equipment	PC	\$1.09	5	4,000	0.021	200	\$218.00	5.00%	90%	80%	0.22	0
AIOfN2	All	Office Equipment	New	2	Energy Star - Water Cooler	Std Water Cooler	unit	\$1.06	5	453	0.022	204	\$215.67	45.08%	35%	80%	0.23	0
AIOfN3	All	Office Equipment	New	3	80 Plus® PC-desktop	Standard personal computer, desktop	PC	\$0.19	5	410	0.014	130	\$25.00	31.71%	100%	55%	1.25	1
AIOfN6	All	Office Equipment	New	6	Data Center - Server/Storage Virtualization	No Virtualization	unit	\$1.76	5	4,818	0.452	4,227	\$7,434	87.73%	70%	80%	0.14	0
AIOfT1	All	Office Equipment	Turnover	1	ENERGY STAR® Office Equipment	Std Office Equipment	PC	\$1.09	5	4,000	0.021	200	\$218.00	5.00%	90%	80%	0.22	0
AIOfT2	All	Office Equipment	Turnover	2	Energy Star - Water Cooler	Std Water Cooler	unit	\$1.06	5	453	0.022	204	\$215.67	45.08%	35%	80%	0.23	0
AIOfT3	All	Office Equipment	Turnover	3	80 Plus® PC-desktop	Standard personal computer, desktop	PC	\$0.19	5	410	0.014	130	\$25.00	31.71%	100%	55%	1.25	1
AIOfT6	All	Office Equipment	Turnover	6	Data Center - Server/Storage Virtualization	No Virtualization	unit	\$1.76	5	4,818	0.452	4,227	\$7,434	87.73%	70%	80%	0.14	0
HealthPa1	Healthcare	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3.13	20	1,766	0.05	64	\$200.00	4%	15%	95%	0.42	0
HealthPa2	Healthcare	Packaged DX	Early	2	Adding window shade film	No shade film	ft window area	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	70%	95%	0.04	0
HealthPa3	Healthcare	Packaged DX	Early	3	Adding window shade screen	No shade screen	ft window area	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.17	0
HealthPa4	Healthcare	Packaged DX	Early	4	Windows L50-L60, 55 SHGC	Existing window specifications	ft window area	\$1.40	20	2.00	0.000	0	\$0.28	13%	50%	0.70	0	
HealthPa5	Healthcare	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$1.21	20	1,766	0.05	118	\$225.00	7%	95%	0.54	0	
HealthPa7	Healthcare	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$0.97	20	1,866	0.011	93	\$25.00	5%	100%	65%	1.76	1
HealthPa8	Healthcare	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	1,766	0.05	12	\$95.00	1%	45%	80%	0.41	0
HealthPa9	Healthcare	Packaged DX	Early	9	Hotel Keycard Sensors	No prior controls	room controls	\$0.29	10	1,585	0.041	342	\$100.00	22%	95%	80%	1.62	1
HealthPa10	Healthcare	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	1,920	0.05	64	\$35.00	3%	100%	45%	0.19	0
HealthPa11	Healthcare	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	1,766	0.015	125	\$55.00	7%	100%	45%	1.07	1
HealthPa13	Healthcare	Packaged DX	Early	13	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.20	7	1,766	0.05	283	\$55.15	16%	95%	1.84	1	
HealthPa1	Healthcare	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	1,766	0.05	64	\$87.00	4%	100%	95%	0.86	0
HealthPa2	Healthcare	Packaged DX	New	2	Adding reflective roof treatment	Std roof color	ton	\$4.50	20	1,766	0.05	10	\$45.00	1%	100%	95%	1.01	1
HealthPa3	Healthcare	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$1.06	20	1,766	0.05	118	\$125.00	7%	100%	95%	0.97	0
HealthPa4	Healthcare	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Std Roof	ton	\$1.08	20	1,766	0.05	118	\$127.43	7%	45%	95%	0.95	0
HealthPa5	Healthcare	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	1,766	0.05	12	\$125.00	1%	100%	95%	0.37	0
HealthPa6	Healthcare	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$0.83	20	1,521	0.04	109	\$90.40	7%	100%	95%	1.23	1
HealthPa7	Healthcare	Packaged DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$0.89	20	1,521	0.08	203	\$180.81	13%	100%	95%	1.15	1
HealthPa8	Healthcare	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$0.95	20	1,521	0.12	285	\$271.21	19%	100%	95%	1.08	1
HealthPa9	Healthcare	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.47	20	1,766	0.05	118	\$55.00	7%	100%	95%	2.20	1
HealthPa10	Healthcare	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.47	20	1,798	0.06	150	\$70.00	8%	100%	95%	2.20	1
HealthPa11	Healthcare	Packaged DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$0.79	20	1,978	0.06	146	\$115.13	8%	100%	95%	1.31	1
HealthPa12	Healthcare	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$0.98	20	2,039	0.04	100	\$98.39	5%	100%	95%	1.04	1
HealthPa13	Healthcare	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$1.30	15	1,798	0.23	577	\$ 750.0	32%	20%	95%	0.65	0
HealthPa14	Healthcare	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$2.33	15	1,798	0.038	322	\$750.00	18%	100%	95%	0.28	0
HealthPa15	Healthcare	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$0.64	15	1,766	0.032	265	\$170.00	15%	75%	45%	1.02	1
HealthPa16	Healthcare	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$0.51	15	1,766	0.042	353	\$179.00	20%	100%	95%	1.29	1
HealthPa17	Healthcare	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$1.32	15	1,866	0.010	84	\$110.89	5%	100%	95%	0.50	0
HealthPa11	Healthcare	Packaged DX	Turnover	1	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	1,766	0.05	12	\$125.00	1%	100%	95%	0.31	1
HealthPa12	Healthcare	Packaged DX	Turnover	2	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$0.83	20	1,521	0.04	109	\$90.40	7%	100%	95%	1.23	1
HealthPa13	Healthcare	Packaged DX	Turnover	3	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$0.89	20	1,521	0.08	203	\$180.81	13%	100%	95%	1.15	1
HealthPa14	Healthcare	Packaged DX	Turnover	4	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$0.95	20	1,521	0.12	285	\$271.21	19%	100%	95%	1.08	1
HealthPa15	Healthcare	Packaged DX	Turnover	5	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.47	20	1,766	0.05	118	\$55.00	7%	100%	95%	2.20	1
HealthPa16	Healthcare	Packaged DX	Turnover	6	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.47	20	1,798	0.06	150	\$70.00	8%	100%	95%	2.20	1
HealthPa17	Healthcare	Packaged DX	Turnover	7	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$0.79	20	1,978	0.06	146	\$115.13	7%	100%	95%	1.31	1
HealthPa18	Healthcare	Packaged DX	Turnover	8	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$0.98	20	2,039	0.04	100	\$98.39	5%	100%	95%	1.04	1
HealthPa19	Healthcare	Packaged DX	Turnover	9	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$1.30	15	1,798	0.23	577	\$ 750.0	32%	20%	95%	0.65	0
HealthPa20	Healthcare	Packaged DX	Turnover	10	Ground Source HP Closed	Air Source Heat Pump	ton	\$2.33	15	1,798	0.038	322	\$750.00	18%	100%	95%	0.28	0
HealthPa21	Healthcare	Packaged DX	Turnover	11	Air-side Economizer	No Economizer	ton	\$0.64	15	1,766	0.032	265	\$170.00	15%	75%	45%	1.02	1
HealthPa22	Healthcare	Packaged DX	Turnover	12	Energy Recovery Units	No Energy Recovery	ton	\$0.51	15	1,766	0.042	353	\$179.00	20%	100%	95%	1.29	1
HealthPa23	Healthcare	Packaged DX	Turnover	13	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$1.32	15	1,866	0.010	84	\$110.89	5%	100%	95%	0.50	0
AIReT1	All	Refrigeration	Turnover	1	Vertical night covers	No covers present	linear ft	\$0.34	5	4,380	0.006	44	\$15.00	1.00%	50%	95%	0.73	0
AIReT2	All	Refrigeration	Turnover	2	eCube	No eCube	ton	\$0.33	9	5,431	0.162	1,222	\$399.00	22.50%	95%	95%	1.34	1
AIReT3	All	Refrigeration	Turnover	3	Anti-sweat heat (ASH) controls - Freezer	ASH without controls	Per Door	\$0.16	12	2,985	0.029	1,882	\$300.00	63%				

PECO Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh/yr	PJM Summer Peak kW Savings (kW)	Change case kWh Savings (kWh)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
AIIRCT21	All	Refrigeration	Turnover	21	Walk-in Cooler: PSC to ECM: 16-49 Watt		Fixture	\$0.55	15	711	0.034	258	\$91.25	36%	75%	49%	1.87	1
AIIRCT22	All	Refrigeration	Turnover	22	Walk-in Freezer: PSC to ECM: 16-49 Watt		Fixture	\$0.30	15	711	0.041	309	\$91.25	43%	75%	49%	2.24	1
AIIRCT23	All	Refrigeration	Turnover	23	Walk-in Cooler: Shaded Pole to ECM: 16-49 Watt		Fixture	\$0.44	15	1,175	0.093	704	\$306.25	60%	75%	49%	1.52	1
AIIRCT24	All	Refrigeration	Turnover	24	Walk-in Freezer: Shaded Pole to ECM: 16-49 Watt		Fixture	\$0.36	15	1,175	0.112	842	\$306.25	72%	75%	49%	1.82	1
AIIRCT25	All	Refrigeration	Turnover	25	Walk-in PSC to ECM		Fixture	\$0.32	15	711	0.038	283	\$91.25	40%	75%	49%	2.05	1
AIIRCT26	All	Refrigeration	Turnover	26	Walk-in Shaded Pole to ECM		Fixture	\$0.40	15	1,175	0.103	773	\$306.25	66%	75%	49%	1.67	1
AIIS11	All	Signage	Turnover	1	Induction Street Lighting	Base HID Streetlighting	Fixture	\$0.57	15	2,762	0.101	1,619	\$925.00	59%	95%	95%	1.01	1
AIIS12	All	Signage	Turnover	2	LED exit sign - 1 sided	Incandescent exit sign	Exit Sign	\$0.15	15	175	0.024	158	\$25.50	90%	95%	70%	4.28	1
AIIS13	All	Signage	Turnover	3	LED exit sign - 2 sided	Incandescent exit sign	Exit Sign	\$0.16	15	350	0.048	228	\$37.50	65%	95%	70%	4.11	1
AIIS14	All	Signage	Turnover	4	Photoluminescent Exit Sign	Incandescent exit sign	Exit Sign	\$0.17	15	175	0.011	175	\$30.00	100%	50%	70%	3.38	1
AIIS15	All	Signage	Turnover	5	LED or equivalent sign lighting - 1 sided	Replace fluorescent sign lighting	Exit Sign	\$0.28	15	79	0.009	61	\$17.36	78%	48%	7%	2.24	1
AIIS16	All	Signage	Turnover	6	LED or equivalent sign lighting - 2 sided	Replace fluorescent sign lighting	Exit Sign	\$0.12	15	175	0.002	140	\$17.36	80%	48%	7%	4.41	1
AIIS17	All	Signage	Turnover	7	LED Street Lighting	Std HID Street Lighting	Pole	\$0.63	15	2,762	0.047	756	\$475.00	27%	95%	95%	0.92	0
AIIS18	All	Signage	Turnover	8	Red LED Traffic Light	Red Traffic Light	Signal	\$0.37	10	332	0.019	299	\$112.00	90%	95%	75%	1.11	1
AIIS19	All	Signage	Turnover	9	Yellow LED Traffic Light	Yellow Standard Traffic Light	Lamp	\$12.10	10	12	0.001	10	\$121.00	83%	95%	75%	0.05	0
AIIS110	All	Signage	Turnover	10	Green LED Traffic Light	Green Standard Traffic Light	Lamp	\$0.77	10	260	0.014	226	\$174.00	87%	95%	75%	0.54	0
AIIS111	All	Signage	Turnover	11	Hand/Man LED	Pedestrian Standard	Lamp	\$0.19	10	1,016	0.059	946	\$182.00	93%	95%	75%	2.16	1
AIIS112	All	Water Heating	Turnover	1	Ultrasonic Faucet Control	Manual Faucet Control	unit	\$1,000	10	1,750	0.010	125	\$325	7%	75%	75%	0.44	0
AIIS113	All	Water Heating	Turnover	2	Faucet Aerators	Std Flow faucet	unit	\$0.246	12	4,122	0.006	61	\$15	6%	75%	75%	2.12	1
AIIS114	All	Water Heating	Turnover	3	Hot Water (DHW) Pipe Insulation	No insulation present	10 in ft	\$0.292	14	4,122	0.011	124.00	\$36.25	3%	75%	75%	2.02	1
AIIS115	All	Water Heating	Turnover	4	Low-Flow Showerheads	Std Flow showerhead	unit	\$0.108	9	4,122	0.042	461	\$50	11%	75%	75%	3.77	1
AIIS116	All	Water Heating	Turnover	5	Water Heater Thermostat Setback	Constant setback	unit	\$0.029	2	4,122	0.053	577.09	\$17	14%	75%	75%	3.36	1
AIIS117	All	Water Heating	New	1	Ultrasonic Faucet Control	Manual Faucet Control	unit	\$0.400	10	4,122	0.011	125	\$50	3%	75%	75%	1.12	1
AIIS118	All	Water Heating	New	2	Faucet Aerators	Std Flow faucet	unit	\$0.082	12	4,122	0.006	61	\$5	6%	75%	75%	6.36	1
AIIS119	All	Water Heating	New	3	Hot Water (DHW) Pipe Insulation	No insulation present	10 in ft	\$0.292	14	4,122	0.011	124.00	\$36.25	3%	75%	75%	2.02	1
AIIS120	All	Water Heating	New	4	Low-Flow Showerheads	Std Flow showerhead	unit	\$0.108	9	4,122	0.042	461	\$50	11%	75%	75%	3.77	1
AIIS121	All	Water Heating	New	5	Water Heater Thermostat Setback	Constant setback	unit	\$0.029	2	4,122	0.053	577.09	\$17	14%	75%	75%	3.36	1
AIIS122	All	Water Heating	New	6	High Efficiency Water Heater (Electric) EF-93, 28-50 Gal	Std Efficiency water heater	unit	\$0.541	14	4,122	0.012	133	\$72	3%	75%	100%	1.09	1
AIIS123	All	Water Heating	New	7	Heat Pump Water Heater (air source)	Base Water Heater	unit	\$0.516	14	4,122	0.176	1,914.00	\$988	46%	75%	100%	1.14	1
AIIS124	All	Water Heating	New	8	Heat Recovery Unit	Base Water Heating	unit	\$0.362	14	4,122	0.190	2,073	\$750	50.3%	50%	95%	1.63	1
AIIS125	All	Water Heating	New	9	Solar Water Heater	Base Water Heating	unit	\$1.206	14	4,122	0.193	2,106	\$2,540	82.0%	65%	95%	0.49	0
AIIS126	All	Water Heating	Turnover	6	High Efficiency Water Heater (Electric) EF-93, 28-50 Gal	Std Efficiency water heater	unit	\$0.541	14	4,122	0.012	133	\$72	8.0%	100%	75%	1.09	1
AIIS127	All	Water Heating	Turnover	7	Heat Pump Water Heater (air source)	Base Water Heating	unit	\$0.516	14	4,122	0.176	1,914.00	\$988	46%	75%	100%	1.14	1
AIIS128	All	Water Heating	Turnover	8	Heat Recovery Unit	Base Water Heating	unit	\$0.458	14	4,122	0.190	2,073	\$950	50.3%	50%	95%	1.29	1
AIIS129	All	Water Heating	Turnover	9	Solar Water Heater	Base Water Heating	unit	\$1.401	14	4,122	0.193	2,106	\$2,950	82.0%	65%	95%	0.42	0
GroceReN1	All	Refrigeration	New	20	Demand Defrost Electric	Base Refrigeration System - Grocery	unit	\$0.91	15	4	0.000	0	\$0.05	1%	95%	92%	0.73	0
AIIRCT27	All	Refrigeration	Turnover	27	Demand Defrost Electric	Base Refrigeration System - Grocery	unit	\$0.91	15	4	0.000	0	\$0.05	1%	95%	92%	0.73	0
GroceReN2	All	Refrigeration	New	21	Demand Hot Gas Defrost	Base Refrigeration System - Grocery	unit	\$0.35	15	4	0.000	0	\$0.05	3%	95%	92%	1.87	1
AIIRCT28	All	Refrigeration	Turnover	28	Demand Hot Gas Defrost	Base Refrigeration System - Grocery	unit	\$0.35	15	4	0.000	0	\$0.05	3%	95%	92%	1.87	1
GroceReN4	All	Refrigeration	New	22	Efficient compressor motor - scroll	Base Refrigeration System - Grocery	unit	\$0.09	15	15,825	0.084	633	\$60.00	4%	95%	92%	6.99	1
AIIRCT29	All	Refrigeration	Turnover	29	Efficient compressor motor - scroll	Base Refrigeration System - Grocery	unit	\$0.09	15	15,825	0.084	633	\$60.00	4%	95%	92%	6.99	1
GroceReN5	All	Refrigeration	New	23	High R Value Glass	Base Refrigeration System - Grocery	unit	\$0.33	15	3,986	0.100	337.50	\$20.00	25%	95%	92%	0.71	1
GroceReN7	All	Refrigeration	New	24	Refrigeration Commissioning	Base Refrigeration System - Grocery	Per refrigerant	\$0.031	7	8,800	0.187	1,408	\$440.00	10%	95%	92%	1.10	1
AIIRCT30	All	Refrigeration	Early	1	Refrigeration Commissioning	Base Refrigeration System - Grocery	Per refrigerant	\$0.25	7	8,800	0.117	880	\$220.00	10%	95%	92%	1.38	1
GroceReN8	All	Refrigeration	New	25	Strip curtains for walk-ins	Base Refrigeration System - Grocery	unit	\$0.50	15	29,900	0.079	598	\$300.00	2%	45%	78%	1.32	1
AIIRCT30	All	Refrigeration	Turnover	30	Strip curtains for walk-ins	Base Refrigeration System - Grocery	unit	\$0.50	15	29,900	0.079	598	\$300.00	2%	45%	78%	1.32	1
HealthPaN18	Healthcare	Packaged DX	New	18	Automated control system	Baseline DX	ton	\$0.27	10	1,866	0.011	93	\$25.00	5%	100%	65%	1.76	1
HealthPaN19	Healthcare	Packaged DX	New	19	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$0.50	10	1,585	0.010	86	\$43.50	5%	100%	95%	0.95	0
HealthPa15	Healthcare	Packaged DX	Turnover	15	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$0.50	10	1,585	0.010	86	\$43.50	5%	100%	95%	0.95	0
AIICoN1	All	Cooking	New	1	Commercial Hot Food Holding Cabinets (Energy Star)	Standard Cabinet	Each	\$0.94	12	23,411	0.187	1,592	\$1,500.00	7%	40%	95%	0.58	0
AIICoN2	All	Cooking	New	2	High Efficiency Fryers (Energy Star)	Standard Fryer	Each	\$5.45	12	18,196	0.027	233	\$1,271.00	1%	40%	95%	0.10	0
AIICoN3	All	Cooking	New	3	High Efficiency Griddle	Standard Griddle	Each	\$0.66	12	17,056	0.027	233	\$1,271.00	1%	40%	95%	0.10	0
AIICoN4	All	Cooking	New	4	High Efficiency Induction Cooking	Standard Griddle	Each	\$1.04	12	29,376	0.248	2,118	\$2,213.00	7%	40%	95%	0.52	0
AIICoN5	All	Cooking	New	5	Electric Steam cooker	Standard Cooker	Each	\$0.40	12	46,813	0.439	3,745	\$1,500.00	8%	40%	95%	1.37	1
AIICoN6	All	Cooking	New	6	Electric convection oven	Standard Oven	Each	\$1.20	15	12,193	0.265	2,262	\$2,713.00	19%	40%	95%	0.54	0
AIICoN7	All	Cooking	New	7	Electric combination oven	Standard Oven	Each	\$1.12	12	39,353	1.769	15,095	\$16,884.00	38%	40%	95%	0.49	0
AIICoT1	All	Cooking	Turnover	1	Commercial Hot Food Holding Cabinets (Energy Star)	Standard Cabinet	Each	\$0.94	12	23,411	0.187	1,592	\$1,500.00	7%	40%	95%	0.58	0
AIICoT2	All	Cooking	Turnover	2	High Efficiency Fryers (Energy Star)	Standard Fryer	Each	\$5.45	12	18,196	0.027	233	\$1,271.00	1%	40%	95%	0.10	0
AIICoT3	All	Cooking	Turnover	3	High Efficiency Griddle	Standard Griddle	Each	\$0.66	12	17,056	0.027	233	\$1,271.00	1%	40%	95%	0.10	0
AIICoT4	All	Cooking	Turnover	4	High Efficiency Induction Cooking	Standard Cooker	Each	\$1.04	12	29,376	0.248	2,118	\$2,213.00	7%	40%	95%	0.52	0
AIICoT5	All	Cooking	Turnover	5	Electric Steam cooker	Standard Cooker	Each	\$0.40	12	46,813	0.439	3,745	\$1,500.00	8%	40%	95%	1.37	1
AIICoT6	All	Cooking	Turnover	6	Electric convection oven	Standard Oven	Each	\$1.20	15	12,193	0.265	2,262	\$2,713.00	19%	40%	95%	0.54	0
AIICoT7	All	Cooking	Turnover	7	Electric combination oven	Standard Oven	Each	\$1.12	12	39,353	1.769	15,095	\$16,884.00	38%	40%	95%	0.49	0
InstFlE1	Institutional	Fluorescent	Early	1	Premium Efficiency T8 Lighting Replacement (32W lamps with low	Replace (E) T12 Lamp - Bundle	Fixture	\$0.6076	15	371	0.010	91	\$55.38	25%	95%	11%	1.07	1
InstFlE2	Institutional	Fluorescent	Early	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2809	14	1,483	0.051	445	\$125.00	30%	95%	80%	2.20	1
InstFlE3	Institutional	Fluorescent	Early	3	Photocell dimming control	No prior dimming control	Photocell	\$0.3034	9	1,483	0.085	742	\$225.00	30%	95%	95%	1.41	1
GroceFlE1	Grocery	Fluorescent	Early	1	Premium Efficiency T8 Lighting Replacement (32W lamps with low	Replace (E) T12 Lamp - Bundle	Fixture	\$0.2754	11	818	0.023	201	\$55.38	25%	95%	55%	1.84	1
GroceFlE2	Grocery	Fluorescent	Early	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1273	14	3,272	0.113	982						

PECO Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh)	Measure Life	Baseline kWh	PJM Summer Peak kW	Change case kWh Savings	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
WarehIN2	Warehouse	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3205	15	44,747	1,286	11,187	\$3,585.33	25%	75%	100%	2.03	1
GroceHN1	Grocery	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0572	15	3,937	0.045	394	\$22.53	10%	95%	100%	11.36	1
GroceHN2	Grocery	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1145	15	3,937	0.113	984	\$112.66	25%	85%	100%	5.68	1
InstiHN1	Institutional	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1722	15	2,159	0.025	216	\$37.18	10%	95%	100%	3.78	1
InstiHN2	Institutional	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3444	15	2,159	0.062	540	\$185.89	25%	85%	100%	1.89	1
HealthN1	Healthcare	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0842	15	15,203	0.175	1,520	\$127.97	10%	95%	100%	7.72	1
HealthN2	Healthcare	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1684	15	15,203	0.437	3,801	\$639.84	25%	85%	100%	3.86	1
LodgHN1	Lodging	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1012	15	10,539	0.121	1,054	\$106.65	10%	95%	100%	6.42	1
LodgHN2	Lodging	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.2024	15	10,539	0.316	2,635	\$333.27	25%	85%	100%	3.21	1
RestaN1	Restaurant	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0763	15	459	0.005	46	\$3.51	10%	95%	100%	8.52	1
RestaN2	Restaurant	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1526	15	459	0.013	115	\$17.53	25%	85%	100%	4.26	1
RetailN1	Retail	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0792	15	10,313	0.119	1,031	\$81.65	10%	95%	100%	8.21	1
RetailN2	Retail	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1584	15	10,313	0.296	2,578	\$408.25	25%	85%	100%	4.11	1
WarehHN1	Warehouse	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1603	15	7,843	0.090	784	\$125.09	10%	95%	100%	4.06	1
WarehHN2	Warehouse	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3205	15	7,843	0.225	1,961	\$628.45	25%	85%	100%	2.05	1
MiscHN1	Misc	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0988	15	4,211	0.048	421	\$41.61	10%	95%	100%	6.58	1
MiscHN2	Misc	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1976	15	4,211	0.121	1,053	\$208.03	25%	85%	100%	3.29	1
MiscFN1	Misc	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0988	15	121,285	1.394	12,128	\$1,198.38	10%	95%	100%	6.58	1
MiscFN2	Misc	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1976	15	121,285	3.485	30,321	\$5,991.88	25%	75%	100%	3.29	1
InstiIN1	Institutional	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1722	15	7,094	0.082	709	\$122.15	10%	95%	100%	3.78	1
InstiIN2	Institutional	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3444	15	7,094	0.204	1,774	\$610.75	25%	75%	100%	1.89	1
GroceIT1	Grocery	Incandescent	Turnover	1	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0161	5	309	0.021	186	\$3.00	60%	75%	50%	15.25	1
HealthIT1	Healthcare	Incandescent	Turnover	1	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0174	5	286	0.020	173	\$3.00	60%	75%	50%	14.14	1
GroceIN2	Grocery	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1145	15	9,629	0.277	2,407	\$275.57	25%	75%	100%	5.68	1
HealthIN2	Healthcare	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1684	15	49,948	1.435	12,487	\$2,102.19	25%	75%	100%	3.86	1
LodgIN1	Lodging	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1012	15	72,424	0.832	7,242	\$732.89	10%	95%	100%	6.42	1
LodgIN2	Lodging	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.2024	15	72,424	2.081	18,106	\$3,664.46	25%	75%	100%	3.21	1
RestaN1	Restaurant	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0763	15	8,649	0.099	865	\$66.01	10%	95%	100%	8.52	1
RestaN2	Restaurant	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1526	15	8,649	0.249	2,162	\$330.03	25%	75%	100%	4.26	1
RetailN1	Retail	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0792	15	9,628	0.111	963	\$76.23	10%	95%	100%	8.21	1
RetailN2	Retail	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1584	15	9,628	0.277	2,407	\$381.16	25%	75%	100%	4.11	1
WarehIN1	Warehouse	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1603	15	5,975	0.069	598	\$95.76	10%	95%	100%	4.06	1
WarehIN2	Warehouse	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3205	15	5,975	0.172	1,494	\$478.78	25%	75%	100%	2.05	1
MiscIN2	Misc	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.0988	15	28,936	0.333	2,804	\$285.01	10%	95%	100%	6.58	1
MiscIE2	Misc	Fluorescent	Early	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1740	14	2,394	0.083	718	\$125.00	30%	95%	80%	3.54	1
MiscIE3	Misc	Fluorescent	Early	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1879	9	2,394	0.138	1,197	\$225.00	30%	95%	95%	2.28	1
MiscFN4	Misc	Fluorescent	New	4	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0696	14	2,394	0.083	718	\$50.00	30%	95%	15%	8.86	1
MiscFN3	Misc	Fluorescent	New	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1253	9	2,394	0.138	1,197	\$150.00	30%	95%	75%	3.42	1
InstiFN4	Institutional	Fluorescent	New	4	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1124	14	1,483	0.051	445	\$50.00	30%	95%	15%	5.49	1
InstiFN3	Institutional	Fluorescent	New	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1253	9	1,483	0.085	742	\$150.00	30%	95%	75%	2.12	1
GroceFN4	Grocery	Fluorescent	New	4	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0509	14	3,272	0.113	3,272	\$80.00	30%	95%	15%	12.11	1
GroceFN3	Grocery	Fluorescent	New	3	Photocell dimming control	No prior dimming control	Photocell	\$0.0917	9	3,272	0.188	1,636	\$100.00	30%	95%	75%	4.68	1
HealthFN4	Healthcare	Fluorescent	New	4	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0549	14	3,034	0.105	910	\$50.00	30%	95%	15%	11.23	1
HealthFN3	Healthcare	Fluorescent	New	3	Photocell dimming control	No prior dimming control	Photocell	\$0.0989	9	3,034	0.174	1,517	\$150.00	30%	95%	75%	4.34	1
LodgFN4	Lodging	Fluorescent	New	4	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0600	14	2,776	0.096	833	\$50.00	30%	95%	15%	10.27	1
LodgFN3	Lodging	Fluorescent	New	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1081	9	2,776	0.160	1,388	\$150.00	30%	95%	75%	3.97	1
OfficeFN4	Office	Fluorescent	New	4	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1056	14	1,578	0.054	473	\$50.00	30%	95%	15%	5.84	1
OfficeFN3	Office	Fluorescent	New	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1901	9	1,578	0.091	789	\$150.00	30%	95%	75%	2.26	1
RestaN4	Restaurant	Fluorescent	New	4	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0679	14	2,454	0.085	736	\$50.00	30%	95%	15%	9.08	1
RestaN3	Restaurant	Fluorescent	New	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1222	9	2,454	0.141	1,227	\$150.00	30%	95%	75%	3.51	1
RestaN4	Restaurant	Fluorescent	New	4	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0705	14	2,365	0.082	710	\$50.00	30%	95%	15%	8.75	1
RetailFN3	Retail	Fluorescent	New	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1268	9	2,365	0.136	1,183	\$150.00	30%	95%	75%	3.38	1
WarehFN4	Warehouse	Fluorescent	New	4	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0761	14	2,191	0.076	657	\$50.00	30%	95%	15%	8.11	1
WarehFN3	Warehouse	Fluorescent	New	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1369	9	2,191	0.126	1,096	\$150.00	30%	95%	75%	3.13	1
MiscFN2	Misc	Fluorescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0696	14	2,394	0.083	718	\$50.00	30%	95%	80%	8.86	1
MiscFN1	Misc	Fluorescent	Turnover	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1253	9	2,394	0.138	1,197	\$150.00	30%	95%	75%	3.42	1
InstiIT1	Institutional	Fluorescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1124	14	1,483	0.051	445	\$50.00	30%	95%	80%	5.49	1
InstiIT2	Institutional	Fluorescent	Turnover	3	Photocell dimming control	No prior dimming control	Photocell	\$0.2022	9	1,483	0.085	742	\$150.00	30%	95%	75%	2.12	1
GroceIT2	Grocery	Fluorescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0509	14	3,272	0.113	982	\$50.00	30%	95%	80%	12.11	1
GroceIT3	Grocery	Fluorescent	Turnover	3	Photocell dimming control	No prior dimming control	Photocell	\$0.0917	9	3,272	0.188	1,636	\$100.00	30%	95%	75%	4.68	1
HealthIT2	Healthcare	Fluorescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0549	14	3,034	0.105	910	\$50.00	30%	95%	80%	11.23	1
HealthIT3	Healthcare	Fluorescent	Turnover	3	Photocell dimming control	No prior dimming control	Photocell	\$0.0989	9	3,034	0.174	1,517	\$150.00	30%	95%	75%	4.34	1
LodgIT2	Lodging	Fluorescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0600	14	2,776	0.096	833	\$50.00	30%	95%	80%	10.27	1
LodgIT3	Lodging	Fluorescent	Turnover	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1081	9	2,776	0.160	1,388	\$150.00	30%	95%	75%	3.97	1
OfficeIT2	Office	Fluorescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1056	14	1,578	0.054	473	\$50.00	30%	95%	80%	5.84	1
OfficeIT3	Office	Fluorescent	Turnover	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1901	9	1								

PECO Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh)	Measure Life	Baseline kWh	PJM Summer Peak kW Savings	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
RestaH16	Restaurant	Fluorescent	Turnover	1	LED Retrofit Tube	Replace (2) high efficiency 32 W T8 Lamp	Lamp	\$13,528	9	122	0.006	48	\$63.00	39%	40%	95%	0.32	0
RestaH17	Restaurant	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (2) high efficiency 32 W T8 Lamp	Lamp	\$0,866	9	122	0.003	27	\$2.32	22%	90%	95%	4.95	1
RestaH18	Restaurant	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (2) high efficiency 32 W T8 Lamp	Lamp	\$0,1320	9	122	0.002	15	\$2.02	13%	60%	95%	3.25	1
RestaH19	Restaurant	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPI high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0,0409	11	437	0.007	62	\$2.55	14%	75%	95%	12.40	1
RestaH20	Restaurant	Fluorescent	Early	4	Low Power Ballast Replacement	NPI high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0,5610	11	437	0.007	62	\$35.00	14%	75%	95%	0.91	0
RestaH21	Retail	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (2) high efficiency 32 W T8 Lamp	Lamp	\$1,4036	9	118	0.005	46	\$65.00	39%	40%	95%	0.31	0
RestaH22	Retail	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (2) high efficiency 32 W T8 Lamp	Lamp	\$0,869	9	118	0.003	26	\$2.32	22%	90%	95%	4.77	1
RestaH23	Retail	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (2) high efficiency 32 W T8 Lamp	Lamp	\$0,1309	9	118	0.002	15	\$2.02	13%	60%	95%	3.13	1
RestaH24	Retail	Fluorescent	Early	4	Low Power Ballast Replacement	NPI high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0,0425	11	421	0.005	60	\$2.55	14%	75%	95%	11.96	95%
RestaH25	Retail	Fluorescent	Early	4	Low Power Ballast Replacement	NPI high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0,5820	11	421	0.007	60	\$35.00	14%	75%	95%	0.87	0
WareH16	Warehouse	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (2) high efficiency 32 W T8 Lamp	Lamp	\$1,5152	10	109	0.005	43	\$65.00	39%	40%	95%	0.31	0
WareH17	Warehouse	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (2) high efficiency 32 W T8 Lamp	Lamp	\$0,0970	10	109	0.003	24	\$2.32	22%	90%	95%	4.83	1
WareH18	Warehouse	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (2) high efficiency 32 W T8 Lamp	Lamp	\$0,1478	10	109	0.002	14	\$2.02	13%	60%	95%	3.17	1
WareH19	Warehouse	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPI high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0,0459	11	390	0.006	56	\$2.55	14%	75%	95%	11.07	1
WareH20	Warehouse	Fluorescent	Early	4	Low Power Ballast Replacement	NPI high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0,6283	11	390	0.006	56	\$35.00	14%	75%	95%	0.81	0
GroceH11	Grocery	LED	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPI	Replace LED fixture drawing 250W	Fixture	\$0,3797	10	1,893	0.065	565	\$214.50	36%	85%	80%	1.23	1
GroceH12	Grocery	LED	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPI	Replace LED fixture drawing 400 W	Fixture	\$0,2995	10	2,772	0.115	1,002	\$300.00	36%	85%	80%	1.57	1
GroceH13	Grocery	LED	Early	3	4' T5 HO fixture - 54 W - 4 lamp	Replace LED Fixture drawing 250 W	Fixture	\$0,3449	10	1,893	0.078	681	\$325.00	36%	85%	80%	1.36	1
GroceH14	Grocery	LED	Early	4	4' T5 HO fixture - 54 W - 6 lamp	Replace LED Fixture drawing 400 W	Fixture	\$0,3403	10	2,772	0.110	955	\$325.00	34%	85%	80%	1.38	1
GroceH15	Grocery	LED	Turnover	5	Ceramic Metal Halide Lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0,0859	3	2,330	0.047	408	\$35.00	18%	85%	55%	1.77	1
GroceH16	Grocery	LED	Early	7	Induction High Bay Lighting	Base High Bay HPI, 250W	Fixture	\$0,8147	15	1,893	0.097	844	\$688.00	45%	85%	80%	0.80	0
GroceH17	Grocery	LED	Turnover	1	4' T8 High Bay fixture - 32 W - 6 lamps HPI	Replace LED fixture drawing 250W	Fixture	\$0,1956	10	1,893	0.065	565	\$110.50	30%	85%	80%	2.40	1
GroceH18	Grocery	LED	Turnover	2	4' T8 High Bay fixture - 32 W - 8 lamps HPI	Replace LED fixture drawing 400 W	Fixture	\$0,2246	10	2,772	0.115	1,002	\$225.00	36%	85%	80%	2.09	1
GroceH19	Grocery	LED	Turnover	3	4' T5 HO fixture - 54 W - 4 lamp	Replace LED Fixture drawing 250 W	Fixture	\$0,2128	10	1,893	0.078	681	\$145.00	36%	85%	80%	2.20	1
GroceH20	Grocery	LED	Turnover	4	4' T5 HO fixture - 54 W - 6 lamp	Replace LED Fixture drawing 400 W	Fixture	\$0,2722	10	2,772	0.110	955	\$200.00	34%	85%	80%	1.72	1
GroceH21	Grocery	LED	Turnover	6	Multi Lamp Hard Wired CFL	Replace LED Fixture Drawing 400 W	Fixture	\$0,3442	10	2,772	0.142	1,235	\$425.00	45%	85%	55%	1.26	1
GroceH22	Grocery	LED	Turnover	7	Induction High Bay Lighting	Base High Bay HPI, 250W	Fixture	\$0,4441	15	1,893	0.097	844	\$375.00	45%	85%	80%	1.46	1
Health11	Healthcare	LED	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPI	Replace LED fixture drawing 250W	Fixture	\$0,4095	10	1,755	0.060	524	\$214.50	36%	85%	80%	1.14	1
Health12	Healthcare	LED	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPI	Replace LED fixture drawing 400 W	Fixture	\$0,3230	10	2,570	0.107	929	\$300.00	36%	85%	80%	1.45	1
Health13	Healthcare	LED	Early	3	4' T5 HO fixture - 54 W - 4 lamp	Replace LED Fixture drawing 250 W	Fixture	\$0,3720	10	1,755	0.073	632	\$235.00	36%	85%	80%	1.26	1
Health14	Healthcare	LED	Early	4	4' T5 HO fixture - 54 W - 6 lamp	Replace LED Fixture drawing 400 W	Fixture	\$0,3670	10	2,570	0.102	886	\$325.00	34%	85%	80%	1.28	1
Health15	Healthcare	LED	Turnover	5	Ceramic Metal Halide Lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0,0926	3	2,160	0.043	378	\$35.00	18%	85%	55%	1.64	1
Health16	Healthcare	LED	Early	7	Induction High Bay Lighting	Base High Bay HPI, 250W	Fixture	\$0,8787	15	1,755	0.090	783	\$688.00	45%	85%	80%	0.74	0
Health17	Healthcare	LED	Turnover	1	4' T8 High Bay fixture - 32 W - 6 lamps HPI	Replace LED fixture drawing 250 W	Fixture	\$0,2110	10	1,755	0.060	524	\$110.50	30%	85%	80%	2.22	1
Health18	Healthcare	LED	Turnover	2	4' T8 High Bay fixture - 32 W - 8 lamps HPI	Replace LED fixture drawing 400 W	Fixture	\$0,2422	10	2,570	0.107	929	\$225.00	36%	85%	80%	1.94	1
Health19	Healthcare	LED	Turnover	3	4' T5 HO fixture - 54 W - 4 lamp	Replace LED Fixture drawing 250 W	Fixture	\$0,2295	10	1,755	0.073	632	\$145.00	36%	85%	80%	2.04	1
Health20	Healthcare	LED	Turnover	4	4' T5 HO fixture - 54 W - 6 lamp	Replace LED Fixture drawing 400 W	Fixture	\$0,2936	10	2,570	0.102	886	\$200.00	34%	85%	80%	1.60	1
Health21	Healthcare	LED	Turnover	6	Multi Lamp Hard Wired CFL	Replace LED Fixture Drawing 400 W	Fixture	\$0,3712	10	2,570	0.132	1,145	\$425.00	45%	85%	55%	1.26	1
Health22	Healthcare	LED	Turnover	7	Induction High Bay Lighting	Base High Bay HPI, 250W	Fixture	\$0,4789	15	1,755	0.090	783	\$375.00	45%	85%	80%	1.36	1
InstH11	Institutional	LED	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPI	Replace LED fixture drawing 250W	Fixture	\$0,8376	10	888	0.029	256	\$214.50	30%	85%	80%	0.56	0
InstH12	Institutional	LED	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPI	Replace LED fixture drawing 400 W	Fixture	\$0,6607	10	1,257	0.082	454	\$300.00	36%	85%	80%	0.71	0
InstH13	Institutional	LED	Early	3	4' T5 HO fixture - 54 W - 4 lamp	Replace LED Fixture drawing 250 W	Fixture	\$0,7498	10	1,257	0.075	858	\$325.00	34%	85%	80%	0.62	0
InstH14	Institutional	LED	Early	4	4' T5 HO fixture - 54 W - 6 lamp	Replace LED Fixture drawing 400 W	Fixture	\$0,5660	10	1,257	0.050	433	\$325.00	34%	85%	80%	0.62	0
InstH15	Institutional	LED	Turnover	5	Ceramic Metal Halide Lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0,1894	6	1,056	0.021	185	\$35.00	18%	85%	55%	1.54	1
InstH16	Institutional	LED	Early	7	Induction High Bay Lighting	Base High Bay HPI, 250W	Fixture	\$1,7973	15	858	0.044	383	\$688.00	45%	85%	80%	0.36	0
InstH17	Institutional	LED	Turnover	1	4' T8 High Bay fixture - 32 W - 6 lamps HPI	Replace LED fixture drawing 250W	Fixture	\$0,4315	10	888	0.029	256	\$110.50	30%	85%	80%	1.09	1
InstH18	Institutional	LED	Turnover	2	4' T8 High Bay fixture - 32 W - 8 lamps HPI	Replace LED fixture drawing 400 W	Fixture	\$0,4955	10	1,257	0.052	454	\$225.00	36%	85%	80%	0.95	1
InstH19	Institutional	LED	Turnover	3	4' T5 HO fixture - 54 W - 4 lamp	Replace LED Fixture drawing 250 W	Fixture	\$0,4694	10	888	0.035	309	\$145.00	36%	85%	80%	1.00	0
InstH20	Institutional	LED	Turnover	4	4' T5 HO fixture - 54 W - 6 lamp	Replace LED Fixture drawing 400 W	Fixture	\$0,6095	10	1,257	0.050	433	\$200.00	34%	85%	80%	0.78	0
InstH21	Institutional	LED	Turnover	6	Multi Lamp Hard Wired CFL	Replace LED Fixture drawing 400 W	Fixture	\$0,3794	10	1,257	0.064	560	\$425.00	45%	85%	55%	0.62	0
InstH22	Institutional	LED	Turnover	7	Induction High Bay Lighting	Base High Bay HPI, 250W	Fixture	\$0,9796	15	888	0.044	383	\$375.00	45%	85%	80%	0.66	0
LodgeH11	Lodging	LED	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPI	Replace LED fixture drawing 250W	Fixture	\$0,4475	10	1,606	0.055	479	\$214.50	36%	85%	80%	1.05	1
LodgeH12	Lodging	LED	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPI	Replace LED fixture drawing 400 W	Fixture	\$0,3530	10	2,352	0.098	850	\$300.00	36%	85%	80%	1.33	1
LodgeH13	Lodging	LED	Early	3	4' T5 HO fixture - 54 W - 4 lamp	Replace LED Fixture drawing 250 W	Fixture	\$0,4065	10	1,606	0.066	578	\$235.00	36%	85%	80%	1.15	1
LodgeH14	Lodging	LED	Early	4	4' T5 HO fixture - 54 W - 6 lamp	Replace LED Fixture drawing 400 W	Fixture	\$0,4011	10	2,352	0.093	810	\$325.00	34%	85%	80%	1.17	1
LodgeH15	Lodging	LED	Turnover	5	Ceramic Metal Halide Lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0,1012	3	1,976	0.040	346	\$35.00	18%	85%	55%	1.50	1
LodgeH16	Lodging	LED	Early	7	Induction High Bay Lighting	Base High Bay HPI, 250W	Fixture	\$0,9603	15	1,606	0.082	716	\$688.00	45%	85%	80%	0.68	0
LodgeH17	Lodging	LED	Turnover	1	4' T8 High Bay fixture - 32 W - 6 lamps HPI	Replace LED fixture drawing 250W	Fixture	\$0,3636	10	1,606	0.055	479	\$110.50	30%	85%	80%	2.03	1
LodgeH18	Lodging	LED	Turnover	2	4' T8 High Bay fixture - 32 W - 8 lamps HPI	Replace LED fixture drawing 400 W	Fixture	\$0,2648	10	2,352	0.098	850	\$225.00	36%	85%	80%	1.77	1
LodgeH19	Lodging	LED	Turnover	3	4' T5 HO fixture - 54 W - 4 lamp	Replace LED Fixture drawing 250 W	Fixture	\$0,2598	10	1,606	0.066	578	\$145.00	36%	85%	80%	1.87	1
LodgeH20	Lodging	LED	Turnover	4	4' T5 HO fixture - 54 W - 6 lamp	Replace LED Fixture drawing 400 W	Fixture	\$0,3209	10	2,352	0.093	810	\$200.00	34%	85%	80%	1.46	1
LodgeH21	Lodging	LED	Turnover	6	Multi Lamp Hard Wired CFL	Replace LED Fixture Drawing 400 W	Fixture	\$0,4057	10	2,352	0.120	1,047	\$425.00	45%	85%	55%	1.16	1
LodgeH22	Lodging	LED	Turnover	7	Induction High Bay Lighting	Base High Bay HPI, 250W	Fixture	\$0,5234	15	1,606	0.082	716	\$375.00	45%	85%	80%	1.24	1
OfficH11	Office	LED	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPI	Replace LED fixture drawing 250W	Fixture	\$0,7875										

PECO Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	PJM Summer Peak kW Savings (kW)	Change case kWh Savings (kWh)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
MiscHT4	Misc	HID	Early	4	4' 15 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.4650	10	2,028	0.080	699	\$245.00	34%	85%	80%	1.01	1
MiscHT5	Misc	HID	Turnover	5	Ceramic Metal Halide Lamp	Replace non-ceramic lamp 400 W	Lamp	\$0.1173	4	1,705	0.034	298	\$35.00	18%	85%	55%	1.69	1
MiscHT7	Misc	HID	Early	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$1.1134	15	1,385	0.071	618	\$688.00	45%	85%	80%	0.58	0
MiscHT1	Misc	HID	Turnover	1	4' T8 High Bay fixture - 32 W - 8 lamps HPF	Replace HID fixture drawing 250W	Fixture	\$0.2673	10	1,385	0.048	413	\$110.50	30%	85%	80%	1.75	1
MiscHT2	Misc	HID	Turnover	2	4' T8 High Bay fixture - 32 W - 8 lamps HPF	Replace HID fixture drawing 400 W	Fixture	\$0.3070	10	2,028	0.084	733	\$225.00	36%	85%	80%	1.53	1
MiscHT3	Misc	HID	Turnover	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.2908	10	1,385	0.057	499	\$145.00	36%	85%	80%	1.61	1
MiscHT4	Misc	HID	Turnover	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.3720	10	2,028	0.080	699	\$260.00	34%	85%	80%	1.26	1
MiscHT6	Misc	HID	Turnover	6	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0.4704	10	2,028	0.104	963	\$425.00	45%	85%	55%	1.00	0
MiscHT7	Misc	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0.6069	15	1,385	0.077	618	\$375.00	45%	80%	80%	1.07	1
GroceH18	Grocery	HID	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1651	10	7,571	0.261	2,271	\$375.00	30%	85%	85%	2.84	1
GroceH19	Grocery	HID	Early	9	Occupancy sensor, wall or ceiling mounted	No prior dimming control	Photocell	\$0.1453	10	7,571	0.435	3,786	\$550.00	50%	85%	85%	3.23	1
GroceH10	Grocery	HID	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1321	10	7,571	0.087	757	\$100.00	10%	85%	45%	3.55	1
HealthE8	Healthcare	HID	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1781	10	7,020	0.242	2,106	\$375.00	30%	85%	85%	2.63	1
HealthE9	Healthcare	HID	Early	9	Occupancy sensor, wall or ceiling mounted	No prior dimming control	Photocell	\$0.1567	10	7,020	0.403	3,510	\$550.00	50%	85%	85%	2.99	1
HealthE10	Healthcare	HID	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1425	10	7,020	0.081	702	\$100.00	10%	85%	45%	3.29	1
InstH18	Institutional	HID	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.3642	10	3,432	0.118	1,030	\$375.00	30%	85%	85%	1.29	1
InstH19	Institutional	HID	Early	9	Occupancy sensor, wall or ceiling mounted	No prior dimming control	Photocell	\$0.3205	10	3,432	0.197	1,716	\$500.00	30%	85%	85%	1.46	1
InstH10	Institutional	HID	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.2914	10	3,432	0.059	343	\$100.00	10%	85%	45%	1.61	1
OfficH18	Office	HID	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.3424	10	3,650	0.126	1,095	\$375.00	30%	85%	85%	1.37	1
OfficH19	Office	HID	Early	9	Occupancy sensor, wall or ceiling mounted	No prior dimming control	Photocell	\$0.3013	10	3,650	0.210	1,825	\$550.00	50%	85%	85%	1.56	1
OfficH10	Office	HID	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.2739	10	3,650	0.042	365	\$100.00	10%	85%	45%	1.71	1
RestH18	Restaurant	HID	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2201	10	5,678	0.196	1,704	\$375.00	30%	85%	85%	2.13	1
RestH19	Restaurant	HID	Early	9	Occupancy sensor, wall or ceiling mounted	No prior dimming control	Photocell	\$0.1937	10	5,678	0.326	2,839	\$550.00	30%	85%	85%	2.46	1
RestH10	Restaurant	HID	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1761	10	5,678	0.065	568	\$100.00	10%	85%	45%	2.62	1
RetaH18	Retail	HID	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2284	10	5,473	0.189	1,642	\$375.00	30%	85%	85%	2.05	1
RetaH19	Retail	HID	Early	9	Occupancy sensor, wall or ceiling mounted	No prior dimming control	Photocell	\$0.2010	10	5,473	0.314	2,737	\$550.00	50%	85%	85%	2.33	1
RetaH10	Retail	HID	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1827	10	5,473	0.063	547	\$100.00	10%	85%	45%	2.57	1
MiscH18	Misc	HID	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2236	10	5,540	0.191	1,662	\$375.00	30%	85%	85%	2.08	1
MiscH19	Misc	HID	Early	9	Occupancy sensor, wall or ceiling mounted	No prior dimming control	Photocell	\$0.1986	10	5,540	0.318	2,770	\$550.00	50%	85%	85%	2.36	1
MiscH10	Misc	HID	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1805	10	5,540	0.064	554	\$100.00	10%	85%	45%	2.60	1
LodgH18	Lodging	HID	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1946	10	6,423	0.221	1,927	\$375.00	30%	85%	85%	2.41	1
LodgH19	Lodging	HID	Early	9	Occupancy sensor, wall or ceiling mounted	No prior dimming control	Photocell	\$0.1713	10	6,423	0.369	3,212	\$550.00	50%	85%	85%	2.74	1
LodgH10	Lodging	HID	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1557	10	6,423	0.074	642	\$100.00	10%	85%	45%	3.01	1
LodgH18	Lodging	HID	Turnover	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2427	10	6,423	0.221	1,927	\$275.00	30%	85%	85%	3.29	1
LodgH19	Lodging	HID	Turnover	9	Occupancy sensor, wall or ceiling mounted	No prior dimming control	Photocell	\$0.1713	10	6,423	0.369	3,212	\$550.00	50%	85%	85%	2.74	1
LodgH10	Lodging	HID	Turnover	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1168	10	6,423	0.074	642	\$75.00	10%	85%	45%	4.02	1
GroceH18	Grocery	HID	Turnover	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1211	10	7,571	0.261	2,271	\$275.00	30%	85%	85%	3.87	1
GroceH19	Grocery	HID	Turnover	9	Occupancy sensor, wall or ceiling mounted	No prior dimming control	Photocell	\$0.1453	10	7,571	0.435	3,786	\$550.00	50%	85%	85%	3.23	1
GroceH10	Grocery	HID	Turnover	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.0991	10	7,571	0.087	757	\$75.00	10%	85%	45%	4.73	1
HealthH8	Healthcare	HID	Turnover	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1306	10	7,020	0.242	2,106	\$275.00	30%	85%	85%	3.59	1
HealthH9	Healthcare	HID	Turnover	9	Occupancy sensor, wall or ceiling mounted	No prior dimming control	Photocell	\$0.1557	10	7,020	0.403	3,510	\$550.00	50%	85%	85%	2.99	1
HealthH10	Healthcare	HID	Turnover	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1368	10	7,020	0.081	702	\$100.00	10%	85%	45%	3.30	1
InstH18	Institutional	HID	Turnover	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2567	10	3,432	0.118	1,030	\$275.00	30%	85%	85%	1.76	1
InstH19	Institutional	HID	Turnover	9	Occupancy sensor, wall or ceiling mounted	No prior dimming control	Photocell	\$0.2305	10	3,432	0.197	1,716	\$550.00	50%	85%	85%	1.46	1
InstH10	Institutional	HID	Turnover	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.2185	10	3,432	0.039	343	\$75.00	10%	85%	45%	2.15	1
OfficH18	Office	HID	Turnover	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2511	10	3,650	0.126	1,095	\$275.00	30%	85%	85%	1.87	1
OfficH19	Office	HID	Turnover	9	Occupancy sensor, wall or ceiling mounted	No prior dimming control	Photocell	\$0.3013	10	3,650	0.210	1,825	\$550.00	50%	85%	85%	1.56	1
OfficH10	Office	HID	Turnover	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.2055	10	3,650	0.042	365	\$75.00	10%	85%	45%	2.28	1
MiscH18	Misc	HID	Turnover	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1655	10	5,540	0.191	1,662	\$275.00	30%	85%	85%	2.83	1
MiscH19	Misc	HID	Turnover	9	Occupancy sensor, wall or ceiling mounted	No prior dimming control	Photocell	\$0.1986	10	5,540	0.318	2,770	\$550.00	50%	85%	85%	2.36	1
MiscH10	Misc	HID	Turnover	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1354	10	5,540	0.064	554	\$75.00	10%	85%	45%	3.46	1
RestH18	Restaurant	HID	Turnover	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1614	10	5,678	0.196	1,704	\$275.00	30%	85%	85%	2.90	1
RestH19	Restaurant	HID	Turnover	9	Occupancy sensor, wall or ceiling mounted	No prior dimming control	Photocell	\$0.1937	10	5,678	0.326	2,839	\$550.00	50%	85%	85%	2.42	1
RestH10	Restaurant	HID	Turnover	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1321	10	5,678	0.065	568	\$75.00	10%	85%	45%	3.55	1
RetaH18	Retail	HID	Turnover	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1675	10	5,473	0.189	1,642	\$275.00	30%	85%	85%	2.80	1
RetaH19	Retail	HID	Turnover	9	Occupancy sensor, wall or ceiling mounted	No prior dimming control	Photocell	\$0.2010	10	5,473	0.314	2,737	\$550.00	50%	85%	85%	2.33	1
RetaH10	Retail	HID	Turnover	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1370	10	5,473	0.063	547	\$75.00	10%	85%	45%	3.42	1
WareH18	Warehouse	HID	Turnover	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1808	10	5,070	0.175	1,521	\$275.00	30%	85%	85%	2.59	1
WareH19	Warehouse	HID	Turnover	9	Occupancy sensor, wall or ceiling mounted	No prior dimming control	Photocell	\$0.1670	10	5,070	0.291	2,535	\$500.00	30%	85%	85%	2.16	1
WareH10	Warehouse	HID	Turnover	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1479	10	5,070	0.058	507	\$75.00	10%	85%	45%	3.17	1
WareH18	Warehouse	HID	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1781	10	4,680	0.161	1,404	\$250.00	30%	85%	85%	2.63	1
WareH19	Warehouse	HID	New	9	Occupancy sensor, wall or ceiling mounted	No prior dimming control	Photocell	\$0.1923	10	4,680	0.269	2,340	\$450.00	30%	85%	85%	2.44	1
WareH10	Warehouse	HID	New	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1389	10	4,680	0.054	468	\$65.00	10%	25%	45%	3.38	1
GroceH18	Grocery	HID	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1192	10	6,989	0.241	2,097	\$250.00	30%	85%	85%	3.93	1
GroceH19	Grocery	HID	New	9	Occupancy sensor, wall or ceiling mounted	No prior dimming control	Photocell	\$0.1288	10	6,989	0.402	3,494	\$450.00	30%	85%	85%	3.64	1
GroceH10	Grocery	HID	New	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.0930	10	6,989	0.080	699	\$65.00	10%	25%	45%	5.04	1
HealthH8	Healthcare</																	

PECO Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	PJM Summer Peak kW Savings (kW)	Change case kWh Savings	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
InstIn13	Institutional	Incandescent	Turnover	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1332	9	3,379	0.094	1,600	\$25.00	30%	95%	95%	3.22	1
LodInN3	Lodging	Incandescent	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0264	14	6,324	0.218	1,897	\$50.00	30%	95%	15%	23.40	1
LodInN4	Lodging	Incandescent	New	4	Photocell dimming control	No prior dimming control	Photocell	\$0.0474	9	6,324	0.363	3,162	\$150.00	50%	95%	95%	9.04	1
LodInN2	Lodging	Incandescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0659	14	6,324	0.218	1,897	\$125.00	30%	95%	80%	9.36	1
LodIn13	Lodging	Incandescent	Turnover	3	Photocell dimming control	No prior dimming control	Photocell	\$0.0712	9	6,324	0.363	3,162	\$225.00	50%	95%	95%	6.03	1
RestInN3	Restaurant	Incandescent	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0298	14	5,591	0.193	1,677	\$50.00	30%	95%	15%	20.69	1
RestInN4	Restaurant	Incandescent	New	4	Photocell dimming control	No prior dimming control	Photocell	\$0.0357	9	5,591	0.321	2,796	\$150.00	50%	95%	95%	7.99	1
RestIn12	Restaurant	Incandescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0745	14	5,591	0.193	1,677	\$125.00	30%	95%	80%	8.26	1
RestIn13	Restaurant	Incandescent	Turnover	3	Photocell dimming control	No prior dimming control	Photocell	\$0.0805	9	5,591	0.321	2,796	\$225.00	50%	95%	95%	5.33	1
RetainN3	Retail	Incandescent	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0309	14	5,589	0.186	1,617	\$50.00	30%	95%	15%	19.94	1
RetainN4	Retail	Incandescent	New	4	Photocell dimming control	No prior dimming control	Photocell	\$0.0557	9	5,589	0.310	2,694	\$150.00	50%	95%	95%	7.70	1
Retain12	Retail	Incandescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0773	14	5,589	0.186	1,617	\$125.00	30%	95%	80%	7.98	1
Retain13	Retail	Incandescent	Turnover	3	Photocell dimming control	No prior dimming control	Photocell	\$0.0835	9	5,589	0.310	2,694	\$225.00	50%	95%	95%	5.14	1
WareInN3	Warehouse	Incandescent	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0334	14	4,992	0.172	1,498	\$50.00	30%	95%	15%	18.47	1
WareInN4	Warehouse	Incandescent	New	4	Photocell dimming control	No prior dimming control	Photocell	\$0.0601	9	4,992	0.287	2,496	\$150.00	50%	95%	95%	7.14	1
WareIn12	Warehouse	Incandescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0835	14	4,992	0.172	1,498	\$125.00	30%	95%	80%	7.39	1
WareIn13	Warehouse	Incandescent	Turnover	3	Photocell dimming control	No prior dimming control	Photocell	\$0.0901	9	4,992	0.287	2,496	\$225.00	50%	95%	95%	4.76	1
MiscInN3	Misc	Incandescent	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0396	14	5,455	0.188	1,636	\$50.00	30%	95%	15%	20.19	1
MiscInN4	Misc	Incandescent	New	4	Photocell dimming control	No prior dimming control	Photocell	\$0.0550	9	5,455	0.313	2,727	\$150.00	50%	95%	95%	7.80	1
MiscIn12	Misc	Incandescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0764	14	5,455	0.188	1,636	\$125.00	30%	95%	80%	8.07	1
MiscIn13	Misc	Incandescent	Turnover	3	Photocell dimming control	No prior dimming control	Photocell	\$0.0825	9	5,455	0.313	2,727	\$225.00	50%	95%	95%	5.20	1
GroceIn14	Grocery	Incandescent	Turnover	4	LED Lamp - 12 Watt	EISA - 60 Watt equivalent - 43W	Lamp	\$0.1329	5	250	0.021	181	\$23.99	72%	75%	50%	1.85	1
HealthI4	Healthcare	Incandescent	Turnover	4	LED Lamp - 12 Watt	EISA - 60 Watt equivalent - 43W	Lamp	\$0.1433	5	232	0.019	167	\$23.99	72%	75%	50%	1.71	1
GroceIn15	Grocery	Incandescent	Turnover	5	LED Lamp PAR - 12 Watt	Halogen PAR - 45W	Lamp	\$0.1908	5	262	0.021	181	\$34.45	69%	75%	90%	1.29	1
HealthI5	Healthcare	Incandescent	Turnover	5	LED Lamp PAR - 12 Watt	Halogen PAR - 45W	Lamp	\$0.2058	5	243	0.019	167	\$34.45	69%	75%	90%	1.19	1
InstIn11	Institutional	Incandescent	Turnover	4	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0355	5	140	0.010	84	\$3.00	60%	75%	50%	6.91	1
InstIn14	Institutional	Incandescent	Turnover	4	LED Lamp - 12 Watt	EISA - 60 Watt equivalent - 43W	Lamp	\$0.2931	5	114	0.009	82	\$23.99	72%	75%	50%	0.84	0
InstIn15	Institutional	Incandescent	Turnover	5	LED Lamp PAR - 12 Watt	Halogen PAR - 45W	Lamp	\$0.4209	5	119	0.009	82	\$34.45	69%	75%	90%	0.58	0
LodIn11	Lodging	Incandescent	Turnover	1	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0190	5	262	0.018	158	\$3.00	60%	75%	50%	12.94	1
LodIn14	Lodging	Incandescent	Turnover	4	LED Lamp - 12 Watt	EISA - 60 Watt equivalent - 43W	Lamp	\$0.1566	5	212	0.018	153	\$23.99	72%	75%	50%	1.57	1
LodIn15	Lodging	Incandescent	Turnover	5	LED Lamp PAR - 12 Watt	Halogen PAR - 45W	Lamp	\$0.2249	5	222	0.018	153	\$34.45	69%	75%	90%	1.09	1
OffIn11	Office	Incandescent	Turnover	1	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0334	5	149	0.010	90	\$3.00	60%	75%	50%	7.35	1
OffIn14	Office	Incandescent	Turnover	4	LED Lamp - 12 Watt	EISA - 60 Watt equivalent - 43W	Lamp	\$0.2756	5	121	0.010	87	\$23.99	72%	75%	50%	0.89	0
OffIn15	Office	Incandescent	Turnover	5	LED Lamp PAR - 12 Watt	Halogen PAR - 45W	Lamp	\$0.3958	5	126	0.010	87	\$34.45	69%	75%	90%	0.62	0
RestIn11	Restaurant	Incandescent	Turnover	1	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0215	5	232	0.016	140	\$3.00	60%	75%	50%	11.44	1
RestIn14	Restaurant	Incandescent	Turnover	4	LED Lamp - 12 Watt	EISA - 60 Watt equivalent - 43W	Lamp	\$0.1772	5	188	0.016	135	\$23.99	72%	75%	50%	1.39	1
RestIn15	Restaurant	Incandescent	Turnover	5	LED Lamp PAR - 12 Watt	Halogen PAR - 45W	Lamp	\$0.2544	5	197	0.016	135	\$34.45	69%	75%	90%	0.96	0
Retain11	Retail	Incandescent	Turnover	1	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0223	5	223	0.015	135	\$3.00	60%	75%	50%	11.02	1
Retain14	Retail	Incandescent	Turnover	4	LED Lamp - 12 Watt	EISA - 60 Watt equivalent - 43W	Lamp	\$0.1838	5	181	0.015	131	\$23.99	72%	75%	50%	1.34	1
Retain15	Retail	Incandescent	Turnover	5	LED Lamp PAR - 12 Watt	Halogen PAR - 45W	Lamp	\$0.2640	5	189	0.015	131	\$34.45	69%	75%	90%	0.93	0
miscIn14	misc	Incandescent	Turnover	1	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0220	5	226	0.016	136	\$3.00	60%	75%	50%	11.16	1
miscIn15	misc	Incandescent	Turnover	4	LED Lamp - 12 Watt	EISA - 60 Watt equivalent - 43W	Lamp	\$0.1816	5	183	0.015	133	\$23.99	72%	75%	50%	1.25	1
miscIn15	misc	Incandescent	Turnover	5	LED Lamp PAR - 12 Watt	Halogen PAR - 45W	Lamp	\$0.2698	5	192	0.015	132	\$34.45	69%	75%	90%	0.94	0
WareIn11	Warehouse	Incandescent	Turnover	1	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0240	5	207	0.014	125	\$3.00	60%	75%	50%	10.21	1
WareIn14	Warehouse	Incandescent	Turnover	4	LED Lamp - 12 Watt	EISA - 60 Watt equivalent - 43W	Lamp	\$0.1984	5	168	0.014	121	\$23.99	72%	75%	50%	1.24	1
WareIn15	Warehouse	Incandescent	Turnover	5	LED Lamp PAR - 12 Watt	Halogen PAR - 45W	Lamp	\$0.2849	5	176	0.014	121	\$34.45	69%	75%	90%	0.86	0
LodInN6	Lodging	Incandescent	New	6	Hotel Occupancy Sensors	No prior control	Per Room	\$0.4468	10	240	0.019	168	\$75.00	70%	90%	95%	1.05	1
LodIn16	Lodging	Incandescent	Turnover	6	Hotel Occupancy Sensors	No prior control	Per Room	\$0.5957	10	240	0.019	168	\$100.00	70%	90%	95%	0.79	0
AlBSN1	All	Signage	New	1	Induction Street Lighting	Base HLD Streetlighting	Fixture	\$0.54	15	2,762	0.101	1,619	\$87.50	59%	95%	95%	1.07	1
AlBSN2	All	Signage	New	2	LED or equivalent sign lighting	Replace fluorescent sign lighting	Exit Sign	\$0.88	15	52	0.002	30	\$17.36	58%	95%	75%	0.99	1
AlBSN3	All	Signage	New	3	LED Street Lighting	Std HHD Street Lighting	Pole	\$0.56	15	3,023	0.047	756	\$425.00	25%	95%	95%	1.03	1
AlBSN1	All	Signage	Early	1	Dusk to Dawn	Time Clock Control	Pole	\$0.17	15	3,023	0.076	1,209	\$200.00	40%	95%	50%	3.50	1
OffMo122	Office	Motors	Turnover	22	Air Comp Improvements	Air Comp Improvements	Motor	\$0.11	15	56148	1.148	8,928	\$990.00	16%	28%	65%	6.02	1
OffMo12	Office	Motors	Early	2	Air Compressor Optimization	Air Compressor Optimization	Motor	\$0.16	15	56148	2.174	16,901	\$2,750.00	30%	38%	65%	4.10	1
GroceMo1	Grocery	Motors	Early	1	Motor Retrocommissioning	Motor Retrocommissioning	Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.27	1
AlloT1	All	Other	Turnover	1	Motor Improvements Bundle - Industrial Mod	No Motor Improvements	Motor	\$0.48	14	10,000	0.128	1,092	\$522.00	11%	90%	95%	1.29	1
AlloT2	All	Other	Turnover	2	HE Transformer - CSI 3	NEMA Transformer - 75W	Motor	\$0.60	15	4,197	0.187	1,595	\$950.00	23%	90%	95%	1.10	1
AlloN1	All	Other	New	1	IE Transformer - CSI 3	NEMA Transformer - 75W	Motor	\$0.60	15	4,197	0.187	1,595	\$950.00	23%	90%	95%	1.10	1
AlloN2	All	Refrigeration	New	26	Anti-sweat heat (ASH) without controls	ASH without controls	Per Door	\$0.14	12	2,085	0.029	1,882	\$300.00	6%	95%	85%	3.07	1
AlloN27	All	Refrigeration	New	27	Anti-sweat heat (ASH) controls - Cooler	ASH without controls	Per Door	\$0.29	12	1,621	0.028	1,023	\$300.00	63%	95%	85%	1.69	1
GroceMoN1	Grocery	Motors	New	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1,1015	15	15384	0.0282	139.5	\$154	0.91%	74.4%	100%	0.65	0
GroceMoN2	Grocery	Motors	New	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1,1901	15	58940	0.0231	437.7	\$521	0.74%	74.4%	100%	0.52	0
GroceMoN3	Grocery	Motors	New	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1,0693	15	144688	0.0138	644.1	\$689	0.45%	66.3%	100%	0.56	0
GroceMoN4	Grocery	Motors	New	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0,4499	15	290222	0.0121	1135.2	\$511	0.39%	55.8%	100%	1.31	1
GroceMoN5	Grocery	Motors	New	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0,3775	15	624328	0.0284	5711.1	\$2,156	0.91%	55.8%	100%	1.55	1
GroceMoN6	Grocery	Motors	New	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor											

PECO Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Voltage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	PJM Summer Peak kW	Change case kWh Savings	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
HealthMo4	Healthcare	Motors	New	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.3503	15	373646	0.0121	1458.0	\$511	0.39%	55.8%	100%	1.68	1
HealthMo5	Healthcare	Motors	New	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.2939	15	801855	0.0284	7335.1	\$2,156	0.91%	55.8%	100%	1.99	1
HealthMo6	Healthcare	Motors	New	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.4388	15	123532	3.225	25,070	\$11,000	20%	55.0%	100%	1.52	1
HealthMo7	Healthcare	Motors	New	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.3771	15	123532	3.941	34471.8	\$13,000	28%	70.0%	100%	1.74	1
HealthMo8	Healthcare	Motors	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.3231	15	123532	0.000	40238.0	\$13,000	32%	80.0%	100%	1.80	1
HealthMo9	Healthcare	Motors	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.4490	15	123532	3.941	28963.3	\$13,000	23%	70.0%	100%	1.50	1
HealthMo10	Healthcare	Motors	New	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.3758	15	123532	2.798	34597.2	\$13,000	28%	55.0%	100%	1.69	1
HealthMo11	Healthcare	Motors	New	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.4233	15	123532	3.941	30713.3	\$13,000	23%	30.0%	100%	1.58	1
HealthMo12	Healthcare	Turnover	1	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$0.5756	15	19759	0.0282	173.2	\$154	0.91%	74.4%	100%	0.80	0
HealthMo13	Healthcare	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$0.9266	15	75700	0.0231	562.2	\$521	0.74%	74.4%	100%	0.66	0
HealthMo13	Healthcare	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$0.8325	15	185830	0.0138	827.3	\$689	0.45%	66.3%	100%	0.71	0
HealthMo14	Healthcare	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.3503	15	373646	0.0121	1458.0	\$511	0.39%	55.8%	100%	1.68	1
HealthMo15	Healthcare	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.2939	15	801855	0.0284	7335.1	\$2,156	0.91%	55.8%	100%	1.99	1
HealthMo16	Healthcare	Motors	Turnover	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.4388	15	123532	3.225	25,070	\$11,000	20%	55.0%	80%	1.52	1
HealthMo17	Healthcare	Motors	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.3771	15	123532	3.941	34471.8	\$13,000	28%	90.0%	100%	1.74	1
HealthMo18	Healthcare	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.3231	15	123532	0.000	40238.0	\$13,000	32%	90.0%	80%	1.80	1
HealthMo19	Healthcare	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.4490	15	123532	3.941	28963.3	\$13,000	23%	90.0%	80%	1.50	1
HealthMo20	Healthcare	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.3758	15	123532	2.798	34597.2	\$13,000	28%	80.0%	80%	1.69	1
HealthMo21	Healthcare	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.4233	15	123532	3.941	30713.3	\$13,000	23%	55.0%	80%	1.58	1
HealthMo12	Healthcare	Motors	Turnover	12	Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0.3969	15	376056	0.243	1889.7	\$750	0.5%	35.0%	95%	1.68	1
HealthMo13	Healthcare	Motors	Turnover	13	Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0.4885	15	814788	0.527	4094.4	\$2,000	0.5%	50.0%	95%	1.37	1
HealthMo14	Healthcare	Motors	Turnover	14	Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0.3663	15	76864	0.088	682.5	\$250	0.9%	10.0%	95%	1.82	1
HealthMo15	Healthcare	Motors	Turnover	15	Motors: Rewind 500+ HP	(E) Motor	Motor	\$0.4233	15	1880281	1.216	9449.6	\$4,000	0.5%	70.0%	95%	1.58	1
HealthMo16	Healthcare	Motors	Turnover	16	Motors: Rewind 51-100 HP	(E) Motor	Motor	\$0.4548	15	190072	0.141	1099.4	\$500	0.6%	20.0%	95%	1.47	1
HealthMo17	Healthcare	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	2.40	1
HealthMo18	Healthcare	Motors	New	12	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.53	1
HealthMo12	Healthcare	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.03	0
HealthMo14	Healthcare	Motors	New	14	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff., 35 HP PSC motor operating 2000 hours per year	Motor	\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.12	1
HealthMo15	Healthcare	Motors	New	15	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.60	0
HealthMo18	Healthcare	Motors	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.53	1
HealthMo19	Healthcare	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.03	0
HealthMo20	Healthcare	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff., 35 HP PSC motor operating 2000 hours per year	Motor	\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.12	1
HealthMo21	Healthcare	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.60	0
HealthMo22	Healthcare	Motors	Turnover	22	Air Comp Improvements	Motor	\$0.11	15	56,148	1.148	8,928	\$2,450.00	16%	28%	63%	6.02	1	
HealthMo22	Healthcare	Motors	Early	2	Air Compressor Optimization	Motor	\$0.16	15	56,148	2.174	16,901	\$2,750.00	30%	38%	65%	4.10	1	
HealthMoE1	Healthcare	Motors	Early	1	Motor Retrocommissioning	Motor	\$0.27	7	56,148	1.156	8,984	\$2,450.00	16%	28%	65%	1.27	1	
InstMoN1	Institutional	Motors	New	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.2757	15	13284	0.0282	120.5	\$154	0.91%	74.4%	100%	0.58	0
InstMoN2	Institutional	Motors	New	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.3783	15	50893	0.0231	377.9	\$521	0.74%	74.4%	100%	0.45	0
InstMoN3	Institutional	Motors	New	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.2384	15	124933	0.0138	556.2	\$689	0.45%	66.3%	100%	0.48	0
InstMoN4	Institutional	Motors	New	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.5211	15	251201	0.0121	980.2	\$511	0.39%	55.8%	100%	1.13	1
InstMoN5	Institutional	Motors	New	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.4372	15	539086	0.0284	4931.3	\$2,156	0.91%	55.8%	100%	1.34	1
InstMoN6	Institutional	Motors	New	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.4388	15	123532	3.225	25,070	\$11,000	20%	55.0%	100%	1.52	1
InstMoN7	Institutional	Motors	New	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.5074	15	84274	6.136	25619.3	\$13,000	30%	70.0%	100%	1.46	1
InstMoN8	Institutional	Motors	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4806	15	84274	0.000	27051.9	\$13,000	32%	80.0%	100%	1.21	1
InstMoN9	Institutional	Motors	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5713	15	84274	6.136	22754.0	\$13,000	27%	70.0%	100%	1.33	1
InstMoN10	Institutional	Motors	New	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.5265	15	84274	4.452	24692.3	\$13,000	29%	55.0%	100%	1.33	1
InstMoN11	Institutional	Motors	New	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5713	15	84274	6.136	22754.0	\$13,000	27%	30.0%	100%	1.33	1
InstMoT1	Institutional	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.2757	15	13284	0.0282	120.5	\$154	0.91%	74.4%	100%	0.58	0
InstMoT10	Institutional	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.5265	15	84274	4.452	24692.3	\$13,000	29%	80.0%	80%	1.33	1
InstMoT11	Institutional	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5713	15	84274	6.136	22754.0	\$13,000	27%	55.0%	80%	1.33	1
InstMoT12	Institutional	Motors	Turnover	12	Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0.5903	15	252822	0.163	1270.5	\$750	0.5%	35.0%	95%	1.13	1
InstMoT13	Institutional	Motors	Turnover	13	Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0.7266	15	547781	0.354	2752.7	\$2,000	0.5%	50.0%	95%	0.92	0
InstMoT14	Institutional	Motors	Turnover	14	Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0.5448	15	51676	0.059	458.9	\$250	0.9%	10.0%	95%	1.22	1
InstMoT15	Institutional	Motors	Turnover	15	Motors: Rewind 500+ HP	(E) Motor	Motor	\$0.6297	15	1264109	0.817	6352.3	\$4,000	0.5%	70.0%	95%	1.06	1
InstMoT16	Institutional	Motors	Turnover	16	Motors: Rewind 51-100 HP	(E) Motor	Motor	\$0.6765	15	127785	0.095	739.1	\$500	0.6%	20.0%	95%	0.99	0
InstMoT17	Institutional	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	2.40	1
InstMoT2	Institutional	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.3783	15	50893	0.0231	377.9	\$521	0.74%	74.4%	100%	0.45	0
InstMoT23	Healthcare	Motors	Turnover	23	Motor Retrocommissioning	Motor	\$0.27	7	56,148	1.156	8,984	\$2,450.00	16%	28%	65%	1.27	1	
InstMoT24	Institutional	Motors	Turnover	24	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.2757	15	13284	0.0282	120.5	\$154	0.91%	75%	95%	0.47	0
InstMoT3	Institutional	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.2384	15	124933	0.0138	556.2	\$689	0.45%	66.3%	100%	0.48	0
InstMoT4	Institutional	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$0.5211	15	251201	0.0121	980.2	\$511	0.39%				

PECO Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure	Baseline kWh	PJM Summer Peak kW Savings (kW)	Change case kWh Savings (kWh)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
LodgMo17	Lodging	Motors	Turnover	11	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	2.40	1
LodgMo18	Lodging	Motors	New	12	Demand Control Ventilation (DCV)	Base Standard Ventilation		\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.53	1
LodgMoN13	Lodging	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood		\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.03	0
LodgMoN14	Lodging	Motors	New	14	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year		\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.12	1
LodgMoN15	Lodging	Motors	New	15	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%		\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.60	0
LodgMo18	Lodging	Motors	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation		\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.53	1
LodgMo19	Lodging	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood		\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.03	0
LodgMo20	Lodging	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year		\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.12	1
LodgMo21	Lodging	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%		\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.60	0
LodgMo122	Lodging	Motors	Turnover	22	Air Comp Improvements			\$0.11	15	56148	1.148	8,928	\$990.00	16%	28%	65%	6.02	1
LodgMo123	Lodging	Motors	Early	2	Air Compressor Optimization			\$0.16	15	56148	2.174	16,901	\$2,750.00	30%	38%	65%	4.10	1
InstMo123	Institutional	Motors	Turnover	23	Motor Retrocommissioning			\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.27	1
miscMoN1	misc	Motors	New	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$11,114	15	15247	0.0282	138.3	\$154	0.91%	74.4%	100%	0.65	0
miscMoN2	misc	Motors	New	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$11,208	15	58416	0.0231	433.8	\$521	0.74%	74.4%	100%	0.51	0
miscMoN3	misc	Motors	New	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$10,789	15	143401	0.0138	638.4	\$689	0.45%	66.3%	100%	0.55	0
miscMoN4	misc	Motors	New	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0,450	15	288334	0.0121	1125.1	\$511	0.39%	55.8%	100%	1.30	1
miscMoN5	misc	Motors	New	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0,389	15	618773	0.0284	5660.3	\$2,156	0.91%	55.8%	100%	1.54	1
miscMoN6	misc	Motors	New	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0,5686	15	96731	2.489	19,346	\$11,000.00	20%	55.0%	100%	1.17	1
miscMoN7	misc	Motors	New	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0,4477	15	96731	4.693	29035.5	\$13,000.00	30%	70.0%	100%	1.54	1
miscMoN8	misc	Motors	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0,4187	15	96731	0.000	31050.8	\$13,000.00	32%	80.0%	100%	1.39	1
miscMoN9	misc	Motors	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0,5087	15	96731	4.693	25532.2	\$13,000.00	26%	70.0%	100%	1.48	1
miscMoN10	misc	Motors	New	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0,4616	15	96731	3.364	28164.9	\$13,000.00	29%	55.0%	100%	1.31	1
miscMoN11	misc	Motors	New	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0,5043	15	96731	4.693	25778.9	\$13,000.00	27%	30.0%	100%	1.39	1
miscMo11	misc	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$11,114	15	15247	0.0282	138.3	\$154	0.91%	74.4%	100%	0.65	0
miscMo12	misc	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$11,208	15	58416	0.0231	433.8	\$521	0.74%	74.4%	100%	0.51	0
miscMo13	misc	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$10,789	15	143401	0.0138	638.4	\$689	0.45%	66.3%	100%	0.55	0
miscMo14	misc	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0,450	15	288334	0.0121	1125.1	\$511	0.39%	55.8%	100%	1.30	1
miscMo15	misc	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0,389	15	618773	0.0284	5660.3	\$2,156	0.91%	55.8%	100%	1.54	1
miscMo16	misc	Motors	Turnover	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0,5686	15	96731	2.489	19,346	\$11,000.00	20%	55.0%	100%	1.17	1
miscMo17	misc	Motors	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0,4477	15	96731	4.693	29035.5	\$13,000.00	30%	90.0%	100%	1.54	1
miscMo18	misc	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0,4187	15	96731	0.000	31050.8	\$13,000.00	32%	90.0%	100%	1.39	1
miscMo19	misc	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0,5087	15	96731	4.693	25532.2	\$13,000.00	26%	90.0%	100%	1.48	1
miscMo110	misc	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0,4616	15	96731	3.364	28164.9	\$13,000.00	29%	80.0%	100%	1.31	1
miscMo111	misc	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0,5043	15	96731	4.693	25778.9	\$13,000.00	27%	55.0%	100%	1.39	1
miscMo112	misc	Motors	Turnover	12	Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0,5143	15	290194	0.188	1458.3	\$750	0.5%	35.0%	95%	1.30	1
miscMo113	misc	Motors	Turnover	13	Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0,6330	15	628754	0.406	3159.6	\$2,000	0.5%	50.0%	95%	1.05	1
miscMo114	misc	Motors	Turnover	14	Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0,4747	15	59314	0.068	526.7	\$250	0.9%	10.0%	95%	1.41	1
miscMo115	misc	Motors	Turnover	15	Motors: Rewind 500+ HP	(E) Motor	Motor	\$0,5486	15	1450970	0.938	7291.3	\$4,000	0.5%	70.0%	95%	1.22	1
miscMo116	misc	Motors	Turnover	16	Motors: Rewind 51-100 HP	(E) Motor	Motor	\$0,5894	15	146674	0.109	848.4	\$500	0.6%	20.0%	95%	1.13	1
miscMo117	misc	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	2.40	1
miscMo12	misc	Motors	New	12	Demand Control Ventilation (DCV)	Base Standard Ventilation		\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.53	1
miscMoN13	misc	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood		\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.03	0
miscMoN14	misc	Motors	New	14	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year		\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.12	1
miscMoN15	misc	Motors	New	15	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%		\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.60	0
miscMo18	misc	Motors	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation		\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.53	1
miscMo19	misc	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood		\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.03	0
miscMo120	misc	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year		\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.12	1
miscMo121	misc	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%		\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.60	0
miscMo122	misc	Motors	Turnover	22	Air Comp Improvements			\$0.11	15	56148	1.148	8,928	\$990.00	16%	28%	65%	6.02	1
miscMo123	misc	Motors	Early	2	Air Compressor Optimization			\$0.16	15	56148	2.174	16,901	\$2,750.00	30%	38%	65%	4.10	1
LodgMoE1	Lodging	Motors	Early	1	Motor Retrocommissioning			\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.27	1
RetaMoN1	Retail	Motors	New	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$11,015	15	15384	0.0282	139.5	\$154	0.91%	74.4%	100%	0.65	0
RetaMoN2	Retail	Motors	New	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$11,901	15	58940	0.0231	437.7	\$521	0.74%	74.4%	100%	0.52	0
RetaMoN3	Retail	Motors	New	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$10,693	15	144688	0.0138	644.1	\$689	0.45%	66.3%	100%	0.56	0
RetaMoN4	Retail	Motors	New	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0,499	15	290222	0.0121	1135.2	\$511	0.39%	55.8%	100%	1.31	1
RetaMoN5	Retail	Motors	New	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0,3775	15	624328	0.0284	5711.1	\$2,156	0.91%	55.8%	100%	1.55	1
RetaMoN6	Retail	Motors	New	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0,5635	15	97600	2.511	19,520	\$11,000.00	20%	55.0%	100%	1.18	1
RetaMoN7	Retail	Motors	New	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0,4367	15	97600	3.941	27979.9	\$13,000.00	31%	70.0%	100%	1.53	1
RetaMoN8	Retail	Motors	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0,4149	15	97600	0.000	31329.5	\$13,000.00	32%	90.0%	100%	1.40	1
RetaMoN9	Retail	Motors	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0,4915	15	97600	3.941	26449.5	\$13,000.00	27%	90.0%	100%	1.39	1
RetaMo10	Retail	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0,4515	15	97600	2.798	28791.9	\$13,000.00	30%	80.0%	100%	1.43	1
RetaMo11	Retail	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0,4915	15	97600	3.941							

PECO Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Savings)	Measure Life	Baseline kWh	PJM Summer Peak kW Savings	Change case kWh Savings	Customer Cost (\$)	Savings %	Applicability	Percent Installed	TRC Test	Economic Flag
RestaMo12	Restaurant	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1,240	15	56520	0.0231	419.7	\$521	0.74%	74.4%	100%	0.50	0
RestaMo13	Restaurant	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1,1151	15	138748	0.0138	617.7	\$689	0.45%	66.3%	100%	0.54	0
RestaMo14	Restaurant	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0,4692	15	278979	0.0121	1088.6	\$511	0.39%	55.8%	100%	1.26	1
RestaMo15	Restaurant	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0,3937	15	598698	0.0284	547.6	\$2156	0.91%	55.8%	100%	1.49	1
RestaMo16	Restaurant	Motors	Turnover	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0,5877	15	93593	2.408	18,719	\$11,000	20%	55.0%	80%	1.14	1
RestaMo17	Restaurant	Motors	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0,4524	15	93593	3.941	287,330	\$13,000	31%	90.0%	80%	1.49	1
RestaMo18	Restaurant	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0,4327	15	93593	0.000	3004.3	\$13,000	32%	90.0%	80%	1.35	1
RestaMo19	Restaurant	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0,5707	15	93593	3.941	2547.3	\$13,000	27%	90.0%	80%	1.34	1
RestaMo110	Restaurant	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0,1708	15	93593	2.798	13,000	\$13,000	30%	80.0%	100%	1.38	1
RestaMo111	Restaurant	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0,5107	15	93593	3.941	2547.3	\$13,000	27%	55.0%	80%	1.34	1
RestaMo112	Restaurant	Motors	Turnover	12	Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0,5316	15	280779	0.182	1410.9	\$750	0.5%	50.0%	95%	1.26	1
RestaMo113	Restaurant	Motors	Turnover	13	Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0,6342	15	608354	0.393	3057.1	\$2,000	0.5%	50.0%	95%	1.02	1
RestaMo114	Restaurant	Motors	Turnover	14	Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0,4906	15	57390	0.066	509.6	\$250	0.9%	100%	95%	1.36	1
RestaMo115	Restaurant	Motors	Turnover	15	Motors: Rewind 500+ HP	(E) Motor	Motor	\$0,5670	15	1403894	0.908	7054.7	\$4,000	0.5%	70.0%	95%	1.18	1
RestaMo116	Restaurant	Motors	Turnover	16	Motors: Rewind 51-100 HP	(E) Motor	Motor	\$0,6091	15	141915	0.106	820.8	\$500	0.6%	20.0%	95%	1.10	1
RestaMo117	Restaurant	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0,34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	2.40	1
RestaMo118	Restaurant	Motors	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0,19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.53	1
RestaMo119	Restaurant	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16,21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.03	0
RestaMo119	Restaurant	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Standard Ventilation	Motor	\$0,19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.53	1
RestaMo118	Restaurant	Motors	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0,19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.53	1
RestaMo119	Restaurant	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16,21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.03	0
RestaMo120	Restaurant	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. .35 HP PSC motor operating 2000 hours per year	Motor	\$0,21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.12	1
RestaMo121	Restaurant	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0,80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.60	0
RestaMo122	Restaurant	Motors	Turnover	22	Air Compressor Improvements	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0,11	15	56148	1.148	8,928	\$990.00	16%	28%	65%	6.02	1
RestaMo122	Restaurant	Motors	Turnover	22	Air Compressor Optimization	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0,16	15	56148	2.174	16,901	\$2,750.00	30%	38%	65%	4.10	1
miscMo1	Misc	Motors	Early	2	Motor Retrocommissioning	Motor	\$0,27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.27	1	
WarehMo1	Warehouse	Motors	New	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1,1114	15	15247	0.0282	138.3	\$154	0.91%	74.4%	100%	0.65	0
WarehMo2	Warehouse	Motors	New	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1,2008	15	58416	0.0231	433.8	\$521	0.74%	74.4%	100%	0.51	0
WarehMo3	Warehouse	Motors	New	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1,0789	15	143401	0.0138	638.4	\$689	0.45%	66.3%	100%	0.55	0
WarehMo4	Warehouse	Motors	New	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0,4540	15	288334	0.0121	1125.1	\$511	0.45%	55.8%	100%	1.30	1
WarehMo5	Warehouse	Motors	New	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0,3809	15	618773	0.0284	560.3	\$2,156	0.91%	55.8%	100%	1.14	1
WarehMo6	Warehouse	Motors	New	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0,5686	15	96731	2.489	19,346	\$11,000	20%	55.0%	100%	1.57	1
WarehMo7	Warehouse	Motors	New	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0,4477	15	96731	4.693	2903.5	\$13,000	30%	70.0%	100%	1.54	1
WarehMo8	Warehouse	Motors	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0,4187	15	96731	0.000	31050.8	\$13,000	32%	80.0%	100%	1.39	1
WarehMo9	Warehouse	Motors	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0,5087	15	96731	4.693	25532.2	\$13,000	26%	70.0%	100%	1.38	1
WarehMo10	Warehouse	Motors	New	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0,4616	15	96731	3.364	28164.9	\$13,000	29%	55.0%	100%	1.43	1
WarehMo11	Warehouse	Motors	New	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0,5043	15	96731	4.693	25778.9	\$13,000	27%	30.0%	100%	1.39	1
WarehMo11	Warehouse	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1,1114	15	15247	0.0282	138.3	\$154	0.91%	74.4%	100%	0.65	0
WarehMo12	Warehouse	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1,2008	15	58416	0.0231	433.8	\$521	0.74%	74.4%	100%	0.51	0
WarehMo13	Warehouse	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1,0789	15	143401	0.0138	638.4	\$689	0.45%	66.3%	100%	0.55	0
WarehMo14	Warehouse	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0,4540	15	288334	0.0121	1125.1	\$511	0.45%	55.8%	100%	1.30	1
WarehMo15	Warehouse	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0,3809	15	618773	0.0284	560.3	\$2,156	0.91%	55.8%	100%	1.14	1
WarehMo16	Warehouse	Motors	Turnover	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0,5686	15	96731	2.489	19,346	\$11,000	20%	55.0%	100%	1.57	1
WarehMo17	Warehouse	Motors	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0,4477	15	96731	4.693	2903.5	\$13,000	30%	90.0%	80%	1.54	1
WarehMo18	Warehouse	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0,4187	15	96731	0.000	31050.8	\$13,000	32%	90.0%	80%	1.39	1
WarehMo19	Warehouse	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0,5087	15	96731	4.693	25532.2	\$13,000	26%	90.0%	80%	1.38	1
WarehMo110	Warehouse	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0,4616	15	96731	3.364	28164.9	\$13,000	29%	80.0%	80%	1.43	1
WarehMo111	Warehouse	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0,5043	15	96731	4.693	25778.9	\$13,000	27%	55.0%	100%	1.39	1
WarehMo112	Warehouse	Motors	Turnover	12	Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0,5143	15	290194	0.188	1458.3	\$750	0.5%	35.0%	95%	1.30	1
WarehMo113	Warehouse	Motors	Turnover	13	Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0,6330	15	628754	0.406	3159.6	\$2,000	0.5%	50.0%	95%	1.05	1
WarehMo114	Warehouse	Motors	Turnover	14	Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0,4747	15	59314	0.068	526.7	\$250	0.9%	10.0%	95%	1.41	1
WarehMo115	Warehouse	Motors	Turnover	15	Motors: Rewind 500+ HP	(E) Motor	Motor	\$0,5486	15	1459070	0.938	7291.3	\$4,000	0.5%	70.0%	95%	1.22	1
WarehMo116	Warehouse	Motors	Turnover	16	Motors: Rewind 51-100 HP	(E) Motor	Motor	\$0,5894	15	146674	0.109	848.4	\$500	0.6%	20.0%	95%	1.13	1
WarehMo117	Warehouse	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0,34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	2.40	1
WarehMo118	Warehouse	Motors	New	12	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0,19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.53	1
WarehMo119	Warehouse	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16,21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.03	0
WarehMo119	Warehouse	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Standard Ventilation	Motor	\$0,19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.53	1
WarehMo118	Warehouse	Motors	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0,19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.53	1
WarehMo119	Warehouse	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16,21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.03	0
WarehMo120	Warehouse	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. .35 HP PSC motor operating 2000 hours per year	Motor	\$0,21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.12	1
WarehMo121	Warehouse	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0,80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.60	0
WarehMo122	Warehouse	Motors																

PECO Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	PJM Summer Peak kW Savings (kW)	Change case kWh Savings (kWh/yr)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
GocePa7	Grocery	Packaged DX	Turnover	8	240-76k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$129	20	1,206	0.006	89	\$115.13	7%	100%	95%	0.96	0
GocePa8	Grocery	Packaged DX	Turnover	8	>76k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$161	20	1,243	0.04	61	\$98.39	5%	100%	95%	0.76	0
GocePa9	Grocery	Packaged DX	Turnover	9	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.13	15	1,096	0.23	352	\$ 750.00	32%	5%	95%	0.48	0
GocePa10	Grocery	Packaged DX	Turnover	10	Ground Source HP Closed	Air Source Heat Pump	ton	\$3.82	15	1,096	0.023	196	\$750.00	18%	100%	95%	0.17	0
GocePa11	Grocery	Packaged DX	Turnover	11	Air-side Economizer	No Economizer	ton	\$1.05	15	1,077	0.019	162	\$170.00	15%	75%	45%	0.62	0
GocePa12	Grocery	Packaged DX	Turnover	12	Energy Recovery Units	No Energy Recovery	ton	\$0.83	15	1,077	0.026	215	\$179.00	20%	100%	95%	0.70	0
GocePa13	Grocery	Packaged DX	Turnover	13	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.16	15	1,138	0.006	51	\$110.89	5%	100%	95%	1.08	0
GocePa18	Grocery	Packaged DX	New	18	Automated control system	Baseline DX	ton	\$0.44	10	1,138	0.007	50	\$25.00	5%	100%	65%	0.80	0
GocePa19	Grocery	Packaged DX	Turnover	9	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$0.82	10	866	0.005	53	\$43.00	5%	100%	95%	0.38	0
GocePa15	Grocery	Packaged DX	Turnover	15	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$0.82	10	966	0.006	53	\$43.00	5%	100%	95%	0.38	0
InstiPa1	Institutional	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3.13	20	803	0.05	64	\$200.00	8%	15%	9%	0.42	0
InstiPa2	Institutional	Packaged DX	Early	2	Adding window shade film	No shade film	ft window art	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.04	0
InstiPa3	Institutional	Packaged DX	Early	3	Adding window shade screen	No shade screen	ft window art	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.17	0
InstiPa4	Institutional	Packaged DX	Early	4	Windows U<0.40, .55 SHGC	Existing window specifications	ft window art	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	0.70	0
InstiPa5	Institutional	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$4.21	20	803	0.05	54	\$225.00	7%	95%	95%	0.34	0
InstiPa7	Institutional	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$0.59	10	848	0.005	42	\$25.00	5%	100%	65%	0.80	0
InstiPa8	Institutional	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	803	0.05	12	\$95.00	1%	45%	80%	0.41	0
InstiPa9	Institutional	Packaged DX	Early	9	Hotel Keycard Sensors	No prior controls	room Controls	\$0.29	10	860	0.041	342	\$100.00	47%	95%	80%	1.62	1
InstiPa10	Institutional	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	873	0.05	64	\$33.00	7%	100%	45%	0.19	0
InstiPa11	Institutional	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	803	0.015	125	\$55.00	16%	100%	45%	1.07	1
InstiPa13	Institutional	Packaged DX	Early	13	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.43	7	803	0.05	128	\$55.15	16%	95%	75%	1.01	1
InstiPa1	Institutional	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	803	0.05	64	\$87.00	8%	100%	95%	0.96	0
InstiPa2	Institutional	Packaged DX	New	2	Adding reflective roof treatment	Std color roof	ton	\$4.50	20	803	0.05	10	\$45.00	1%	100%	95%	1.01	1
InstiPa3	Institutional	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$2.34	20	803	0.05	54	\$125.00	7%	100%	95%	0.61	0
InstiPa4	Institutional	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Std Roof	ton	\$2.38	20	803	0.05	54	\$127.43	7%	45%	95%	0.59	0
InstiPa5	Institutional	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	803	0.05	12	\$125.00	1%	100%	95%	0.37	0
InstiPa6	Institutional	Packaged DX	New	6	<6k, 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.83	20	691	0.04	49	\$90.40	7%	100%	95%	0.77	0
InstiPa7	Institutional	Packaged DX	New	7	<6k, 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.96	20	691	0.08	92	\$180.81	13%	100%	95%	0.72	0
InstiPa8	Institutional	Packaged DX	New	8	<6k, 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.09	20	691	0.12	130	\$271.21	19%	100%	95%	0.68	0
InstiPa9	Institutional	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.03	20	803	0.05	54	\$55.00	7%	100%	95%	1.38	1
InstiPa10	Institutional	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.03	20	817	0.06	68	\$70.00	8%	100%	95%	1.38	1
InstiPa11	Institutional	Packaged DX	New	11	240-76k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.73	20	899	0.06	67	\$115.13	7%	100%	95%	0.82	0
InstiPa12	Institutional	Packaged DX	New	12	>76k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$2.17	20	927	0.04	45	\$98.39	5%	100%	95%	0.65	0
InstiPa13	Institutional	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.38	15	817	0.23	262	\$ 750.00	32%	20%	95%	0.41	0
InstiPa14	Institutional	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$5.12	15	817	0.017	146	\$750.00	18%	100%	95%	0.13	0
InstiPa15	Institutional	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$1.41	15	803	0.014	120	\$170.00	15%	75%	45%	0.46	0
InstiPa16	Institutional	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$1.12	15	803	0.019	161	\$179.00	20%	100%	95%	0.59	0
InstiPa17	Institutional	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.90	15	848	0.005	38	\$110.89	5%	100%	95%	0.23	0
InstiPa1	Institutional	Packaged DX	Turnover	1	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	803	0.05	12	\$125.00	1%	100%	95%	0.37	0
InstiPa12	Institutional	Packaged DX	Turnover	2	<6k, 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.83	20	691	0.04	49	\$90.40	7%	100%	95%	0.77	0
InstiPa13	Institutional	Packaged DX	Turnover	3	<6k, 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.96	20	691	0.08	92	\$180.81	13%	100%	95%	0.72	0
InstiPa14	Institutional	Packaged DX	Turnover	4	<6k, 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.09	20	691	0.12	130	\$271.21	19%	100%	95%	0.68	0
InstiPa15	Institutional	Packaged DX	Turnover	5	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.03	20	803	0.05	54	\$55.00	7%	100%	95%	1.38	1
InstiPa16	Institutional	Packaged DX	Turnover	6	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.03	20	817	0.06	68	\$70.00	8%	100%	95%	1.38	1
InstiPa17	Institutional	Packaged DX	Turnover	7	240-76k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.73	20	899	0.06	67	\$115.13	7%	100%	95%	0.82	0
InstiPa18	Institutional	Packaged DX	Turnover	8	>76k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$2.17	20	927	0.04	45	\$98.39	5%	100%	95%	0.65	0
InstiPa9	Institutional	Packaged DX	Turnover	9	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.86	15	817	0.23	262	\$ 750.00	32%	5%	95%	0.41	0
InstiPa10	Institutional	Packaged DX	Turnover	10	Ground Source HP Closed	Air Source Heat Pump	ton	\$5.12	15	817	0.017	146	\$750.00	18%	100%	95%	0.13	0
InstiPa11	Institutional	Packaged DX	Turnover	11	Air-side Economizer	No Economizer	ton	\$1.41	15	803	0.014	120	\$170.00	15%	75%	45%	0.46	0
InstiPa12	Institutional	Packaged DX	Turnover	12	Energy Recovery Units	No Energy Recovery	ton	\$1.12	15	803	0.019	161	\$179.00	20%	100%	95%	0.59	0
InstiPa13	Institutional	Packaged DX	Turnover	13	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.90	15	848	0.005	38	\$110.89	5%	100%	95%	0.23	0
InstiPa18	Institutional	Packaged DX	New	18	Automated control system	Baseline DX	ton	\$0.59	10	848	0.005	42	\$25.00	5%	100%	65%	0.80	0
InstiPa19	Institutional	Packaged DX	New	19	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.09	10	720	0.005	39	\$43.00	5%	100%	95%	0.43	0
InstiPa15	Institutional	Packaged DX	Turnover	15	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.09	10	720	0.005	39	\$43.00	5%	100%	95%	0.43	0
LodgePa1	Lodging	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3.13	20	958	0.05	64	\$200.00	8%	15%	9%	0.42	0
LodgePa2	Lodging	Packaged DX	Early	2	Adding window shade film	No shade film	ft window art	\$5.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.04	0
LodgePa3	Lodging	Packaged DX	Early	3	Adding window shade screen	No shade screen	ft window art	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.17	0
LodgePa4	Lodging	Packaged DX	Early	4	Windows U<0.40, .55 SHGC	Existing window specifications	ft window art	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	0.70	0
LodgePa5	Lodging	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$3.52	20	958	0.05	54	\$225.00	7%	95%	95%	0.37	0
LodgePa7	Lodging	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$0.49	10	1,012	0.006	51	\$25.00	5%	100%	65%	0.96	0
LodgePa8	Lodging	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	958	0.05	12	\$95.00	1%	45%	80%	0.41	0
LodgePa9	Lodging	Packaged DX	Early	9	Hotel Keycard Sensors	No prior controls	room Controls	\$0.29	10	860	0.041	342	\$100.00	40%	95%	80%	1.62	1
LodgePa10	Lodging	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	1,042	0.05	64	\$33.00	6%	100%	45%	0.19	0
LodgePa11	Lodging	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	958	0.015	125	\$55.00	13%	100%	45%	1.07	1
LodgePa13	Lodging	Packaged DX	Early	13	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.36	7	958	0.05	153	\$55.15	16%	95%	75%	1.15	1
LodgePa1	Lodging	Packaged DX	New	1														

PECO Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Savings)	Measure Life	Baseline kWh Savings	PJM Summer Peak kW Savings	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
MiscPa5	Misc	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$33.05	20	1,105	0.05	74	\$225.00	7%	100%	95%	0.40	0
MiscPa7	Misc	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$0.43	10	1,167	0.007	58	\$25.00	5%	100%	65%	1.10	1
MiscPa8	Misc	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	1,105	0.05	12	\$95.00	1%	45%	80%	0.41	0
MiscPa9	Misc	Packaged DX	Early	9	Hotel Keycard Sensors	No prior controls	room Controls	\$0.29	10	992	0.041	342	\$100.00	34%	95%	80%	1.62	1
MiscPa10	Misc	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	1,201	0.05	64	\$35.00	5%	100%	45%	0.19	0
MiscPa11	Misc	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	1,105	0.015	125	\$55.00	11%	100%	45%	1.07	1
MiscPa13	Misc	Packaged DX	Early	13	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.31	7	1,105	0.05	177	\$55.15	16%	95%	75%	1.27	1
MiscPaN1	Misc	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	928	0.08	64	\$87.00	6%	100%	95%	0.96	0
MiscPaN2	Misc	Packaged DX	New	2	Adding reflective roof treatment	Std color roof	ton	\$4.50	20	1,105	0.05	10	\$45.00	1%	100%	95%	1.01	1
MiscPaN3	Misc	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$1.70	20	1,105	0.05	74	\$125.00	7%	100%	95%	0.72	0
MiscPaN4	Misc	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Std Roof	ton	\$1.73	20	1,105	0.05	74	\$127.43	7%	45%	95%	0.71	0
MiscPaN5	Misc	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	1,105	0.05	12	\$125.00	1%	100%	95%	0.37	0
MiscPaN6	Misc	Packaged DX	New	6	<65k, 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.33	20	952	0.04	68	\$90.40	7%	100%	95%	0.92	0
MiscPaN7	Misc	Packaged DX	New	7	<65k, 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.42	20	952	0.08	127	\$180.81	13%	100%	95%	0.86	0
MiscPaN8	Misc	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.52	20	952	0.12	178	\$271.21	19%	100%	95%	0.80	0
MiscPaN9	Misc	Packaged DX	New	9	65-135k, AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.75	20	1,105	0.05	74	\$55.00	7%	100%	95%	1.63	1
MiscPaN10	Misc	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.75	20	1,125	0.06	94	\$70.00	8%	100%	95%	1.63	1
MiscPaN11	Misc	Packaged DX	New	11	240-70k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.26	20	1,238	0.06	92	\$115.13	7%	100%	95%	0.97	0
MiscPaN12	Misc	Packaged DX	New	12	>70k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$1.57	20	1,276	0.04	63	\$98.39	5%	100%	95%	0.78	0
MiscPaN13	Misc	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.08	15	1,125	0.23	361	\$ 750.00	32%	20%	95%	0.48	0
MiscPaN14	Misc	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$3.72	15	1,125	0.024	201	\$750.00	18%	100%	95%	0.18	0
MiscPaN15	Misc	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$1.03	15	1,105	0.020	166	\$170.00	15%	75%	45%	0.64	0
MiscPaN16	Misc	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$0.81	15	1,105	0.026	221	\$179.00	20%	100%	95%	0.81	0
MiscPaN17	Misc	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.11	15	1,167	0.006	53	\$110.89	5%	100%	95%	0.31	0
MiscPa11	Misc	Turnover	2	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	1,105	0.05	12	\$125.00	1%	100%	95%	0.37	0	
MiscPa12	Misc	Packaged DX	Turnover	2	<65k, 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.33	20	952	0.04	68	\$90.40	7%	100%	95%	0.92	0
MiscPa13	Misc	Packaged DX	Turnover	3	<65k, 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.42	20	952	0.08	127	\$180.81	13%	100%	95%	0.86	0
MiscPa14	Misc	Packaged DX	Turnover	4	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.52	20	952	0.12	178	\$271.21	19%	100%	95%	0.80	0
MiscPa15	Misc	Packaged DX	Turnover	5	65-135k, AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.75	20	1,105	0.05	74	\$55.00	7%	100%	95%	1.63	1
MiscPa16	Misc	Packaged DX	Turnover	6	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.75	20	1,125	0.06	94	\$70.00	8%	100%	95%	1.63	1
MiscPa17	Misc	Packaged DX	Turnover	7	240-70k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.26	20	1,238	0.06	92	\$115.13	7%	100%	95%	0.97	0
MiscPa18	Misc	Packaged DX	Turnover	8	>70k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$1.57	20	1,276	0.04	63	\$98.39	5%	100%	95%	0.78	0
MiscPa19	Misc	Packaged DX	Turnover	9	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.08	15	1,125	0.23	361	\$ 750.00	32%	20%	95%	0.48	0
MiscPa10	Misc	Packaged DX	Turnover	10	Ground Source HP Closed	Air Source Heat Pump	ton	\$3.72	15	1,125	0.024	201	\$750.00	18%	100%	95%	0.18	0
MiscPa11	Misc	Packaged DX	Turnover	11	Air-side Economizer	No Economizer	ton	\$1.03	15	1,105	0.020	166	\$170.00	15%	75%	45%	0.64	0
MiscPa12	Misc	Packaged DX	Turnover	12	Energy Recovery Units	No Energy Recovery	ton	\$0.81	15	1,105	0.026	221	\$179.00	20%	100%	95%	0.81	0
MiscPa13	Misc	Packaged DX	Turnover	13	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.11	15	1,167	0.006	53	\$110.89	5%	100%	95%	0.31	0
MiscPaN18	Misc	Packaged DX	New	18	Automated control system	Baseline DX	ton	\$0.43	10	1,167	0.007	58	\$25.00	5%	100%	65%	1.10	1
MiscPaN19	Misc	Packaged DX	New	19	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$0.80	10	992	0.006	54	\$43.00	5%	100%	95%	0.59	0
MiscPa15	Misc	Packaged DX	Turnover	15	PTAC (10.4 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$0.80	10	992	0.006	54	\$43.00	5%	100%	95%	0.59	0
OfficePa1	Office	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3.33	20	1,077	0.05	64	\$200.00	6%	15%	9%	0.42	0
OfficePa2	Office	Packaged DX	Early	2	Adding window shade film	No shade film	ft window ar	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.04	0
OfficePa3	Office	Packaged DX	Early	3	Adding window shade screen	No shade screen	ft window ar	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.17	0
OfficePa4	Office	Packaged DX	Early	4	Windows U<0.40, 55 SHGC	Existing window specifications	ft window ar	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	0.70	0
OfficePa5	Office	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$3.13	20	1,077	0.05	72	\$225.00	7%	95%	95%	0.39	0
OfficePa7	Office	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$0.44	10	1,138	0.007	57	\$25.00	5%	100%	65%	1.08	1
OfficePa8	Office	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	1,077	0.05	12	\$95.00	1%	45%	80%	0.41	0
OfficePa9	Office	Packaged DX	Early	9	Hotel Keycard Sensors	No prior controls	room Controls	\$0.29	10	966	0.041	342	\$100.00	35%	95%	80%	1.62	1
OfficePa10	Office	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	1,171	0.05	64	\$35.00	5%	100%	45%	0.19	0
OfficePa11	Office	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	1,077	0.015	125	\$55.00	12%	100%	45%	1.07	1
OfficePa13	Office	Packaged DX	Early	13	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.32	7	1,077	0.05	172	\$55.15	16%	95%	75%	1.25	1
OfficePaN1	Office	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	1,077	0.05	64	\$87.00	6%	100%	95%	0.96	0
OfficePaN2	Office	Packaged DX	New	2	Adding reflective roof treatment	Std color roof	ton	\$4.50	20	1,077	0.05	10	\$45.00	1%	100%	95%	1.01	1
OfficePaN3	Office	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$1.74	20	1,077	0.05	72	\$125.00	7%	100%	95%	0.71	0
OfficePaN4	Office	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Std Roof	ton	\$1.78	20	1,077	0.05	72	\$127.43	7%	45%	95%	0.70	0
OfficePaN5	Office	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	1,077	0.05	12	\$125.00	1%	100%	95%	0.37	0
OfficePaN6	Office	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.36	20	928	0.04	66	\$90.40	7%	100%	95%	0.90	0
OfficePaN7	Office	Packaged DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.46	20	928	0.08	124	\$180.81	13%	100%	95%	0.84	0
OfficePaN8	Office	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.56	20	928	0.12	174	\$271.21	19%	100%	95%	0.79	0
OfficePaN9	Office	Packaged DX	New	9	65-135k, AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.77	20	1,077	0.05	72	\$55.00	7%	100%	95%	1.61	1
OfficePaN10	Office	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.77	20	1,096	0.06	91	\$70.00	8%	100%	95%	1.61	1
OfficePaN11	Office	Packaged DX	New	11	240-70k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.29	20	1,206	0.06	89	\$115.13	7%	100%	95%	0.96	0
OfficePaN12	Office	Packaged DX	New	12	>70k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$1.61	20	1,243	0.04	61	\$98.39	5%	100%	95%	0.76	0
OfficePa13	Office	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.13	15	1,096	0.23	352	\$ 750.00	32%	20%	95%	0.48	0
OfficePaN14	Office	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$3.82	15	1,096	0.023	196	\$750.00	18%	100%	95%	0.17	0
OfficePaN15	Office	Packaged DX	New	15</														

PECO Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure	Baseline kWh	PJM Summer Peak kW Savings	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
RestaPa8	Restaurant	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$145	20	994	0.12	186	\$271.21	19%	100%	95%	0.82	0
RestaPa9	Restaurant	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.71	20	1,154	0.05	77	\$55.00	7%	100%	95%	1.68	1
RestaPa10	Restaurant	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.71	20	1,175	0.06	98	\$70.00	8%	100%	95%	1.68	1
RestaPa11	Restaurant	Packaged DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.20	20	1,292	0.06	96	\$115.13	7%	100%	95%	1.00	0
RestaPa12	Restaurant	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$1.51	20	1,332	0.04	65	\$98.39	5%	100%	95%	0.80	0
RestaPa13	Restaurant	Packaged DX	New	13	Ground Source HP Open - Water	Ground Source Heat Pump	ton	\$1.99	15	1,175	0.23	377	\$ 750.00	32%	20%	95%	0.50	0
RestaPa14	Restaurant	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$3.56	15	1,175	0.025	210	\$750.00	18%	100%	95%	0.18	0
RestaPa15	Restaurant	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$0.98	15	1,154	0.021	173	\$170.00	15%	75%	45%	0.67	0
RestaPa16	Restaurant	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$0.78	15	1,154	0.028	231	\$179.00	20%	100%	95%	0.84	0
RestaPa17	Restaurant	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.02	15	1,219	0.007	55	\$110.89	5%	100%	95%	0.32	0
RestaPa18	Restaurant	Packaged DX	Turnover	1	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	1,154	0.05	12	\$125.00	1%	100%	95%	0.31	0
RestaPa19	Restaurant	Packaged DX	Turnover	2	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.27	20	994	0.04	71	\$90.40	7%	100%	95%	0.94	0
RestaPa20	Restaurant	Packaged DX	Turnover	3	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.36	20	994	0.08	133	\$180.81	13%	100%	95%	0.88	0
RestaPa21	Restaurant	Packaged DX	Turnover	4	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.45	20	994	0.12	186	\$271.21	19%	100%	95%	0.82	0
RestaPa22	Restaurant	Packaged DX	Turnover	5	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.71	20	1,154	0.05	77	\$55.00	7%	100%	95%	1.68	1
RestaPa23	Restaurant	Packaged DX	Turnover	6	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.71	20	1,175	0.06	98	\$70.00	8%	100%	95%	1.68	1
RestaPa24	Restaurant	Packaged DX	Turnover	7	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.20	20	1,292	0.06	96	\$115.13	7%	100%	95%	1.00	0
RestaPa25	Restaurant	Packaged DX	Turnover	8	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$1.51	20	1,332	0.04	65	\$98.39	5%	100%	95%	0.80	0
RestaPa26	Restaurant	Packaged DX	Turnover	9	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$1.99	15	1,175	0.23	377	\$ 750.00	32%	5%	95%	0.50	0
RestaPa27	Restaurant	Packaged DX	Turnover	10	Ground Source HP Closed	Air Source Heat Pump	ton	\$3.56	15	1,175	0.025	210	\$750.00	18%	100%	95%	0.18	0
RestaPa28	Restaurant	Packaged DX	Turnover	11	Air-side Economizer	No Economizer	ton	\$0.98	15	1,154	0.021	173	\$170.00	15%	75%	45%	0.67	0
RestaPa29	Restaurant	Packaged DX	Turnover	12	Energy Recovery Units	No Energy Recovery	ton	\$0.78	15	1,154	0.028	231	\$179.00	20%	100%	95%	0.84	0
RestaPa30	Restaurant	Packaged DX	Turnover	13	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.02	15	1,219	0.007	55	\$110.89	5%	100%	95%	0.32	0
RestaPa31	Restaurant	Packaged DX	New	18	Automated control system	Baseline DX	ton	\$0.41	10	1,219	0.007	61	\$25.00	5%	100%	65%	1.15	1
RestaPa32	Restaurant	Packaged DX	Turnover	19	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$0.76	10	1,014	0.007	55	\$43.00	5%	100%	95%	0.62	0
RestaPa33	Restaurant	Packaged DX	Turnover	15	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$0.76	10	1,036	0.007	56	\$43.00	5%	100%	95%	0.62	0
RestaPa34	Retail	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3.13	20	1,130	0.05	64	\$200.00	6%	15%	9%	0.42	0
RestaPa35	Retail	Packaged DX	Early	2	Adding window shade film	No shade film	sq ft window area	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.04	0
RestaPa36	Retail	Packaged DX	Early	3	Adding window shade screen	No shade screen	sq ft window area	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.17	0
RestaPa37	Retail	Packaged DX	Early	4	Windows U<0.40, 55 SHGC	Existing window specifications	sq ft window area	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	0.70	0
RestaPa38	Retail	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$2.99	20	1,130	0.05	75	\$225.00	7%	95%	0.70	0	
RestaPa39	Retail	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$0.42	10	1,194	0.007	60	\$25.00	5%	100%	65%	1.13	1
RestaPa40	Retail	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	1,130	0.05	12	\$95.00	1%	45%	80%	0.41	0
RestaPa41	Retail	Packaged DX	Early	9	Hotel Keypad Sensors	No prior controls	room controls	\$0.29	10	1,014	0.041	342	\$100.00	44%	95%	1.62	1	
RestaPa42	Retail	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	1,229	0.05	64	\$35.00	5%	100%	45%	0.19	0
RestaPa43	Retail	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	1,130	0.015	125	\$55.00	14%	100%	45%	1.07	1
RestaPa44	Retail	Packaged DX	Early	13	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.30	7	1,130	0.05	181	\$55.15	16%	95%	1.29	1	
RestaPa45	Retail	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	1,130	0.05	64	\$87.00	6%	100%	95%	0.96	0
RestaPa46	Retail	Packaged DX	New	2	Adding reflective roof treatment	Std color roof	ton	\$4.50	20	1,130	0.05	10	\$45.00	1%	100%	95%	1.01	1
RestaPa47	Retail	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$1.66	20	1,130	0.05	75	\$125.00	7%	100%	95%	0.73	0
RestaPa48	Retail	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Std Roof	ton	\$1.69	20	1,130	0.08	75	\$127.43	7%	100%	95%	0.71	0
RestaPa49	Retail	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	1,130	0.05	12	\$125.00	1%	100%	95%	0.37	0
RestaPa50	Retail	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.20	20	974	0.04	70	\$90.40	7%	100%	95%	0.93	0
RestaPa51	Retail	Packaged DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.39	20	974	0.08	130	\$180.81	13%	100%	95%	0.87	0
RestaPa52	Retail	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.49	20	974	0.12	183	\$271.21	19%	100%	95%	0.81	0
RestaPa53	Retail	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.73	20	1,130	0.05	75	\$55.00	7%	100%	95%	1.66	1
RestaPa54	Retail	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.73	20	1,151	0.06	96	\$70.00	8%	100%	95%	1.66	1
RestaPa55	Retail	Packaged DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.23	20	1,266	0.06	94	\$115.13	7%	100%	95%	0.98	0
RestaPa56	Retail	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$1.54	20	1,305	0.04	64	\$98.39	5%	100%	95%	0.79	0
RestaPa57	Retail	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.03	15	1,151	0.23	369	\$ 750.00	32%	20%	95%	0.49	0
RestaPa58	Retail	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$3.64	15	1,151	0.025	206	\$750.00	18%	100%	95%	0.18	0
RestaPa59	Retail	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$1.00	15	1,130	0.020	170	\$170.00	15%	75%	45%	0.65	0
RestaPa60	Retail	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$0.79	15	1,130	0.027	226	\$179.00	20%	100%	95%	0.83	0
RestaPa61	Retail	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.06	15	1,194	0.006	54	\$110.89	5%	100%	95%	0.32	0
RestaPa62	Retail	Packaged DX	Turnover	1	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	1,130	0.05	12	\$125.00	1%	100%	95%	0.31	0
RestaPa63	Retail	Packaged DX	Turnover	2	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.20	20	974	0.04	70	\$90.40	7%	100%	95%	0.93	0
RestaPa64	Retail	Packaged DX	Turnover	3	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.39	20	974	0.08	130	\$180.81	13%	100%	95%	0.87	0
RestaPa65	Retail	Packaged DX	Turnover	4	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.49	20	974	0.12	183	\$271.21	19%	100%	95%	0.81	0
RestaPa66	Retail	Packaged DX	Turnover	5	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.73	20	1,130	0.05	75	\$55.00	7%	100%	95%	1.66	1
RestaPa67	Retail	Packaged DX	Turnover	6	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.73	20	1,151	0.06	96	\$70.00	8%	100%	95%	1.66	1
RestaPa68	Retail	Packaged DX	Turnover	7	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.23	20	1,266	0.06	94	\$115.13	7%	100%	95%	0.98	0
RestaPa69	Retail	Packaged DX	Turnover	8	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$1.54	20	1,305	0.04	64	\$98.39	5%	100%	95%	0.79	0
RestaPa70	Retail	Packaged DX	Turnover	9	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.03	15	1,151	0.23	369	\$ 750.00	32%	5%	95%	0.49	0
RestaPa71	Retail	Packaged DX	Turnover	10	Ground Source HP Closed	Air Source Heat Pump	ton	\$3.64	15	1,151	0.025	206	\$750.00	18%	100%	95%	0.18	0
RestaPa72	Retail	Packaged DX	Turnover	11	Air-side Economizer	No Economizer	ton	\$1.00										

PECO Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Savings)	Measure Life	Baseline kWh	PJM Summer Peak kW	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
WarehPa15	Warehouse	Packaged DX	Turnover	5	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0,094	20	875	0.05	58	\$55.00	8%	100%	95%	1.44	1
WarehPa16	Warehouse	Packaged DX	Turnover	6	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0,94	20	891	0.06	74	\$70.00	8%	100%	95%	1.44	1
WarehPa17	Warehouse	Packaged DX	Turnover	7	240-700k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1,59	20	980	0.06	73	\$115.13	7%	100%	95%	0.86	0
WarehPa18	Warehouse	Packaged DX	Turnover	8	>700k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$1,99	20	1,011	0.04	50	\$98.39	5%	100%	95%	0.68	0
WarehPa19	Warehouse	Packaged DX	Turnover	9	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2,62	15	891	0.23	286	\$ 750.00	32%	5%	95%	0.43	0
WarehPa20	Warehouse	Packaged DX	Turnover	10	Ground Source HP Closed	Air Source Heat Pump	ton	\$4,70	15	891	0.019	160	\$750.00	18%	100%	95%	0.14	0
WarehPa21	Warehouse	Packaged DX	Turnover	11	Air-side Economizer	No Economizer	ton	\$1,29	15	875	0.016	131	\$170.00	15%	75%	45%	0.51	0
WarehPa22	Warehouse	Packaged DX	Turnover	12	Energy Recovery Units	No Energy Recovery	ton	\$1,29	15	875	0.021	175	\$170.00	20%	100%	95%	0.64	0
WarehPa23	Warehouse	Packaged DX	Turnover	13	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2,42	15	925	0.005	42	\$110.89	6%	100%	95%	0.25	0
WarehPaN18	Warehouse	Packaged DX	New	18	Automated control system	Baseline DX	ton	\$0,54	10	925	0.006	46	\$25.00	5%	100%	65%	0.87	0
WarehPaN19	Warehouse	Packaged DX	New	19	PTAC (12.0 EER/10,000 BTU)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	unit	\$1,00	10	786	0.005	43	\$43.00	5%	100%	95%	0.47	0
WarehPa24	Warehouse	Packaged DX	Turnover	15	PTAC (12.0 EER/10,000 BTU)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	unit	\$1,00	10	786	0.005	43	\$43.00	5%	100%	95%	0.47	0
HealthcN4	Healthcare	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$0,64	15	2,866	0.003	174	\$110.89	6%	100%	95%	0.90	0
Healthc11	Healthcare	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$0,64	15	2,866	0.003	174	\$110.89	6%	100%	95%	0.90	0
GroceHe1	Grocery	Heating	Early	1	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0,2710	7	125,300	0,297	20,080	\$5,441.68	16%	95%	75%	1.10	1
GroceHe2	Grocery	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2-375	sq ft	\$4,44	20	1,259	0.05	45	\$200.00	4%	10%	95%	0.35	0
GroceHe3	Grocery	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1,67	20	1,259	0.05	75	\$125.00	4%	10%	95%	0.72	0
GroceHe4	Grocery	Heating	Early	4	Green Roof (New construction or roof replacement)	Sld Roof	sq ft	\$3,75	20	1,259	0.05	34	\$127.43	3%	10%	95%	0.48	0
GroceHe5	Grocery	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0,1893	10	2,794	0,039	2,641	\$500.00	95%	100%	95%	2.19	1
GroceHeN1	Grocery	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1,93	20	1,259	0.05	45	\$87.00	4%	10%	95%	0.80	0
GroceHeN2	Grocery	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$9,83	15	1,259	0.23	76	\$ 750.00	6%	20%	95%	0.27	0
GroceHeN3	Grocery	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$9,83	15	1,259	0.001	76	\$750.00	6%	100%	95%	0.06	0
GroceHeN4	Grocery	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1,45	15	1,259	0.001	76	\$110.89	6%	100%	95%	0.40	0
InstHe1	Institutional	Heating	Early	1	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0,2710	7	125,300	0,297	20,080	\$5,441.68	16%	95%	75%	1.10	1
InstHe2	Institutional	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2-375	sq ft	\$4,44	20	896	0.05	45	\$200.00	5%	10%	95%	0.35	0
InstHe3	Institutional	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1,67	20	896	0.05	75	\$125.00	8%	10%	95%	0.72	0
InstHe4	Institutional	Heating	Early	4	Green Roof (New construction or roof replacement)	Sld Roof	sq ft	\$3,75	20	896	0.05	34	\$127.43	2%	10%	95%	0.48	0
InstHe5	Institutional	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0,1893	10	2,794	0,039	2,641	\$500.00	95%	100%	95%	2.19	1
InstHeN1	Institutional	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1,93	20	896	0.05	45	\$87.00	5%	10%	95%	0.80	0
InstHeN2	Institutional	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$13,81	15	896	0.23	54	\$ 750.00	6%	20%	95%	0.25	0
InstHeN3	Institutional	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$13,81	15	896	0.001	54	\$750.00	6%	100%	95%	0.04	0
InstHeN4	Institutional	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$2,04	15	896	0.001	54	\$110.89	6%	100%	95%	0.28	0
LodgHe1	Lodging	Heating	Early	1	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0,2710	7	125,300	0,297	20,080	\$5,441.68	16%	95%	75%	1.10	1
LodgHe2	Lodging	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2-375	sq ft	\$4,44	20	1,525	0.05	45	\$200.00	3%	10%	95%	0.35	0
LodgHe3	Lodging	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1,67	20	1,525	0.05	75	\$125.00	5%	10%	95%	0.72	0
LodgHe4	Lodging	Heating	Early	4	Green Roof (New construction or roof replacement)	Sld Roof	sq ft	\$3,75	20	1,525	0.05	34	\$127.43	2%	10%	95%	0.48	0
LodgHe5	Lodging	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0,1893	10	2,794	0,039	2,641	\$500.00	95%	100%	95%	2.19	1
LodgHeN1	Lodging	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1,93	20	1,525	0.05	45	\$87.00	3%	10%	95%	0.80	0
LodgHeN2	Lodging	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$8,12	15	1,525	0.23	92	\$ 750.00	6%	20%	95%	0.28	0
LodgHeN3	Lodging	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$8,12	15	1,525	0.001	92	\$750.00	6%	100%	95%	0.07	0
LodgHeN4	Lodging	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1,20	15	1,525	0.001	92	\$110.89	6%	100%	95%	0.48	0
LodgHe11	Lodging	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1,20	15	1,525	0.001	92	\$110.89	6%	100%	95%	0.48	0
MiscHe1	Misc	Heating	Early	1	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0,2710	7	125,300	0,297	20,080	\$5,441.68	16%	95%	75%	1.10	1
MiscHe2	Misc	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2-375	sq ft	\$4,44	20	1,365	0.05	45	\$200.00	3%	10%	95%	0.35	0
MiscHe3	Misc	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1,67	20	1,365	0.05	75	\$125.00	5%	10%	95%	0.72	0
MiscHe4	Misc	Heating	Early	4	Green Roof (New construction or roof replacement)	Sld Roof	sq ft	\$3,75	20	1,365	0.05	34	\$127.43	2%	10%	95%	0.48	0
MiscHe5	Misc	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0,1893	10	2,794	0,039	2,641	\$500.00	95%	100%	95%	2.19	1
MiscHeN1	Misc	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1,93	20	1,365	0.05	45	\$87.00	3%	10%	95%	0.80	0
MiscHeN2	Misc	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$9,07	15	1,365	0.23	83	\$ 750.00	6%	20%	95%	0.27	0
MiscHeN3	Misc	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$9,07	15	1,365	0.001	83	\$750.00	6%	100%	95%	0.06	0
MiscHeN4	Misc	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1,34	15	1,365	0.001	83	\$110.89	6%	100%	95%	0.43	0
MiscHe11	Misc	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1,34	15	1,365	0.001	83	\$110.89	6%	100%	95%	0.43	0
OfficHe1	Office	Heating	Early	1	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0,2710	7	125,300	0,297	20,080	\$5,441.68	16%	95%	75%	1.10	1
OfficHe2	Office	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2-375	sq ft	\$4,44	20	804	0.05	45	\$200.00	6%	10%	95%	0.35	0
OfficHe3	Office	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1,67	20	804	0.05	75	\$125.00	4%	10%	95%	0.72	0
OfficHe4	Office	Heating	Early	4	Green Roof (New construction or roof replacement)	Sld Roof	sq ft	\$3,75	20	804	0.05	34	\$127.43	4%	10%	95%	0.48	0
OfficHe5	Office	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0,1893	10	2,794	0,039	2,641	\$500.00	95%	100%	95%	2.19	1
OfficHeN1	Office	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1,93	20	804	0.05	45	\$87.00	6%	10%	95%	0.80	1
OfficHeN2	Office	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$15,38	15	804	0.05	49	\$ 750.00	6%	20%	95%	0.24	0
OfficHeN3	Office	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$15,38	15	804	0.001	49	\$750.00	6%	100%	95%	0.04	0
OfficHeN4	Office	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$2,27	15	804	0.001	49	\$110.89	6%	100%	95%	0.25	0
OfficHe11	Office	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$2,27	15	804	0.001	49	\$110.89	6%	100%	95%	0.25	0
RestHe1	Restaurant	Heating	Early	1	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0,2710	7	125,300	0,297	20,080	\$5,441.68	16%	95%	75%	1.10	1
RestHe2	Restaurant	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2-375	sq ft	\$4,44	20	1,225	0.05	45	\$200.00	4%	10%	95%	0.35	0
RestHe3	Restaurant	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1,67	20	1,225	0.05	75	\$125.00	6%	10%	95%	0.7	

PECO Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Savings)	Measure Life	Baseline kWh	PJM Summer Peak kW Savings (mwhr)	Change case kWh Savings	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
GroceCh9	Grocery	Chiller	Early	1	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1102	20	7,343	0.05	220	\$25.00	3%	75%	95%	0.85	0
GroceChN1	Grocery	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.34	20	7,343	0.05	257	\$87.00	4%	15%	95%	2.48	1
GroceChN2	Grocery	Chiller	New	2	Adding window shade screen	No shade screen	jt ft window area	\$3,9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.18	0
GroceChN3	Grocery	Chiller	New	3	Adding reflective roof treatment	Std color roof	sq ft roof area	\$4.50	10	7,343	0.05	10	\$45.00	0%	100%	95%	1.00	1
GroceChN4	Grocery	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$1.78	20	7,343	0.05	72	\$127.43	1%	45%	95%	0.69	0
GroceChN5	Grocery	Chiller	New	5	High Efficiency Chiller, 0.51 kW /Ton	Std Chiller, 0.58 kW /Ton	ton	\$0.2877	15	7,343	0.76	886	\$255.00	12%	95%	95%	3.94	1
GroceChN6	Grocery	Chiller	New	6	VFD Centrifugal Chiller, 4 kW /ton	Std Chiller, 0.58 kW /Ton	ton	\$0.1591	15	7,343	1.944	2,279	\$362.50	34%	95%	95%	7.12	1
GroceChN7	Grocery	Chiller	New	7	Std Chiller, 1.39 kW /Ton	Std Chiller, 1.39 kW /Ton	ton	\$0.0828	15	17,597	1.728	2,026	\$167.00	12%	95%	95%	13.74	1
GroceChN8	Grocery	Chiller	New	8	Air-Cooled Chillers (1.23 kW/ton)	Base Centrifugal Chiller, 0.58 kW /ton, 500 tons	ton	\$0.3132	15	7,343	0.051	361,050	\$115.00	0.07%	95%	75%	2.19	1
GroceChN9	Grocery	Chiller	New	9	EMS - Chiller	No Energy Recovery	ton	\$0.1702	15	7,343	0.290	1,468.6	\$250.00	20%	95%	75%	4.10	1
GroceChN10	Grocery	Chiller	New	10	Energy Recovery Units	No Insulation	ton	\$1.7023	15	7,343	0.014	73,428.0	\$125.00	1%	100%	95%	0.41	0
GroceChN11	Grocery	Chiller	New	11	Duct Insulation, Add R8	No Insulation	ton	\$1.7023	15	7,343	0.014	73,428.0	\$125.00	1%	100%	95%	0.41	0
GroceCh1	Grocery	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW /ton	Std Chiller, 0.58 kW /Ton	ton	\$0.3329	15	7,343	0.76	886	\$295.00	12%	95%	95%	3.40	1
GroceCh12	Grocery	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW /ton	Std Chiller, 0.58 kW /Ton	ton	\$0.2030	15	7,343	1.944	2,279	\$462.50	31%	95%	95%	5.58	1
GroceCh13	Grocery	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW /Ton	ton	\$0.3237	15	7,343	1.944	1,285	\$416.00	18%	95%	95%	4.85	1
GroceChN11	Grocery	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW /Ton	ton	\$0.3237	15	7,343	1.944	1,285	\$416.00	18%	95%	95%	4.85	1
GroceCh15	Grocery	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW /ton, 500 tons	ton	\$0.3459	15	7,343	0.072	367,140.0	\$173.00	5%	95%	75%	2.02	1
GroceCh14	Grocery	Chiller	Turnover	4	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW /Ton	ton	\$0.1022	15	17,597	1.728	2,026	\$207.00	12%	95%	95%	11.08	1
InstCh1	Institutional	Chiller	Early	1	Duct Sealing, down to 15%	Leakage of 29%	ton	\$1.8224	15	5,213	0.010	52,130.4	\$95.00	1%	40%	\$0.90	0.38	0
InstCh2	Institutional	Chiller	Early	2	Duct Insulation, Add R8	No Insulation	ton	\$2.3978	15	5,213	0.010	52,130.4	\$125.00	1%	50%	95%	0.29	0
InstCh3	Institutional	Chiller	Early	3	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW /ton	ton	\$0.4796	15	5,213	0.051	260,652.0	\$125.00	5%	75%	75%	1.45	1
InstCh4	Institutional	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0.4316	15	5,213	0.206	1,042.6	\$450.00	20%	75%	75%	1.62	1
InstCh5	Institutional	Chiller	Early	5	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.4372	7	5,213	0.165	834	\$364.67	16%	75%	75%	0.84	0
InstCh6	Institutional	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	5,213	0.05	245	\$200.00	5%	15%	95%	0.85	0
InstCh7	Institutional	Chiller	Early	7	Adding window shade film	No shade film	jt ft window area	\$7,0453	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.04	0
InstCh8	Institutional	Chiller	Early	8	Adding window shade screen	No shade screen	jt ft window area	\$3,9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.18	0
InstCh9	Institutional	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.44	20	5,213	0.05	156	\$225.00	3%	75%	95%	0.65	0
InstChN1	Institutional	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.48	20	5,213	0.05	182	\$87.00	4%	15%	95%	1.89	1
InstChN2	Institutional	Chiller	New	2	Adding window shade screen	No shade screen	jt ft window area	\$3,9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.18	0
InstChN3	Institutional	Chiller	New	3	Adding reflective roof treatment	Std color roof	sq ft roof area	\$4.50	10	5,213	0.05	10	\$45.00	0%	100%	95%	1.00	1
InstChN4	Institutional	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$2.38	20	5,213	0.05	54	\$127.43	1%	45%	95%	0.59	0
InstChN5	Institutional	Chiller	New	5	High Efficiency Chiller, 0.51 kW /ton	Std Chiller, 0.58 kW /Ton	ton	\$0.4053	15	5,213	0.76	629	\$255.00	12%	95%	95%	3.36	1
InstChN6	Institutional	Chiller	New	6	VFD Centrifugal Chiller, 4 kW /ton	Std Chiller, 0.58 kW /Ton	ton	\$0.2241	15	5,213	1.944	1,618	\$362.50	34%	95%	95%	6.09	1
InstChN7	Institutional	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW /Ton	ton	\$0.1161	15	12,493	1.728	1,438	\$167.00	12%	95%	95%	11.74	1
InstChN8	Institutional	Chiller	New	8	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW /ton, 500 tons	ton	\$0.4412	15	5,213	0.051	260,652.0	\$125.00	5%	95%	75%	1.58	1
InstChN9	Institutional	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.2598	15	5,213	0.206	1,042.6	\$250.00	20%	95%	75%	2.91	1
InstChN10	Institutional	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$2.3978	15	5,213	0.010	52,130.4	\$125.00	1%	100%	95%	0.29	0
InstCh11	Institutional	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW /ton	Std Chiller, 0.58 kW /Ton	ton	\$0.4689	15	5,213	0.76	629	\$295.00	12%	95%	95%	2.91	1
InstCh12	Institutional	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW /ton	Std Chiller, 0.58 kW /Ton	ton	\$0.2859	15	5,213	1.944	1,618	\$462.50	31%	95%	95%	4.77	1
InstCh13	Institutional	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW /Ton	ton	\$0.4560	15	5,213	1.944	912	\$416.00	18%	95%	95%	4.34	1
InstChN11	Institutional	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW /Ton	ton	\$0.4560	15	5,213	1.944	912	\$416.00	18%	95%	95%	4.34	1
InstCh15	Institutional	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW /ton, 500 tons	ton	\$0.4872	15	5,213	0.051	260,652.0	\$127.00	5%	95%	75%	1.43	1
InstCh14	Institutional	Chiller	Turnover	4	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW /Ton	ton	\$0.1439	15	12,493	1.728	1,438	\$207.00	12%	95%	95%	9.47	1
LodgeCh1	Lodging	Chiller	Early	1	Duct Sealing, down to 15%	Leakage of 29%	ton	\$1.5268	15	6,222	0.012	62,222.4	\$95.00	1%	40%	\$0.90	0.46	0
LodgeCh2	Lodging	Chiller	Early	2	Duct Insulation, Add R8	No Insulation	ton	\$2.089	15	6,222	0.012	62,222.4	\$125.00	1%	50%	95%	0.35	0
LodgeCh3	Lodging	Chiller	Early	3	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW /ton	ton	\$0.4018	15	6,222	0.061	311,112.0	\$125.00	5%	75%	75%	1.74	1
LodgeCh4	Lodging	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0.3616	15	6,222	0.246	1,244.4	\$450.00	20%	75%	75%	1.93	1
LodgeCh5	Lodging	Chiller	Early	5	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.3663	7	6,222	0.197	996	\$364.67	16%	75%	75%	1.00	0
LodgeCh6	Lodging	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	6,222	0.05	245	\$200.00	5%	15%	95%	0.85	0
LodgeCh7	Lodging	Chiller	Early	7	Adding window shade film	No shade film	jt ft window area	\$7,0453	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.04	0
LodgeCh8	Lodging	Chiller	Early	8	Adding window shade screen	No shade screen	jt ft window area	\$3,9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.18	0
LodgeCh9	Lodging	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.21	20	6,222	0.05	187	\$225.00	3%	75%	95%	0.74	0
LodgeChN1	Lodging	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.40	20	6,222	0.05	218	\$87.00	4%	15%	95%	2.17	1
LodgeChN2	Lodging	Chiller	New	2	Adding window shade screen	No shade screen	jt ft window area	\$3,9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.18	0
LodgeChN3	Lodging	Chiller	New	3	Adding reflective roof treatment	Std color roof	sq ft roof area	\$4.50	10	6,222	0.05	10	\$45.00	0%	100%	95%	1.00	1
LodgeChN4	Lodging	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$2.00	20	6,222	0.05	64	\$127.43	1%	45%	95%	0.65	0
LodgeChN5	Lodging	Chiller	New	5	High Efficiency Chiller, 0.51 kW /ton	Std Chiller, 0.58 kW /Ton	ton	\$0.3396	15	6,222	0.76	751	\$255.00	12%	95%	95%	3.63	1
LodgeChN6	Lodging	Chiller	New	6	VFD Centrifugal Chiller, 4 kW /ton	Std Chiller, 0.58 kW /Ton	ton	\$0.1877	15	6,222	1.944	1,931	\$362.50	34%	95%	95%	6.58	1
LodgeChN7	Lodging	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW /Ton	ton	\$0.0773	15	14,912	1.728	1,716	\$167.00	12%	95%	95%	12.69	1
LodgeChN8	Lodging	Chiller	New	8	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW /ton, 500 tons	ton	\$0.5096	15	6,222	0.051	311,112.0	\$115.00	0.07%	95%	75%	1.80	1
LodgeChN9	Lodging	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.2099	15	6,222	0.246	1,244.4	\$250.00	20%	95%	75%	3.47	1
LodgeChN10	Lodging	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$2.089	15	6,222	0.012	62,222.4	\$125.00	1%	100%	95%	0.35	0
LodgeCh11	Lodging	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW /ton	Std Chiller, 0.58 kW /Ton	ton	\$0.3928	15	6,222	0.76	751	\$295.00	12%	95%	95%	3.14	1
LodgeCh12	Lodging	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW /ton	Std Chiller, 0.58 kW /Ton	ton	\$0.2395	15	6,222	1.944	1,931	\$462.50	31%	95%	95%	5.15	1
LodgeCh13	Lodging	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW /Ton	ton	\$0.3820	15	6,222	1.944	1,089	\$416.00	18%				

PECO Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Savings)	Measure Life	Baseline kWh	PJM Summer Peak kW Savings	Change case Savings (kwh/yr)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
OfficeCh2	Office	Chiller	New	3	Adding window shade screen	No shade screen	1/8 ft window area	\$3,500	15	1,54	0.000	0.58	\$1.50	25%	70%	95%	0.18	0
OfficeCh3	Office	Chiller	New	3	Adding reflective roof treatment	Std color roof	sq ft roof area	\$4.50	20	6,995	0.05	10	\$45.00	0%	100%	95%	1.00	1
OfficeCh4	Office	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$1.78	20	6,995	0.05	72	\$127.43	1%	45%	95%	0.69	0
OfficeCh5	Office	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.3021	15	6,995	0.76	844	\$255.00	12%	95%	95%	3.84	1
OfficeCh6	Office	Chiller	New	6	VFD Centrifugal Chiller, 4kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.1670	15	6,995	1.944	2,171	\$362.50	31%	95%	95%	6.95	1
OfficeCh7	Office	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/ton	ton	\$0.0865	15	16,763	1.728	1,930	\$167.00	12%	95%	95%	13.41	1
OfficeCh8	Office	Chiller	New	8	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.3288	15	6,995	0.069	349,740	\$115.50	5%	95%	75%	2.12	1
OfficeCh9	Office	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.1787	15	6,995	0.276	1,309.0	\$250.00	20%	95%	75%	3.90	1
OfficeCh10	Office	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$1,787.00	15	6,995	0.011	69,948.0	\$125.00	1%	100%	95%	0.39	0
OfficeCh11	Office	Chiller	Turnover	2	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.3494	15	6,995	0.76	844	\$295.00	12%	95%	95%	3.32	1
OfficeCh12	Office	Chiller	Turnover	2	VFD Centrifugal Chiller, 4kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.2131	15	6,995	1.944	2,171	\$462.50	31%	95%	95%	5.45	1
OfficeCh13	Office	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW/ton	ton	\$0.3398	15	6,995	1.944	1,224	\$416.00	18%	95%	95%	4.77	1
OfficeCh11	Office	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW/ton	ton	\$0.3398	15	6,995	1.944	1,224	\$416.00	18%	95%	95%	4.77	1
OfficeCh15	Office	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.3631	15	6,995	0.069	349,740	\$127.00	5%	95%	75%	1.92	1
OfficeCh14	Office	Chiller	Turnover	4	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/ton	ton	\$0.1073	15	16,763	1.728	1,930	\$207.00	12%	95%	95%	10.82	1
RestaCh1	Restaurant	Chiller	Early	1	Duct Sealing, down to 15%	Leakage of 29%	ton	\$1,287.4	15	7,496	0.015	74,992	\$95.00	1%	40%	\$0.90	0.55	0
RestaCh2	Restaurant	Chiller	Early	2	Duct Insulation, Add R8	No Insulation	ton	\$1,667.6	15	7,496	0.015	74,992	\$125.00	1%	50%	95%	0.42	0
RestaCh3	Restaurant	Chiller	Early	3	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0.3335	15	7,496	0.074	374,796	\$125.00	5%	75%	75%	2.09	1
RestaCh4	Restaurant	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0.3002	15	7,496	0.296	1,499.2	\$450.00	20%	75%	75%	2.32	1
RestaCh5	Restaurant	Chiller	Early	5	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.3041	7	7,496	0.237	1,199	\$364.67	16%	75%	75%	1.20	1
RestaCh6	Restaurant	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	7,496	0.05	245	\$200.00	3%	15%	95%	0.85	0
RestaCh7	Restaurant	Chiller	Early	7	Adding window shade film	No shade film	1/8 ft window area	\$7.0453	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.04	0
RestaCh8	Restaurant	Chiller	Early	8	Adding window shade screen	No shade screen	1/8 ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.18	0
RestaCh9	Restaurant	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.10	20	7,496	0.05	225	\$225.00	3%	75%	95%	0.86	0
RestaCh1	Restaurant	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.33	20	7,496	0.05	387.00	4%	15%	95%	2.52	1	
RestaCh2	Restaurant	Chiller	New	2	Adding window shade screen	No shade screen	1/8 ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.18	0
RestaCh3	Restaurant	Chiller	New	3	Adding reflective roof treatment	Std color roof	sq ft roof area	\$4.50	20	7,496	0.05	10	\$45.00	0%	100%	95%	1.00	1
RestaCh4	Restaurant	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$1.66	20	7,496	0.05	77	\$127.43	1%	45%	95%	0.72	0
RestaCh5	Restaurant	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.2819	15	7,496	0.76	905	\$255.00	12%	95%	95%	3.98	1
RestaCh6	Restaurant	Chiller	New	6	VFD Centrifugal Chiller, 4kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.1538	15	7,496	1.944	2,326	\$362.50	31%	95%	95%	7.19	1
RestaCh7	Restaurant	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/ton	ton	\$0.0808	15	17,964	1.728	2,068	\$167.00	12%	95%	95%	13.88	1
RestaCh8	Restaurant	Chiller	New	8	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.3968	15	7,496	0.074	374,796	\$115.50	5%	95%	75%	2.27	1
RestaCh9	Restaurant	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.1668	15	7,496	0.296	1,499.2	\$250.00	20%	95%	75%	4.18	1
RestaCh10	Restaurant	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$1,667.6	15	7,496	0.015	74,992	\$125.00	1%	40%	95%	0.42	0
RestaCh11	Restaurant	Chiller	Turnover	2	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.3261	15	7,496	0.76	905	\$295.00	12%	95%	95%	3.44	1
RestaCh12	Restaurant	Chiller	Turnover	2	VFD Centrifugal Chiller, 4kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.1988	15	7,496	1.944	2,326	\$462.50	31%	95%	95%	5.64	1
RestaCh13	Restaurant	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW/ton	ton	\$0.3171	15	7,496	1.944	1,312	\$416.00	18%	95%	95%	4.89	1
RestaCh11	Restaurant	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW/ton	ton	\$0.3171	15	7,496	1.944	1,312	\$416.00	18%	95%	95%	4.89	1
RestaCh15	Restaurant	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.3389	15	7,496	0.074	374,796	\$127.00	5%	95%	75%	2.06	1
RestaCh14	Restaurant	Chiller	Turnover	4	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/ton	ton	\$0.1001	15	17,964	1.728	2,068	\$207.00	12%	95%	95%	11.20	1
RetalCh1	Retail	Chiller	Early	1	Duct Sealing, down to 15%	Leakage of 29%	ton	\$1,238.38	15	7,343	0.014	73,428	\$95.00	1%	40%	\$0.90	0.41	0
RetalCh2	Retail	Chiller	Early	2	Duct Insulation, Add R8	No Insulation	ton	\$1,702.3	15	7,343	0.011	73,428	\$125.00	1%	50%	95%	0.41	0
RetalCh3	Retail	Chiller	Early	3	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0.3405	15	7,343	0.072	367,140	\$125.00	5%	75%	75%	2.05	0
RetalCh4	Retail	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0.3064	15	7,343	0.290	1,468.6	\$450.00	20%	75%	75%	2.28	1
RetalCh5	Retail	Chiller	Early	5	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.3104	7	7,343	0.232	1,175	\$364.67	16%	75%	75%	1.18	1
RetalCh6	Retail	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	7,343	0.05	245	\$200.00	3%	15%	95%	0.85	0
RetalCh7	Retail	Chiller	Early	7	Adding window shade film	No shade film	1/8 ft window area	\$7.0453	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.04	0
RetalCh8	Retail	Chiller	Early	8	Adding window shade screen	No shade screen	1/8 ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.18	0
RetalCh9	Retail	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.10	20	7,343	0.05	220	\$225.00	3%	75%	95%	0.85	0
RetalCh1	Retail	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.34	20	7,343	0.05	387.00	4%	15%	95%	2.48	1	
RetalCh2	Retail	Chiller	New	2	Adding window shade screen	No shade screen	1/8 ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.18	0
RetalCh3	Retail	Chiller	New	3	Adding reflective roof treatment	Std color roof	sq ft roof area	\$4.50	20	7,343	0.05	10	\$45.00	0%	100%	95%	1.00	1
RetalCh4	Retail	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$1.69	20	7,343	0.05	75	\$127.43	1%	45%	95%	0.71	0
RetalCh5	Retail	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.2877	15	7,343	0.76	886	\$255.00	12%	95%	95%	3.94	1
RetalCh6	Retail	Chiller	New	6	VFD Centrifugal Chiller, 4kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.1591	15	7,343	1.944	2,279	\$362.50	31%	95%	95%	7.12	1
RetalCh7	Retail	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/ton	ton	\$0.0824	15	17,597	1.728	2,026	\$167.00	12%	95%	95%	13.74	1
RetalCh8	Retail	Chiller	New	8	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.3132	15	7,343	0.072	367,140	\$115.50	5%	95%	75%	2.23	1
RetalCh9	Retail	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.3002	15	7,343	0.290	1,468.6	\$250.00	20%	95%	75%	4.10	1
RetalCh10	Retail	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$1,702.3	15	7,343	0.011	73,428	\$125.00	1%	100%	95%	0.41	0
RetalCh11	Retail	Chiller	Turnover	2	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.3329	15	7,343	0.76	886	\$295.00	12%	95%	95%	3.40	1
RetalCh12	Retail	Chiller	Turnover	2	VFD Centrifugal Chiller, 4kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.2030	15	7,343	1.944	2,279	\$462.50	31%	95%	95%	5.58	1
RetalCh13	Retail	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW/ton	ton	\$0.3237	15	7,343	1.944	1,285	\$416.00	18%	95%	95%	4.85	1
RetalCh11	Retail	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW/ton	ton	\$0.3237	15	7,343	1.944	1,285	\$416.00	18%	95%	95%	4.85	1
RetalCh15	Retail	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.3459	15	7,343	0.072	367,140	\$127.00	5%	95%	75%	2.02	1
RetalCh14	Retail	Chiller	Turnover	4	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/ton	ton	\$0.1022	15	17,597	1.728	2,026	\$167.00	12%	95%	95%	11.97	1
WarehCh1	Warehouse	Chiller	Early															

PECO Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	PJM Summer Peak kW Savings	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Payback
InsnMo19	Institutional	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5713	15	84274	6.156	227840	\$13,000.00	27%	90.0%	80%	1.33	1
RestaMo123	Restaurant	Motors	Turnover	23	Motor Retrocommissioning		Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.27	1
RetaMoE1	Retail	Motors	Early	1	Motor Retrocommissioning		Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.27	1
RetaMo123	Retail	Motors	Turnover	23	Motor Retrocommissioning		Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.27	1
WarehMoE1	Warehouse	Motors	Early	1	Motor Retrocommissioning		Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.27	1
WarehMo123	Warehouse	Motors	Turnover	23	Motor Retrocommissioning		Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.27	1

Penn Electric Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
HealCh1	Healthcare	Chiller	Early	1	Duct Sealing, down to 15%	Leakage of 29%	ton	\$0.204	15	10,322	0.020	103.2168	\$95.00	1%	40%	90%	0.917	0
HealCh2	Healthcare	Chiller	Early	2	Duct Insulation, Add R8	No Insulation	ton	\$1,2110	15	10,322	0.020	103.2168	\$125.00	1%	50%	95%	0.697	0
HealCh3	Healthcare	Chiller	Early	3	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0.2422	15	10,322	0.102	516.0840	\$125.00	5%	75%	75%	3.484	1
HealCh4	Healthcare	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0.2180	15	10,322	0.407	2,064.3	\$450.00	20%	75%	75%	3.871	1
HealCh5	Healthcare	Chiller	Early	5	Re-commissioning	economizer not functioning	ton	\$0.2208	7	10,322	0.326	1,651	\$364.67	16%	75%	75%	1.612	1
HealCh6	Healthcare	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	10,322	0.05	245	\$200.00	2%	15%	95%	1.032	1
HealCh7	Healthcare	Chiller	Early	7	Adding window shade film	No shade film	sq ft window area	\$7.0453	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.036	0
HealCh8	Healthcare	Chiller	Early	8	Adding window shade screen	No shade screen	sq ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.216	0
HealCh9	Healthcare	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$0.73	20	10,322	0.05	310	\$225.00	3%	75%	95%	1.446	1
HealChN1	Healthcare	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.24	20	10,322	0.05	361	\$87.00	4%	15%	95%	4.296	1
HealChN2	Healthcare	Chiller	New	2	Adding window shade screen	No shade screen	sq ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.216	0
HealChN3	Healthcare	Chiller	New	3	Adding reflective roof treatment	Std color roof	sq ft roof area	\$4.50	20	10,322	0.05	10	\$45.00	0%	100%	95%	0.970	0
HealChN4	Healthcare	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$1.20	20	10,322	0.05	106	\$127.43	1%	45%	95%	1.050	1
HealChN5	Healthcare	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.2047	15	10,322	0.76	1,246	\$255.00	12%	95%	95%	5.344	1
HealChN6	Healthcare	Chiller	New	6	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.1132	15	10,322	1.944	3,203	\$362.50	31%	95%	95%	9.666	1
HealChN7	Healthcare	Chiller	New	7	Air-Cooled Chiller (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.0587	15	24,736	1.728	2,847	\$167.00	12%	95%	95%	18.651	1
HealChN8	Healthcare	Chiller	New	8	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.2228	15	10,322	0.102	516.0840	\$115.00	5%	95%	75%	3.787	1
HealChN9	Healthcare	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.1211	15	10,322	0.407	2,064.3	\$250.00	20%	95%	75%	6.968	1
HealChN10	Healthcare	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$1,2110	15	10,322	0.020	103.2168	\$125.00	1%	100%	95%	0.697	0
HealChT1	Healthcare	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.2368	15	10,322	0.76	1,246	\$295.00	12%	95%	95%	4.619	1
HealChT2	Healthcare	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.1444	15	10,322	1.944	3,203	\$462.50	31%	95%	95%	7.576	1
HealChT3	Healthcare	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.2303	15	10,322	1.944	1,806	\$416.00	18%	95%	95%	5.994	1
HealChN11	Healthcare	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.2303	15	10,322	1.944	1,806	\$416.00	18%	95%	95%	5.994	1
HealChT5	Healthcare	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.2461	15	10,322	0.102	516.0840	\$127.00	5%	95%	75%	3.429	1
HealChT4	Healthcare	Chiller	Turnover	4	Air-Cooled Chiller (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.0727	15	24,736	1.728	2,847	\$207.00	12%	95%	95%	15.047	1
OfficFl1	Office	Fluorescent	Early	1	power factor ballasts) - Bundle	Replace (E) T12 Lamp - Bundle	Fixture	\$0.5712	14	394	0.011	97	\$55.38	25%	95%	41%	1.305	1
GroceHT6	Grocery	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1.0146	6	163	0.007	64	\$65.00	39%	40%	95%	0.278	0
OfficFl2	Office	Fluorescent	Early	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2641	14	1,578	0.054	473	\$125.00	30%	95%	80%	2.822	1
OfficFl3	Office	Fluorescent	Early	3	Photocell dimming control	No prior dimming control	Photocell	\$0.2852	9	1,578	0.091	789	\$225.00	50%	95%	95%	1.467	1
LodgInE6	Lodging	Incandescent	Early	6	Hotel Occupancy Sensors	No prior control	Per Room	\$0.7447	10	240	0.019	168	\$125.00	70%	90%	95%	0.660	0
OfficFlN1	Office	Fluorescent	New	1	HE Lighting Fixtures /Design 15% better than code	Code Baseline	per Building	\$0.1781	15	20,340	0.234	2,034	\$362.18	10%	95%	100%	4.493	1
OfficFlN2	Office	Fluorescent	New	2	HE Lighting Fixtures /Design 25% better than code	Code Baseline	per Building	\$0.3561	15	20,340	0.584	5,085	\$1,810.90	25%	75%	100%	2.246	1
HealHe1	Healthcare	Heating	Early	1	Re-commissioning	economizer not functioning	ton	\$0.2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.078	1
HealHe2	Healthcare	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$4.44	20	298	0.05	45	\$200.00	15%	10%	95%	0.385	0
HealHe3	Healthcare	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.67	20	298	0.05	75	\$125.00	25%	10%	95%	0.844	0
HealHe4	Healthcare	Heating	Early	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$3.75	20	298	0.05	34	\$127.43	11%	10%	95%	0.522	0
HealHe5	Healthcare	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0.1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	2.354	1
HealHeN1	Healthcare	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	298	0.05	45	\$87.00	15%	10%	95%	0.885	0
WarehH1E1	Warehouse	HID	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPF	Replace HID fixture drawing 250W	Fixture	\$0.5670	10	1,268	0.043	378	\$214.50	30%	85%	80%	0.867	0
WarehH1E2	Warehouse	HID	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPF	Replace HID fixture drawing 400 W	Fixture	\$0.4472	10	1,856	0.077	671	\$300.00	36%	85%	80%	1.099	1
WarehH1E3	Warehouse	HID	Early	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.5150	10	1,268	0.052	456	\$235.00	36%	85%	80%	0.954	0
WarehH1E4	Warehouse	HID	Early	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.5081	10	1,856	0.074	640	\$325.00	34%	85%	80%	0.967	0
WarehH1E5	Warehouse	HID	Turnover	5	Ceramic Metal Halide lamp	Replace non-ceramic lamp 400 W	Lamp	\$0.1282	4	1,560	0.031	273	\$35.00	18%	85%	55%	1.438	1
WarehH1E8	Warehouse	HID	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2465	10	5,070	0.175	1,521	\$375.00	30%	85%	85%	1.994	1
WarehH1E9	Warehouse	HID	Early	9	Photocell dimming control	No prior dimming control	Photocell	\$0.2170	10	5,070	0.291	2,535	\$550.00	50%	85%	85%	2.265	1
WarehH1E10	Warehouse	HID	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1972	10	5,070	0.058	507	\$100.00	10%	85%	45%	2.492	1
WarehH1E7	Warehouse	HID	Early	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$1.2166	15	1,268	0.065	566	\$688.00	45%	85%	80%	0.628	0
WarehH1T1	Warehouse	HID	Turnover	1	4' T8 High Bay fixture - 32 W - 6 lamps HPF	Replace HID fixture drawing 250W	Fixture	\$0.2921	10	1,268	0.043	378	\$110.50	30%	85%	80%	1.683	1
WarehH1T2	Warehouse	HID	Turnover	2	4' T8 High Bay fixture - 32 W - 8 lamps HPF	Replace HID fixture drawing 400 W	Fixture	\$0.3354	10	1,856	0.077	671	\$225.00	36%	85%	80%	1.465	1
WarehH1T3	Warehouse	HID	Turnover	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.3178	10	1,268	0.052	456	\$145.00	36%	85%	80%	1.547	1
WarehH1T4	Warehouse	HID	Turnover	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.4065	10	1,856	0.074	640	\$260.00	34%	85%	80%	1.209	1
WarehH1T6	Warehouse	HID	Turnover	6	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0.5140	10	1,856	0.095	827	\$425.00	45%	85%	55%	0.956	0
WarehH1T7	Warehouse	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0.6631	15	1,268	0.065	566	\$375.00	45%	85%	80%	1.206	1
OfficIn2	Office	Incandescent	Early	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1159	14	3,594	0.124	1,078	\$125.00	30%	95%	80%	6.429	1
OfficIn3	Office	Incandescent	Early	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1252	9	3,594	0.207	1,797	\$225.00	50%	95%	95%	3.342	1
GroceN1	Grocery	Incandescent	New	1	HE Lighting Fixtures /Design 15% better than code	Code Baseline	per Building	\$0.0572	15	9,629	0.111	963	\$55.11	10%	95%	100%	13.977	1
HealInN1	Healthcare	Incandescent	New	1	HE Lighting Fixtures /Design 15% better than code	Code Baseline	per Building	\$0.0842	15	49,948	0.574	4,995	\$420.44	10%	95%	100%	9.504	1
AllaA1	All	range Appliance	New	1	EnergyStar vending machine	Standard vending machine	machine	\$0.2672	15	3,619	0.140	1,310	\$350.00	36%	100%	50%	2.965	1
AllaA2	All	range Appliance	New	2	Beverage machine control	Vending machine with no sensor	machine	\$0.1021	5	3,619	0.178	1,665	\$170.00	46%	100%	50%	2.244	1
AllaA3	All	range Appliance	New	3	Other cold product control	Vending machine with no sensor	machine	\$0.1111	5	3,504	0.172	1,612	\$179.00	46%	100%	50%	2.063	1
AllaA4	All	range Appliance	New	4	Non-cooled snack control	Vending machine with no sensor	machine	\$0.4671	5	745	0.037	343	\$160.00	46%	100%	50%	0.490	0
AllaA5	All	range Appliance	New	5	EnergyStar dishwasher	Std Dishwasher	dishwasher	\$0.4015	12	250	0.015	137	\$55.00	55%	100%	50%	1.541	1
AllaA6	All	range Appliance	New	6	EnergyStar refrigerator	Std Refrigerator	refrigerator	\$0.3000	12	750	0.011	100	\$30.00	13%	100%	50%	2.062	1
AllaA7	All	range Appliance	New	7	Low-temperature dish machine	High temp dish machine with booster heater	removed kW	\$0.0634	15	17,451	0.894	8,362	\$530.00	48%	100%	50%	12.502	1
AllaA8	All	range Appliance	New	8	High-efficiency washer	Standard washer, electric hot water	washer	\$0.4380	10	2,262	0.102	95						

Penn Electric Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
OfficMoT2	Office	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1,4170	15	49501	0.0231	367.6	\$521	0.74%	74.4%	100%	0.544	0
OfficMoT3	Office	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1,2732	15	121517	0.0138	541.0	\$689	0.45%	66.3%	100%	0.587	0
OfficMoT4	Office	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0,5357	15	244333	0.0121	953.4	\$511	0.39%	55.8%	100%	1.381	1
OfficMoT5	Office	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0,4495	15	524346	0.0284	4796.5	\$2,156	0.91%	55.8%	100%	1.637	1
OfficMoT6	Office	Motors	Turnover	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0,6710	15	81970	2.109	16,394	\$11,000.00	20%	55.0%	80%	1.209	1
OfficMoT7	Office	Motors	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0,5200	15	81970	6.257	25008.8	\$13,000.00	31%	90.0%	80%	1.702	1
OfficMoT8	Office	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0,4941	15	81970	0.000	26312.3	\$13,000.00	32%	90.0%	80%	1.482	1
OfficMoT9	Office	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0,5874	15	81970	6.257	22318.8	\$13,000.00	27%	90.0%	80%	1.541	1
OfficMoT10	Office	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0,5413	15	81970	4.542	24017.1	\$13,000.00	29%	80.0%	80%	1.566	1
OfficMoT11	Office	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0,5874	15	81970	6.257	22318.8	\$13,000.00	27%	55.0%	80%	1.541	1
OfficMoT12	Office	Motors	Turnover	12	Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0,6069	15	245909	0.159	1235.7	\$750	0.5%	35.0%	95%	1.336	1
OfficMoT13	Office	Motors	Turnover	13	Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0,7470	15	532803	0.344	2677.4	\$2,000	0.5%	50.0%	95%	1.086	1
OfficMoT14	Office	Motors	Turnover	14	Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0,5601	15	50263	0.057	446.3	\$250	0.9%	10.0%	95%	1.448	1
OfficMoT15	Office	Motors	Turnover	15	Motors: Rewind 500+ HP	(E) Motor	Motor	\$0,6474	15	1229546	0.795	6178.6	\$4,000	0.5%	70.0%	95%	1.253	1
OfficMoT16	Office	Motors	Turnover	16	Motors: Rewind 51-100 HP	(E) Motor	Motor	\$0,6955	15	124291	0.092	718.9	\$500	0.6%	20.0%	95%	1.166	1
OfficMoT17	Office	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	3.079	1
OfficMoN2	Office	Motors	New	12	Demand Control Ventilation (DCV)	Base Standard Ventilation	unit	\$0.19	10	16,963	0.175	1,357	\$27.83	8%	75%	95%	2.635	1
OfficMoN3	Office	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	unit	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.031	0
OfficMoN4	Office	Motors	New	14	Electronically Commutated Motors (ECM) on an Air Handler Unit	replaced with 85% eff. ECPM motor	unit	\$0.21	15	5,194	0.120	935	\$2,009.99	18.00%	75%	95%	3.789	1
OfficMoN5	Office	Motors	New	15	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	unit	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.628	0
OfficMoN18	Office	Motors	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation (DCV)	unit	\$0.19	10	16,963	0.175	1,357	\$27.83	8%	75%	95%	2.635	1
OfficMoN19	Office	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	unit	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.031	0
OfficMoN20	Office	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	replaced with 85% eff. ECPM motor	unit	\$0.21	15	5,194	0.120	935	\$2,009.99	18.00%	75%	95%	3.789	1
OfficMoN21	Office	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	unit	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.628	0
AlIOfE1	All	Office Equipment	Early	1	PC network power management	No central control	PC	\$0.14	5	410	0.023	215	\$30.00	52.44%	75%	80%	1.642	1
AlIOfE2	All	Office Equipment	Early	2	Occupancy sensor controls/Smart Strap	Computers, other plug loads	sensor	\$0.60	5	413	0.010	124	\$75.00	30.02%	55%	95%	0.367	0
AlIOfN1	All	Office Equipment	New	1	ENERGY STAR® Office Equipment	Std Office Equipment	PC	\$1.09	5	4,000	0.021	200	\$218.00	5.00%	90%	80%	0.210	0
AlIOfN2	All	Office Equipment	New	2	Energy Star - Water Cooler	Std Water Cooler	unit	\$1.06	5	453	0.022	204	\$215.67	45.08%	35%	80%	0.217	0
AlIOfN3	All	Office Equipment	New	3	Standard personal computer, desktop	80 Plus® PC-desktop	PC	\$0.19	5	410	0.014	130	\$25.00	31.71%	100%	55%	1.191	1
AlIOfN6	All	Office Equipment	New	6	Data Center - Server/Storage Virtualization	No Virtualization	unit	\$1.76	5	4,818	0.452	4,227	\$7,434	87.73%	70%	80%	0.130	0
AlIOfT1	All	Office Equipment	Turnover	1	ENERGY STAR® Office Equipment	Std Office Equipment	PC	\$1.09	5	4,000	0.021	200	\$218.00	5.00%	90%	80%	0.210	0
AlIOfT2	All	Office Equipment	Turnover	2	Energy Star - Water Cooler	Std Water Cooler	unit	\$1.06	5	453	0.022	204	\$215.67	45.08%	35%	80%	0.217	0
AlIOfT3	All	Office Equipment	Turnover	3	Standard personal computer, desktop	80 Plus® PC-desktop	PC	\$0.19	5	410	0.014	130	\$25.00	31.71%	100%	55%	1.191	1
AlIOfT6	All	Office Equipment	Turnover	6	Data Center - Server/Storage Virtualization	No Virtualization	unit	\$1.76	5	4,818	0.452	4,227	\$7,434	87.73%	70%	80%	0.130	0
HealthPaE1	Healthcare	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3.13	20	1,589	0.05	64	\$200.00	4%	15%	95%	0.475	0
HealthPaE2	Healthcare	Packaged DX	Early	2	Adding window shade film	No shade film	4 ft window area	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.033	0
HealthPaE3	Healthcare	Packaged DX	Early	3	Adding window shade screen	No shade screen	4 ft window area	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.206	0
HealthPaE4	Healthcare	Packaged DX	Early	4	Windows U<0.40, 55 SHGC	Existing window specifications	4 ft window area	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	0.951	0
HealthPaE5	Healthcare	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$2.12	20	1,589	0.05	106	\$225.00	7%	95%	95%	0.599	0
HealthPaE7	Healthcare	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$0.30	10	1,679	0.010	84	\$25.00	5%	100%	65%	1.660	1
HealthPaE8	Healthcare	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	1,589	0.05	12	\$95.00	1%	45%	80%	0.400	0
HealthPaE9	Healthcare	Packaged DX	Early	9	Hotel Keycard Sensors	No prior controls	room Control	\$0.29	10	1,426	0.041	342	\$100.00	24%	95%	80%	1.690	1
HealthPaE10	Healthcare	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, FER=10.3, 10 tons	unit	\$0.55	1	1,728	0.05	64	\$35.00	4%	100%	45%	0.202	0
HealthPaE11	Healthcare	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	1,589	0.015	125	\$55.00	8%	100%	45%	1.123	1
HealthPaE13	Healthcare	Packaged DX	Early	13	Re-commissioning	economizer not functioning	ton	\$0.22	7	1,589	0.05	254	\$55.15	16%	95%	75%	1.643	1
HealthPaN1	Healthcare	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	1,589	0.05	64	\$87.00	4%	100%	95%	1.091	1
HealthPaN2	Healthcare	Packaged DX	New	2	Adding reflective roof treatment	Std color roof	ton	\$4.50	20	1,589	0.05	10	\$45.00	1%	100%	95%	0.972	0
HealthPaN3	Healthcare	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$1.18	20	1,589	0.05	106	\$125.00	7%	100%	95%	1.077	1
HealthPaN4	Healthcare	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Std Roof	ton	\$1.20	20	1,589	0.05	106	\$127.43	7%	45%	95%	1.057	1
HealthPaN5	Healthcare	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	1,589	0.05	12	\$125.00	1%	100%	95%	0.365	0
HealthPaN6	Healthcare	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$0.92	20	1,369	0.04	98	\$90.40	7%	100%	95%	1.375	1
HealthPaN7	Healthcare	Packaged DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$0.99	20	1,369	0.08	183	\$180.81	13%	100%	95%	1.283	1
HealthPaN8	Healthcare	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.06	20	1,369	0.12	257	\$271.21	19%	100%	95%	1.203	1
HealthPaN9	Healthcare	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.52	20	1,589	0.05	106	\$55.00	7%	100%	95%	2.448	1
HealthPaN10	Healthcare	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.52	20	1,618	0.06	135	\$70.00	8%	100%	95%	2.448	1
HealthPaN11	Healthcare	Packaged DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$0.87	20	1,780	0.06	132	\$115.13	7%	100%	95%	1.456	1
HealthPaN12	Healthcare	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$1.09	20	1,835	0.04	90	\$98.39	5%	100%	95%	1.162	1
HealthPaN13	Healthcare	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$1.44	15	1,618	0.23	519	\$ 750.00	32%	20%	95%	0.697	0
HealthPaN14	Healthcare	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$2.59	15	1,618	0.035	290	\$750.00	18%	100%	95%	0.310	0
HealthPaN15	Healthcare	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$0.71	15	1,589	0.028	238	\$170.00	15%	75%	45%	1.126	1
HealthPaN16	Healthcare	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$0.56	15	1,589	0.038	318	\$179.00	20%	100%	95%	1.426	1
HealthPaN17	Healthcare	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$1.47	15	1,679	0.009	76	\$110.89	5%	100%	95%	0.548	0
HealthPaT1	Healthcare	Packaged DX	Turnover	1	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	1,589	0.05	12	\$125.00	1%	100%	95%	0.304	0
HealthPaT2	Healthcare	Packaged DX	Turnover	2	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$0.92	20	1,369	0.04	98	\$90.40	7%	100%	95%		

Penn Electric Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
AllReN10	All	Refrigeration	New	10	Reach-in Shaded Pole to PSC Evaporator Fan Motor			\$0.55	15	832	0.051	386	\$212.50	46%	75%	49%	1.471	1
AllReN11	All	Refrigeration	New	11	Reach-in PSC to ECM Evaporator Fan Motor			\$0.49	15	467	0.025	185	\$91.25	40%	75%	49%	1.642	1
AllReN12	All	Refrigeration	New	12	Reach-in Shaded Pole to ECM Evaporator Fan Motor			\$0.54	15	832	0.076	571	\$306.25	69%	75%	49%	1.510	1
AllReN13	All	Refrigeration	New	13	Walk-in Cooler: PSC to ECM: 16-49 Watt			\$0.35	15	711	0.034	258	\$91.25	36%	75%	49%	2.290	1
AllReN14	All	Refrigeration	New	14	Walk-in Freezer: PSC to ECM: 16-49 Watt			\$0.30	15	711	0.041	309	\$91.25	43%	75%	49%	2.743	1
AllReN15	All	Refrigeration	New	15	Walk-in Cooler: Shaded Pole to ECM: 16-49 Watt			\$0.44	15	1,175	0.093	704	\$306.25	60%	75%	49%	1.862	1
AllReN16	All	Refrigeration	New	16	Walk-in Freezer: Shaded Pole to ECM: 16-49 Watt			\$0.36	15	1,175	0.112	842	\$306.25	72%	75%	49%	2.227	1
AllReN17	All	Refrigeration	New	17	Walk-in PSC to ECM			\$0.32	15	711	0.038	283	\$91.25	40%	75%	49%	2.512	1
AllReN18	All	Refrigeration	New	18	Walk-in Shaded Pole to ECM			\$0.40	15	1175	0.103	773	\$306.25	66%	75%	49%	2.044	1
AllReT6	All	Refrigeration	Turnover	6	High Efficiency Ice Makers	Standard Ice Making		\$0.12	10	11,815	0.159	1,197	\$140.00	10%	85%	85%	4.268	1
AllReN19	All	Refrigeration	New	19	High Efficiency Ice Machine Self Contained	Standard Ice Machine Self Contained	fixture	\$0.31	10	4,341	0.042	318	\$100.00	7%	85%	85%	1.587	1
AllReT7	All	Refrigeration	Turnover	7	Fluorescent walk-in light fixture	Incandescent walk-in light fixture		\$0.42	15	792	0.065	491	\$206.00	62.00%	85%	45%	1.929	1
AllReT8	All	Refrigeration	Turnover	8	LED Case Lighting	T12 or T10 fluorescent lighting	Light Bar	\$0.43	15	677	0.070	526	\$225.00	77.78%	95%	75%	1.895	1
AllReT9	All	Refrigeration	Turnover	9	LED Case Lighting - Occupancy Sensor	No Occupancy Sensor	Light Bar	\$0.15	8	667	0.003	20	\$3.00	3.00%	15%	95%	2.540	1
AllReT10	All	Refrigeration	Turnover	10	Efficient, low-temp reach-in	Standard low-temp reach-in	unit	\$0.07	12	5,431	0.222	1,671	\$123.33	30.77%	85%	85%	8.593	1
AllReT11	All	Refrigeration	Turnover	11	High R-Value Glass Doors		door	\$0.67	10	3,986	0.106	797	\$537.50	20.00%	85%	85%	0.740	0
AllReT12	All	Refrigeration	Turnover	12	Compressor VSD retrofit	Base Refrigeration System - Grocery		\$0.35	13	5,436	0.101	761	\$267.00	14%	75%	86%	1.985	1
AllReT13	All	Refrigeration	Turnover	13	Quick acting freezer doors			\$0.62	10	38,544	4.461	33,637	\$20,966.00	87%	75%	86%	0.801	0
AllReT14	All	Refrigeration	Turnover	14	VFD on cooling tower fans	Base single-speed fan		\$0.29	15	7158	0.681	5,132	\$1,507.40	72%	35%	85%	2.757	1
AllReT15	All	Refrigeration	Turnover	15	Reach-in Cooler: Shaded Pole to PSC: 1-37 Watt			\$0.60	15	832	0.047	352	\$212.50	42%	75%	49%	1.342	1
AllReT16	All	Refrigeration	Turnover	16	Reach-in Cooler: PSC to ECM: 1-37 Watt			\$0.54	15	467	0.022	169	\$91.25	36%	75%	49%	1.500	1
AllReT17	All	Refrigeration	Turnover	17	Reach-in Cooler: Shaded Pole to ECM: 1-37 Watt			\$0.59	15	832	0.069	521	\$306.25	63%	75%	49%	1.378	1
AllReT18	All	Refrigeration	Turnover	18	Reach-in Freezer: Shaded Pole to ECM: 1-37 Watt			\$0.49	15	832	0.082	622	\$306.25	75%	75%	49%	1.645	1
AllReT19	All	Refrigeration	Turnover	19	Reach-in Shaded Pole to PSC Evaporator Fan Motor			\$0.55	15	832	0.051	386	\$212.50	46%	75%	49%	1.471	1
AllReT18	All	Refrigeration	Turnover	18	Reach-in PSC to ECM Evaporator Fan Motor			\$0.49	15	467	0.025	185	\$91.25	40%	75%	49%	1.642	1
AllReT20	All	Refrigeration	Turnover	20	Reach-in Shaded Pole to ECM Evaporator Fan Motor			\$0.54	15	832	0.076	571	\$306.25	69%	75%	49%	1.510	1
AllReT21	All	Refrigeration	Turnover	21	Walk-in Cooler: PSC to ECM: 16-49 Watt			\$0.35	15	711	0.034	258	\$91.25	36%	75%	49%	2.290	1
AllReT22	All	Refrigeration	Turnover	22	Walk-in Freezer: PSC to ECM: 16-49 Watt			\$0.30	15	711	0.041	309	\$91.25	43%	75%	49%	2.743	1
AllReT23	All	Refrigeration	Turnover	23	Walk-in Cooler: Shaded Pole to ECM: 16-49 Watt			\$0.44	15	1,175	0.093	704	\$306.25	60%	75%	49%	1.862	1
AllReT24	All	Refrigeration	Turnover	24	Walk-in Freezer: Shaded Pole to ECM: 16-49 Watt			\$0.36	15	1,175	0.112	842	\$306.25	72%	75%	49%	2.227	1
AllReT25	All	Refrigeration	Turnover	25	Walk-in PSC to ECM			\$0.32	15	711	0.038	283	\$91.25	40%	75%	49%	2.512	1
AllReT26	All	Refrigeration	Turnover	26	Walk-in Shaded Pole to ECM			\$0.40	15	1175	0.103	773	\$306.25	66%	75%	49%	2.044	1
AllStT1	All	Signage	Turnover	1	Induction Street Lighting	Base HID Streetlighting	Fixture	\$0.57	15	2,762	0.101	1,619	\$925.00	59%	95%	95%	1.322	1
AllStT2	All	Signage	Turnover	2	LED exit sign - 1 sided	Incandescent exit sign	Exit Sign	\$0.15	15	175	0.024	158	\$23.50	90%	65%	70%	5.436	1
AllStT3	All	Signage	Turnover	3	LED exit sign - 2 sided	Incandescent exit sign	Exit Sign	\$0.16	15	350	0.048	228	\$37.50	65%	65%	70%	5.138	1
AllStT4	All	Signage	Turnover	4	Photoluminescent Exit Sign	Incandescent exit sign	Exit Sign	\$0.17	15	175	0.011	175	\$30.00	100%	50%	70%	4.412	1
AllStT5	All	Signage	Turnover	5	LED or equivalent sign lighting -1 sided	Replace fluorescent sign lighting	Exit Sign	\$0.28	15	79	0.009	61	\$17.36	78%	48%	7%	2.850	1
AllStT6	All	Signage	Turnover	6	LED or equivalent sign lighting -2 sided	Replace fluorescent sign lighting	Exit Sign	\$0.12	15	175	0.002	140	\$17.36	80%	48%	7%	5.865	1
AllStT7	All	Signage	Turnover	7	LED Street Lighting	Std HID Street Lighting	Pole	\$0.63	15	2,762	0.047	756	\$475.00	27%	95%	95%	1.202	1
AllStT8	All	Signage	Turnover	8	Red LED Traffic Light	Red Traffic Light	Signal	\$0.37	10	332	0.019	299	\$112.00	90%	95%	75%	1.213	1
AllStT9	All	Signage	Turnover	9	Yellow LED Traffic Light	Yellow Standard Traffic Light	Lamp	\$12.10	10	12	0.001	10	\$121.00	83%	95%	75%	0.038	0
AllStT10	All	Signage	Turnover	10	Green LED Traffic Light	Green Standard Traffic Light	Lamp	\$0.77	10	260	0.014	226	\$174.00	87%	95%	75%	0.590	0
AllStT11	All	Signage	Turnover	11	Hand/Man LED	Pedestrian Standard	Lamp	\$0.19	10	1,016	0.059	946	\$182.00	93%	95%	75%	2.362	1
AllWaT1	All	Water Heating	Turnover	1	Ultrasonic Faucet Control	Manual Faucet Control	unit	\$1,000	10	1,750	0.010	125	\$125	7%	75%	75%	0.470	0
AllWaT2	All	Water Heating	Turnover	2	Faucet Aerators	Std Flow faucet	unit	\$0.246	12	4,122	0.006	61	\$15	6%	75%	75%	2.480	1
AllWaT3	All	Water Heating	Turnover	3	Hot Water (DHW) Pipe Insulation	No insulation present	10 In ft	\$0.292	14	4,122	0.011	124.00	\$36.23	3%	75%	75%	2.493	1
AllWaT4	All	Water Heating	Turnover	4	Low-Flow Showerheads	Std Flow showerhead	unit	\$0.108	9	4,122	0.042	461	\$50	11%	75%	75%	3.732	1
AllWaT5	All	Water Heating	Turnover	5	Water Heater Thermostat Setback	Constant setback	unit	\$0.029	2	4,122	0.053	577.09	\$17	14%	75%	75%	3.218	1
AllWaN1	All	Water Heating	New	1	Ultrasonic Faucet Control	Manual Faucet Control	unit	\$0.400	10	4,122	0.011	125	\$50	3%	75%	75%	1.193	1
AllWaN2	All	Water Heating	New	2	Faucet Aerators	Std Flow faucet	unit	\$0.082	12	4,122	0.006	61	\$5	6%	75%	75%	7.441	1
AllWaN3	All	Water Heating	New	3	Hot Water (DHW) Pipe Insulation	No insulation present	10 In ft	\$0.292	14	4,122	0.011	124.00	\$36.23	3%	75%	75%	2.493	1
AllWaN4	All	Water Heating	New	4	Low-Flow Showerheads	Std Flow showerhead	unit	\$0.108	9	4,122	0.042	461	\$50	11%	75%	75%	3.732	1
AllWaN5	All	Water Heating	New	5	Water Heater Thermostat Setback	Constant setback	unit	\$0.029	2	4,122	0.053	577.09	\$17	14%	75%	75%	3.218	1
AllWaN6	All	Water Heating	New	6	High Efficiency Water Heater (Electric) EF .93, 28-50 Gal	Std Efficiency water heater	unit	\$0.541	14	4,122	0.012	133	\$72	3%	75%	100%	1.345	1
AllWaN7	All	Water Heating	New	7	Heat Pump Water Heater (air source)	Base Water Heating	unit	\$0.516	14	4,122	0.176	1,914.00	\$988	46%	75%	100%	1.411	1
AllWaN8	All	Water Heating	New	8	Heat Recovery Unit	Base Water Heating	unit	\$0.362	14	4,122	0.190	2,073	\$750	50.3%	50%	95%	2.013	1
AllWaN9	All	Water Heating	New	9	Solar Water Heater	Base Water Heating	unit	\$1.206	14	4,122	0.193	2,106	\$2,540	82.0%	65%	95%	0.604	0
AllWaT6	All	Water Heating	Turnover	6	High Efficiency Water Heater (Electric) EF .93, 28-50 Gal	Std Efficiency water heater	unit	\$0.541	14	4,122	0.012	133	\$72	3%	75%	100%	1.345	1
AllWaT7	All	Water Heating	Turnover	7	Heat Pump Water Heater (air source)	Base Water Heating	unit	\$0.516	14	4,122	0.176	1,914.00	\$988	46%	75%	100%	1.411	1
AllWaT8	All	Water Heating	Turnover	8	Heat Recovery Unit	Base Water Heating	unit	\$0.458	14	4,122	0.190	2,073	\$950	50.3%	50%	95%	1.590	1
AllWaT9	All	Water Heating	Turnover	9	Solar Water Heater	Base Water Heating	unit	\$1.401	14	4,122	0.193	2,106	\$2,950	82.0%	65%	95%	0.520	0
GroceReN1	All	Refrigeration	New	20	Demand Defrost Electric	Base Refrigeration System - Grocery		\$0.91	15	4	0.000	0	\$0.05	1%	95%	92%	0.892	0
AllReT27	All	Refrigeration	Turnover	27	Demand Defrost Electric	Base Refrigeration System - Grocery		\$0.91	15	4	0.000	0	\$0.05	1%	95%	92%	0.892	0
GroceReN3	All	Refrigeration	New	21	Demand Hot Gas Defrost	Base Refrigeration System - Grocery		\$0.35	15	4	0.000	0	\$0.05	3%	95%	92%	2.288	1
AllReT28	All	Refrigeration	Turnover	28	Demand Hot Gas Defrost	Base Refrigeration System - Grocery		\$0.35	15	4	0.000	0	\$0.05	3%	95%	92%	2.288	1
GroceReN4	All	Refrigeration	New	22	Efficient compressor motor - scroll	Base Refrigeration System - Grocery		\$0.09	15	15,825	0.084	633	\$60.00	4%	95%	92%	8.544	1
AllReT29	All	Refrigeration	Turnover	29	Efficient compressor motor - scroll	Base Refrigeration System - Grocery		\$0.09	15	15,825	0.084	633	\$60.00	4%	95%	92%	8.544	1
GroceReN6	All	Refrigeration	New	23	High R-Value Glass Doors	Base Refrigeration System - Grocery	Door	\$0.67	10	3,986	0.106	797	\$537.50	20.00%	95%	92%	0.740	0
GroceReN7	All	Refrigeration	New	24	Refrigeration Commissioning	Base Refrigeration System - Grocery	Per refrigerator	\$0.31	7	8,800	0.187	1,408	\$440.00	16%	95%	92%	1.072	1
AllReE1	All	Refrigeration	Early	1	Refrigeration Commissioning	Base Refrigeration System - Grocery	Per refrigerator	\$0.25	7	8,800	0.117	880	\$220.00	10%	95%	92%	1.340	1
GroceReN8	All	Refrigeration	New	25	Strip curtains for walk-ins	Base Refrigeration System - Grocery		\$0.50	15	29,900	0.079	598	\$300.00	2%	45%	78%	1.614	1
AllReT30	All	Refrigeration	Turnover	30	Strip curtains for walk-ins	Base Refrigeration System - Grocery		\$0.50	15	29,900	0.079	598	\$300.00	2%	45%	78%	1.614	1
HeatPaN18	Healthcare	Packaged DX	New	18	Automated control system	Baseline DX	ton	\$0.30	10	1,679	0.010	84	\$25.00	5%	100%	65%	1.660	1
HeatPaN19	Healthcare	Packaged DX	New	19	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$0.55	10	1,426	0.009	78	\$43.00	5%	100%	95%	0.894	0
HeatPaT15	Healthcare	Packaged DX	Turnover	15	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$0.55	10	1,426	0.009	78	\$43.00	5%	100%	95%	0.894	0
AllCoN1	All	Cooking	New	1	Commercial Hot Food Holding Cabinets (Energy Star)	Standard Cabinet	Each	\$0.94	12	23,411	0.187	1,592	\$1,500.00	7%	40%	95%	0.665	0
AllCoN2	All	Cooking	New	2	High Efficiency Fryers (Energy Star)	Standard Fryer	Each	\$5.45	12	18,196	0.027	233	\$1,271.00	1%	40%	95%	0.115	0
AllCoN3	All	Cook																

Penn Electric Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
InstFlE1	Institutional	Fluorescent	Early	1	power factor ballasts) - Bundle	Replace (5) T12 Lamp - Bundle	Fixture	\$0.6076	15	371	0.010	91	\$55.38	25%	95%	11%	1.317	1
InstFlE2	Institutional	Fluorescent	Early	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2809	14	1,483	0.051	445	\$125.00	30%	95%	80%	2.653	1
InstFlE3	Institutional	Fluorescent	Early	3	Photocell dimming control	No prior dimming control	Photocell	\$0.3034	9	1,483	0.085	742	\$225.00	50%	95%	95%	1.379	1
GroceFlE1	Grocery	Fluorescent	Early	1	power factor ballasts) - Bundle	Replace (5) T12 Lamp - Bundle	Fixture	\$0.2754	11	818	0.023	201	\$55.38	25%	95%	55%	2.035	1
GroceFlE2	Grocery	Fluorescent	Early	2	Manual Wall Switch	Manual Wall Switch	Sensor	\$0.1273	14	3,272	0.113	982	\$125.00	30%	95%	80%	5.853	1
GroceFlE3	Grocery	Fluorescent	Early	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1375	9	3,272	0.188	1,636	\$225.00	50%	95%	95%	3.042	1
LodgFlE1	Lodging	Fluorescent	Early	1	power factor ballasts) - Bundle	Replace (5) T12 Lamp - Bundle	Fixture	\$0.3246	10	694	0.020	171	\$55.38	25%	95%	55%	1.514	1
LodgFlE2	Lodging	Fluorescent	Early	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1501	14	2,776	0.096	833	\$125.00	30%	95%	80%	4.965	1
LodgFlE3	Lodging	Fluorescent	Early	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1621	9	2,776	0.160	1,388	\$225.00	50%	95%	95%	2.581	1
HealthE1	Healthcare	Fluorescent	Early	1	power factor ballasts) - Bundle	Replace (5) T12 Lamp - Bundle	Fixture	\$0.2970	11	759	0.021	186	\$55.38	25%	95%	44%	1.887	1
HealthE2	Healthcare	Fluorescent	Early	2	Manual Wall Switch	Manual Wall Switch	Sensor	\$0.1373	14	3,034	0.105	910	\$125.00	30%	95%	80%	5.427	1
HealthE3	Healthcare	Fluorescent	Early	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1483	9	3,034	0.174	1,517	\$225.00	50%	95%	95%	2.821	1
RestaFlE1	Restaurant	Fluorescent	Early	1	power factor ballasts) - Bundle	Replace (5) T12 Lamp - Bundle	Fixture	\$0.3672	11	614	0.017	151	\$55.38	25%	95%	49%	1.526	1
RestaFlE2	Restaurant	Fluorescent	Early	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1698	14	2,454	0.085	736	\$125.00	30%	95%	80%	4.390	1
RestaFlE3	Restaurant	Fluorescent	Early	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1834	9	2,454	0.141	1,227	\$225.00	50%	95%	95%	2.282	1
RetaiFlE1	Retail	Fluorescent	Early	1	power factor ballasts) - Bundle	Replace (5) T12 Lamp - Bundle	Fixture	\$0.3810	11	591	0.017	145	\$55.38	25%	95%	55%	1.471	1
RetaiFlE2	Retail	Fluorescent	Early	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1761	14	2,365	0.082	710	\$125.00	30%	95%	80%	4.231	1
RetaiFlE3	Retail	Fluorescent	Early	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1902	9	2,365	0.136	1,183	\$225.00	50%	95%	95%	2.199	1
WarehFlE1	Warehouse	Fluorescent	Early	1	power factor ballasts) - Bundle	Replace (5) T12 Lamp - Bundle	Fixture	\$0.4113	12	548	0.015	135	\$55.38	25%	95%	35%	1.521	1
WarehFlE2	Warehouse	Fluorescent	Early	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1901	14	2,191	0.076	657	\$125.00	30%	95%	80%	3.919	1
WarehFlE3	Warehouse	Fluorescent	Early	3	Photocell dimming control	No prior dimming control	Photocell	\$0.2054	9	2,191	0.126	1,096	\$225.00	50%	95%	95%	2.037	1
MiscFlE1	Misc	Fluorescent	Early	1	power factor ballasts) - Bundle	Replace (5) T12 Lamp - Bundle	Fixture	\$0.3764	11	599	0.017	147	\$55.38	25%	95%	44%	1.489	1
OfficInN1	Office	HID	New	1	HE Lighting Fixtures /Design 15% better than code	Code Baseline	per Building	\$0.1781	15	621	0.007	62	\$110.06	10%	95%	100%	4.493	1
OfficInN2	Office	HID	New	2	HE Lighting Fixtures /Design 25% better than code	Code Baseline	per Building	\$0.3561	15	621	0.018	155	\$55.32	25%	85%	100%	2.246	1
OfficInN1	Office	Incandescent	New	1	HE Lighting Fixtures /Design 15% better than code	Code Baseline	per Building	\$0.1781	15	2,727	0.031	273	\$48.56	10%	95%	100%	4.493	1
OfficInN2	Office	Incandescent	New	2	HE Lighting Fixtures /Design 25% better than code	Code Baseline	per Building	\$0.3561	15	2,727	0.078	682	\$242.78	25%	75%	100%	2.246	1
InstiFlN1	Institutional	Fluorescent	New	1	HE Lighting Fixtures /Design 15% better than code	Code Baseline	per Building	\$0.1722	15	62,741	0.721	6,274	\$1,080.26	10%	95%	100%	4.646	1
InstiFlN2	Institutional	Fluorescent	New	2	HE Lighting Fixtures /Design 25% better than code	Code Baseline	per Building	\$0.3444	15	62,741	1.803	15,685	\$5,401.30	25%	75%	100%	2.323	1
HealthFlN1	Healthcare	Fluorescent	New	1	HE Lighting Fixtures /Design 15% better than code	Code Baseline	per Building	\$0.0842	15	441,728	5.077	44,173	\$3,718.25	10%	95%	100%	9.504	1
HealthFlN2	Healthcare	Fluorescent	New	2	HE Lighting Fixtures /Design 25% better than code	Code Baseline	per Building	\$0.1684	15	441,728	12.691	110,432	\$18,591.24	25%	75%	100%	4.752	1
GroceFlN1	Grocery	Fluorescent	New	1	HE Lighting Fixtures /Design 15% better than code	Code Baseline	per Building	\$0.0572	15	60,020	0.690	6,002	\$343.52	10%	95%	100%	13.977	1
GroceFlN2	Grocery	Fluorescent	New	2	HE Lighting Fixtures /Design 25% better than code	Code Baseline	per Building	\$0.1145	15	60,020	1.724	15,005	\$1,717.60	25%	75%	100%	6.988	1
LodgFlN1	Lodging	Fluorescent	New	1	HE Lighting Fixtures /Design 15% better than code	Code Baseline	per Building	\$0.1012	15	303,563	3.489	30,356	\$3,071.87	10%	95%	100%	7.905	1
LodgFlN2	Lodging	Fluorescent	New	2	HE Lighting Fixtures /Design 25% better than code	Code Baseline	per Building	\$0.2024	15	303,563	8.722	75,891	\$15,359.37	25%	75%	100%	3.953	1
RestaFlN1	Restaurant	Fluorescent	New	1	HE Lighting Fixtures /Design 15% better than code	Code Baseline	per Building	\$0.0763	15	13,140	0.151	1,314	\$100.27	10%	95%	100%	10.483	1
RestaFlN2	Restaurant	Fluorescent	New	2	HE Lighting Fixtures /Design 25% better than code	Code Baseline	per Building	\$0.1526	15	13,140	0.378	3,285	\$501.37	25%	75%	100%	5.241	1
RetaiFlN1	Retail	Fluorescent	New	1	HE Lighting Fixtures /Design 15% better than code	Code Baseline	per Building	\$0.0792	15	60,011	0.690	6,001	\$475.15	10%	95%	100%	10.104	1
RetaiFlN2	Retail	Fluorescent	New	2	HE Lighting Fixtures /Design 25% better than code	Code Baseline	per Building	\$0.1584	15	60,011	1.724	15,003	\$2,375.74	25%	75%	100%	5.052	1
WarehFlN1	Warehouse	Fluorescent	New	1	HE Lighting Fixtures /Design 15% better than code	Code Baseline	per Building	\$0.1603	15	44,747	0.514	4,475	\$717.11	10%	95%	100%	4.992	1
WarehFlN2	Warehouse	Fluorescent	New	2	HE Lighting Fixtures /Design 25% better than code	Code Baseline	per Building	\$0.3205	15	44,747	1.286	11,187	\$3,585.53	25%	75%	100%	2.496	1
GroceFlN1	Grocery	HID	New	1	HE Lighting Fixtures /Design 15% better than code	Code Baseline	per Building	\$0.0572	15	3,937	0.045	394	\$225.53	10%	95%	100%	13.977	1
GroceFlN2	Grocery	HID	New	2	HE Lighting Fixtures /Design 25% better than code	Code Baseline	per Building	\$0.1145	15	3,937	0.113	984	\$112.66	25%	85%	100%	6.988	1
InstiFlN1	Institutional	HID	New	1	HE Lighting Fixtures /Design 15% better than code	Code Baseline	per Building	\$0.1722	15	2,159	0.025	216	\$37.18	10%	95%	100%	4.646	1
InstiFlN2	Institutional	HID	New	2	HE Lighting Fixtures /Design 25% better than code	Code Baseline	per Building	\$0.3444	15	2,159	0.062	540	\$185.89	25%	85%	100%	2.323	1
HealthFlN1	Healthcare	HID	New	1	HE Lighting Fixtures /Design 15% better than code	Code Baseline	per Building	\$0.0842	15	15,203	0.175	1,520	\$127.97	10%	95%	100%	9.504	1
HealthFlN2	Healthcare	HID	New	2	HE Lighting Fixtures /Design 25% better than code	Code Baseline	per Building	\$0.1684	15	15,203	0.437	3,801	\$639.84	25%	85%	100%	4.752	1
LodgFlN1	Lodging	HID	New	1	HE Lighting Fixtures /Design 15% better than code	Code Baseline	per Building	\$0.1012	15	10,539	0.121	1,054	\$106.65	10%	95%	100%	7.905	1
LodgFlN2	Lodging	HID	New	2	HE Lighting Fixtures /Design 25% better than code	Code Baseline	per Building	\$0.2024	15	10,539	0.303	2,635	\$533.27	25%	85%	100%	3.953	1
RestaFlN1	Restaurant	HID	New	1	HE Lighting Fixtures /Design 15% better than code	Code Baseline	per Building	\$0.0763	15	459	0.005	46	\$3.51	10%	95%	100%	10.483	1
RestaFlN2	Restaurant	HID	New	2	HE Lighting Fixtures /Design 25% better than code	Code Baseline	per Building	\$0.1526	15	459	0.013	115	\$17.53	25%	85%	100%	5.241	1
RetaiFlN1	Retail	HID	New	1	HE Lighting Fixtures /Design 15% better than code	Code Baseline	per Building	\$0.0792	15	10,313	0.119	1,031	\$81.65	10%	95%	100%	10.104	1
RetaiFlN2	Retail	HID	New	2	HE Lighting Fixtures /Design 25% better than code	Code Baseline	per Building	\$0.1584	15	10,313	0.296	2,578	\$408.25	25%	85%	100%	5.052	1
WarehFlN1	Warehouse	HID	New	1	HE Lighting Fixtures /Design 15% better than code	Code Baseline	per Building	\$0.1603	15	7,843	0.090	784	\$125.69	10%	95%	100%	4.992	1
WarehFlN2	Warehouse	HID	New	2	HE Lighting Fixtures /Design 25% better than code	Code Baseline	per Building	\$0.3205	15	7,843	0.225	1,961	\$628.45	25%	85%	100%	2.496	1
MiscFlN1	Misc	HID	New	1	HE Lighting Fixtures /Design 15% better than code	Code Baseline	per Building	\$0.0988	15	4,211	0.048	421	\$44.61	10%	95%	100%	8.096	1
MiscFlN2	Misc	HID	New	2	HE Lighting Fixtures /Design 25% better than code	Code Baseline	per Building	\$0.1976	15	4,211	0.121	1,053	\$208.03	25%	85%	100%	4.048	1
MiscFlN1	Misc	Fluorescent	New	1	HE Lighting Fixtures /Design 15% better than code	Code Baseline	per Building	\$0.0988	15	121,285	1.394	12,128	\$1,198.38	10%	95%	100%	8.096	1
MiscFlN2	Misc	Fluorescent	New	2	HE Lighting Fixtures /Design 25% better than code	Code Baseline	per Building	\$0.1976	15	121,285	3.485	30,321	\$5,991.88	25%	75%	100%	4.048	1
InstiFlN1	Institutional	Incandescent	New	1	HE Lighting Fixtures /Design 15% better than code	Code Baseline	per Building	\$0.1722	15	7,094	0.082	709	\$122.15	10%	95%	100%	4.646	1
InstiFlN2	Institutional	Incandescent	New	2	HE Lighting Fixtures /Design 25% better than code	Code Baseline	per Building	\$0.3444	15	7,094	0.204	1,774	\$610.75	25%	75%	100%	2.323	1
GroceFlN1	Grocery	Incandescent	Turnover	1	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0161	5	309	0.021	186	\$3.00	60%	75%	50%	14.529	1
HealthFlN1	Healthcare	Incandescent	Turnover	1	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0174	5	286	0.020	173	\$3.00	60%	75%	50%	13.471	1
GroceFlN2	Grocery	Incandescent	New	2	HE Lighting Fixtures /Design 25% better than code	Code Baseline	per Building	\$0.1145	15	9,629	0.277	2,407	\$275.57	25%	75%	100%	6.988	1
HealthFlN2	Healthcare	Incandescent	New	2	HE Lighting Fixtures /Design 25% better than code	Code Baseline	per Building	\$0.1684	15	49,948	1.435	12,487	\$2,102.19	25%	75%	100%	4.752	1
LodgFlN1	Lodging</																	

Penn Electric Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
RestaFN3	Restaurant	Fluorescent	New	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1222	9	2,454	0.141	1,227	\$15000	50%	95%	75%	3.423	1
RetailFN4	Retail	Fluorescent	New	4	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0705	14	2,365	0.082	710	\$5000	30%	95%	15%	10.577	1
RetailFN3	Retail	Fluorescent	New	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1268	9	2,365	0.136	1,183	\$15000	50%	95%	75%	3.299	1
WarehFN4	Warehouse	Fluorescent	New	4	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0761	14	2,191	0.076	657	\$5000	30%	95%	15%	9.798	1
WarehFN3	Warehouse	Fluorescent	New	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1369	9	2,191	0.126	1,096	\$15000	50%	95%	75%	3.056	1
MiscFT12	Misc	Fluorescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0696	14	2,394	0.083	718	\$5000	30%	95%	80%	10.706	1
MiscFT13	Misc	Fluorescent	Turnover	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1253	9	2,394	0.138	1,197	\$15000	50%	95%	95%	3.339	1
InstiFT12	Institutional	Fluorescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1124	14	1,483	0.051	445	\$5000	30%	95%	80%	6.633	1
InstiFT13	Institutional	Fluorescent	Turnover	3	Photocell dimming control	No prior dimming control	Photocell	\$0.2022	9	1,483	0.085	742	\$15000	50%	95%	95%	2.069	1
GroceFT12	Grocery	Fluorescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0509	14	3,272	0.113	982	\$5000	30%	95%	80%	14.632	1
GroceFT13	Grocery	Fluorescent	Turnover	3	Photocell dimming control	No prior dimming control	Photocell	\$0.0917	9	3,272	0.188	1,636	\$15000	50%	95%	95%	4.564	1
HealthFT12	Healthcare	Fluorescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0549	14	3,034	0.105	910	\$5000	30%	95%	80%	13.567	1
HealthFT13	Healthcare	Fluorescent	Turnover	3	Photocell dimming control	No prior dimming control	Photocell	\$0.0989	9	3,034	0.174	1,517	\$15000	50%	95%	95%	4.231	1
LodgFT12	Lodging	Fluorescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0600	14	2,776	0.096	833	\$5000	30%	95%	80%	12.414	1
LodgFT13	Lodging	Fluorescent	Turnover	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1081	9	2,776	0.160	1,388	\$15000	50%	95%	95%	3.872	1
OfficFT12	Office	Fluorescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1056	14	1,578	0.054	473	\$5000	30%	95%	80%	7.055	1
OfficFT13	Office	Fluorescent	Turnover	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1901	9	1,578	0.091	789	\$15000	50%	95%	95%	2.200	1
RestaFT12	Restaurant	Fluorescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0679	14	2,454	0.085	736	\$5000	30%	95%	80%	10.974	1
RestaFT13	Restaurant	Fluorescent	Turnover	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1222	9	2,454	0.141	1,227	\$15000	50%	95%	95%	3.423	1
RetailFT12	Retail	Fluorescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0705	14	2,365	0.082	710	\$5000	30%	95%	80%	10.577	1
RetailFT13	Retail	Fluorescent	Turnover	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1268	9	2,365	0.136	1,183	\$15000	50%	95%	95%	3.299	1
WarehFT12	Warehouse	Fluorescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0761	14	2,191	0.076	657	\$5000	30%	95%	80%	9.798	1
WarehFT13	Warehouse	Fluorescent	Turnover	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1369	9	2,191	0.126	1,096	\$15000	50%	95%	75%	3.056	1
GroceFT11	Grocery	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.0650	6	163	0.004	36	\$2.32	22%	90%	95%	4.342	1
GroceFT14	Grocery	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.0990	6	163	0.002	20	\$2.02	13%	60%	95%	2.850	1
GroceFT15	Grocery	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPH high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0307	11	582	0.010	83	\$2.55	14%	75%	95%	18.255	1
GroceFI14	Grocery	Fluorescent	Early	4	Low Power Ballast Replacement	NPH high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.7257	11	582	0.010	83	\$60.38	14%	75%	95%	0.772	0
HealthFT16	Healthcare	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1.0943	7	151	0.007	59	\$65.00	39%	40%	95%	0.301	0
HealthFT11	Healthcare	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.0701	7	151	0.004	33	\$2.32	22%	90%	95%	4.695	1
HealthFT14	Healthcare	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.1068	7	151	0.002	19	\$2.02	13%	60%	95%	3.081	1
HealthFT15	Healthcare	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPH high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0331	11	540	0.009	77	\$2.55	14%	75%	95%	16.926	1
HealthFI14	Healthcare	Fluorescent	Early	4	Low Power Ballast Replacement	NPH high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.7769	11	540	0.009	77	\$59.93	14%	75%	95%	0.721	0
InstiFT16	Institutional	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$2.2383	15	74	0.003	29	\$65.00	39%	40%	95%	0.357	0
InstiFT11	Institutional	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.1433	15	74	0.002	16	\$2.32	22%	90%	95%	5.581	1
InstiFT14	Institutional	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.2184	15	74	0.001	9	\$2.02	13%	60%	95%	3.663	1
InstiFT15	Institutional	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPH high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0677	11	264	0.004	38	\$2.55	14%	75%	95%	8.275	1
InstiFI14	Institutional	Fluorescent	Early	4	Low Power Ballast Replacement	NPH high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.9281	11	264	0.004	38	\$35.00	14%	75%	95%	0.604	0
LodgFT16	Lodging	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1.1959	8	138	0.006	54	\$65.00	39%	40%	95%	0.313	0
LodgFT11	Lodging	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.0766	8	138	0.003	30	\$2.32	22%	90%	95%	4.889	1
LodgFT14	Lodging	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.1167	8	138	0.002	17	\$2.02	13%	60%	95%	3.209	1
LodgFT15	Lodging	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPH high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0362	11	494	0.008	71	\$2.55	14%	75%	95%	15.487	1
LodgFI14	Lodging	Fluorescent	Early	4	Low Power Ballast Replacement	NPH high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.4959	11	494	0.008	71	\$35.00	14%	75%	95%	1.130	1
MiscFT16	Misc	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1.3867	9	119	0.005	47	\$65.00	39%	40%	95%	0.302	0
MiscFT11	Misc	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.0888	9	119	0.003	26	\$2.32	22%	90%	95%	4.711	1
MiscFT14	Misc	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.1353	9	119	0.002	15	\$2.02	13%	60%	95%	3.092	1
MiscFT15	Misc	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPH high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0420	11	426	0.007	61	\$2.55	14%	75%	95%	13.357	1
MiscFI14	Misc	Fluorescent	Early	4	Low Power Ballast Replacement	NPH high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.5750	11	426	0.007	61	\$35.00	14%	75%	95%	0.975	0
OfficFT16	Office	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$2.1044	14	79	0.004	31	\$65.00	39%	40%	95%	0.354	0
OfficFT11	Office	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.1348	14	79	0.002	17	\$2.32	22%	90%	95%	5.530	1
OfficFT14	Office	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.2053	14	79	0.001	10	\$2.02	13%	60%	95%	3.630	1
OfficFT15	Office	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPH high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0637	11	281	0.005	40	\$2.55	14%	75%	95%	8.801	1
OfficFI14	Office	Fluorescent	Early	4	Low Power Ballast Replacement	NPH high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.8726	11	281	0.005	40	\$35.00	14%	75%	95%	0.642	0
RestaFT16	Restaurant	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1.3528	9	122	0.006	48	\$65.00	39%	40%	95%	0.309	0
RestaFT11	Restaurant	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.0866	9	122	0.003	27	\$2.32	22%	90%	95%	4.829	1
RestaFT14	Restaurant	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.1320	9	122	0.002	15	\$2.02	13%	60%	95%	3.170	1
RestaFT15	Restaurant	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPH high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0409	11	437	0.007	62	\$2.55	14%	75%	95%	13.691	1
RestaFI14	Restaurant	Fluorescent	Early	4	Low Power Ballast Replacement	NPH high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.5610	11	437	0.007	62	\$35.00	14%	75%	95%	0.999	0
RetailFT16	Retail	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1.4036	9	118	0.005	46	\$65.00	39%	40%	95%	0.298	0
RetailFT11	Retail	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.0899	9	118	0.003	26	\$2.32	22%	90%	95%	4.654	1
RetailFT14	Retail	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.1369	9	118	0.002	15	\$2.02	13%	60%	95%	3.055	1
RetailFT15	Retail	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPH high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0425	11	421	0.007	60	\$2.55	14%	75%	95%	13.196	1
RetailFI14	Retail	Fluorescent	Early	4	Low Power Ballast Replacement	NPH high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.5820	11	421	0.007	60	\$35.00	14%	75%	95%	0.963	0
WarehFT16	Warehouse	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1.5152	10	109	0.005	43	\$65.00	39%	40%	95%	0.324	0
WarehFT11	Warehouse	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.0970	10	109	0.003	24	\$2.32	22%	90%	95%	5.065	1
WarehFT14	Warehouse	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.1478	10									

Penn Electric Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
HealthH16	Healthcare	HID	Turnover	6	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0.3712	10	2,570	0.132	1,145	\$425.00	45%	85%	55%	1.324	1
HealthH17	Healthcare	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0.4789	15	1,755	0.090	783	\$375.00	45%	85%	80%	1.670	1
InstiH11	Institutional	HID	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPF	Replace HID fixture drawing 250W	Fixture	\$0.8376	10	858	0.029	256	\$214.50	30%	85%	80%	0.587	0
InstiH12	Institutional	HID	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPF	Replace HID fixture drawing 400 W	Fixture	\$0.6607	10	1,257	0.052	454	\$300.00	36%	85%	80%	0.744	0
InstiH13	Institutional	HID	Early	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.7608	10	858	0.035	309	\$235.00	36%	85%	80%	0.646	0
InstiH14	Institutional	HID	Early	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.7506	10	1,257	0.050	433	\$325.00	34%	85%	80%	0.655	0
InstiH15	Institutional	HID	Turnover	5	Ceramic Metal Halide lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0.1894	6	1,056	0.021	185	\$35.00	18%	85%	55%	1.490	1
InstiH17	Institutional	HID	Early	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$1.7973	15	858	0.044	383	\$688.00	45%	85%	80%	0.445	0
InstiH11	Institutional	HID	Turnover	1	4' T8 High Bay fixture - 32 W - 6 lamps HPF	Replace HID fixture drawing 250W	Fixture	\$0.4315	10	858	0.029	256	\$110.50	30%	85%	80%	1.139	1
InstiH12	Institutional	HID	Turnover	2	4' T8 High Bay fixture - 32 W - 8 lamps HPF	Replace HID fixture drawing 400 W	Fixture	\$0.4955	10	1,257	0.052	454	\$225.00	36%	85%	80%	0.992	0
InstiH13	Institutional	HID	Turnover	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.4694	10	858	0.035	309	\$145.00	36%	85%	80%	1.047	1
InstiH14	Institutional	HID	Turnover	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.6005	10	1,257	0.050	433	\$260.00	34%	85%	80%	0.818	0
InstiH16	Institutional	HID	Turnover	6	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0.7594	10	1,257	0.064	560	\$425.00	45%	85%	55%	0.647	0
InstiH17	Institutional	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0.9796	15	858	0.044	383	\$375.00	45%	85%	80%	0.817	0
LodgH11	Lodging	HID	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPF	Replace HID fixture drawing 250W	Fixture	\$0.4475	10	1,606	0.055	479	\$214.50	30%	85%	80%	1.098	1
LodgH12	Lodging	HID	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPF	Replace HID fixture drawing 400 W	Fixture	\$0.3530	10	2,352	0.098	850	\$300.00	36%	85%	80%	1.392	1
LodgH13	Lodging	HID	Early	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.4065	10	1,606	0.066	578	\$235.00	36%	85%	80%	1.209	1
LodgH14	Lodging	HID	Early	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.4011	10	2,352	0.093	810	\$325.00	34%	85%	80%	1.225	1
LodgH15	Lodging	HID	Turnover	5	Ceramic Metal Halide lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0.1012	3	1,976	0.040	346	\$35.00	18%	85%	55%	1.442	1
LodgH17	Lodging	HID	Early	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0.9603	15	1,606	0.082	716	\$688.00	45%	85%	80%	0.833	0
LodgH11	Lodging	HID	Turnover	1	4' T8 High Bay fixture - 32 W - 6 lamps HPF	Replace HID fixture drawing 250W	Fixture	\$0.2306	10	1,606	0.055	479	\$110.50	30%	85%	80%	2.132	1
LodgH12	Lodging	HID	Turnover	2	4' T8 High Bay fixture - 32 W - 8 lamps HPF	Replace HID fixture drawing 400 W	Fixture	\$0.2648	10	2,352	0.098	850	\$225.00	36%	85%	80%	1.856	1
LodgH13	Lodging	HID	Turnover	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.2508	10	1,606	0.066	578	\$145.00	36%	85%	80%	1.960	1
LodgH14	Lodging	HID	Turnover	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.3209	10	2,352	0.093	810	\$260.00	34%	85%	80%	1.532	1
LodgH16	Lodging	HID	Turnover	6	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0.4057	10	2,352	0.120	1,047	\$425.00	45%	85%	55%	1.211	1
LodgH17	Lodging	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0.5234	15	1,606	0.082	716	\$375.00	45%	85%	80%	1.528	1
OfficH11	Office	HID	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPF	Replace HID fixture drawing 250W	Fixture	\$0.7875	10	913	0.031	272	\$214.50	30%	85%	80%	0.624	0
OfficH12	Office	HID	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPF	Replace HID fixture drawing 400 W	Fixture	\$0.6211	10	1,337	0.056	483	\$300.00	36%	85%	80%	0.791	0
OfficH13	Office	HID	Early	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.7153	10	913	0.038	329	\$235.00	36%	85%	80%	0.687	0
OfficH14	Office	HID	Early	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.7057	10	1,337	0.053	461	\$325.00	34%	85%	80%	0.696	0
OfficH15	Office	HID	Turnover	5	Ceramic Metal Halide lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0.1781	5	1,123	0.023	197	\$35.00	18%	85%	55%	1.313	1
OfficH17	Office	HID	Early	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$1.6898	15	913	0.047	407	\$688.00	45%	85%	80%	0.473	0
OfficH11	Office	HID	Turnover	1	4' T8 High Bay fixture - 32 W - 6 lamps HPF	Replace HID fixture drawing 250W	Fixture	\$0.4057	10	913	0.031	272	\$110.50	30%	85%	80%	1.212	1
OfficH12	Office	HID	Turnover	2	4' T8 High Bay fixture - 32 W - 8 lamps HPF	Replace HID fixture drawing 400 W	Fixture	\$0.4659	10	1,337	0.056	483	\$225.00	36%	85%	80%	1.055	1
OfficH13	Office	HID	Turnover	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.4414	10	913	0.038	329	\$145.00	36%	85%	80%	1.114	1
OfficH14	Office	HID	Turnover	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.5646	10	1,337	0.053	461	\$260.00	34%	85%	80%	0.871	0
OfficH16	Office	HID	Turnover	6	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0.7139	10	1,337	0.068	595	\$425.00	45%	85%	55%	0.688	0
OfficH17	Office	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0.9210	15	913	0.047	407	\$375.00	45%	85%	80%	0.869	0
RestalH1	Restaurant	HID	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPF	Replace HID fixture drawing 250W	Fixture	\$0.5063	10	1,420	0.049	424	\$214.50	30%	85%	80%	0.971	0
RestalH2	Restaurant	HID	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPF	Replace HID fixture drawing 400 W	Fixture	\$0.3993	10	2,079	0.086	751	\$300.00	36%	85%	80%	1.231	1
RestalH3	Restaurant	HID	Early	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.4598	10	1,420	0.059	511	\$235.00	36%	85%	80%	1.069	1
RestalH4	Restaurant	HID	Early	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.4537	10	2,079	0.082	716	\$325.00	34%	85%	80%	1.083	1
RestalH5	Restaurant	HID	Turnover	5	Ceramic Metal Halide lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0.1145	3	1,747	0.035	306	\$35.00	18%	85%	55%	1.274	1
RestalH7	Restaurant	HID	Early	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$1.0863	15	1,420	0.073	633	\$688.00	45%	85%	80%	0.736	0
RestalH1	Restaurant	HID	Turnover	1	4' T8 High Bay fixture - 32 W - 6 lamps HPF	Replace HID fixture drawing 250W	Fixture	\$0.2608	10	1,420	0.049	424	\$110.50	30%	85%	80%	1.885	1
RestalH2	Restaurant	HID	Turnover	2	4' T8 High Bay fixture - 32 W - 8 lamps HPF	Replace HID fixture drawing 400 W	Fixture	\$0.2995	10	2,079	0.086	751	\$225.00	36%	85%	80%	1.641	1
RestalH3	Restaurant	HID	Turnover	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.2837	10	1,420	0.059	511	\$145.00	36%	85%	80%	1.732	1
RestalH4	Restaurant	HID	Turnover	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.3630	10	2,079	0.082	716	\$260.00	34%	85%	80%	1.354	1
RestalH6	Restaurant	HID	Turnover	6	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0.4590	10	2,079	0.106	926	\$425.00	45%	85%	55%	1.071	1
RestalH7	Restaurant	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0.5921	15	1,420	0.073	633	\$375.00	45%	85%	80%	1.351	1
RetailH1	Retail	HID	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPF	Replace HID fixture drawing 250W	Fixture	\$0.5253	10	1,368	0.047	408	\$214.50	30%	85%	80%	0.936	0
RetailH2	Retail	HID	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPF	Replace HID fixture drawing 400 W	Fixture	\$0.4143	10	2,004	0.083	724	\$300.00	36%	85%	80%	1.186	1
RetailH3	Retail	HID	Early	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.4771	10	1,368	0.057	493	\$235.00	36%	85%	80%	1.030	1
RetailH4	Retail	HID	Early	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.4707	10	2,004	0.079	690	\$325.00	34%	85%	80%	1.044	1
RetailH5	Retail	HID	Turnover	5	Ceramic Metal Halide lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0.1188	4	1,684	0.034	295	\$35.00	18%	85%	55%	1.553	1
RetailH7	Retail	HID	Early	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$1.1270	15	1,368	0.070	610	\$688.00	45%	85%	80%	0.710	0
RetailH1	Retail	HID	Turnover	1	4' T8 High Bay fixture - 32 W - 6 lamps HPF	Replace HID fixture drawing 250W	Fixture	\$0.2706	10	1,368	0.047	408	\$110.50	30%	85%	80%	1.816	1
RetailH2	Retail	HID	Turnover	2	4' T8 High Bay fixture - 32 W - 8 lamps HPF	Replace HID fixture drawing 400 W	Fixture	\$0.3107	10	2,004	0.083	724	\$225.00	36%	85%	80%	1.582	1
RetailH3	Retail	HID	Turnover	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.2944	10	1,368	0.057	493	\$145.00	36%	85%	80%	1.670	1
RetailH4	Retail	HID	Turnover	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.3766	10	2,004	0.079	690	\$260.00	34%	85%	80%	1.305	1
RetailH6	Retail	HID	Turnover	6	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0.4762	10	2,004	0.103	893	\$425.00	45%	85%	55%	1.032	1
RetailH7	Retail	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0.6143	15	1,368	0.070	610	\$375.00	45%	85%	80%	1.302	1
MiscH11	Misc	HID	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPF	Replace HID fixture drawing 250W	Fixture	\$0.5189	10	1,385	0.048	413	\$214.50	30%	85%	80%	0.947	0
MiscH12	Misc	HID	Early															

Penn Electric Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
RetailIE8	Retail	HID	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2284	10	5,473	0.189	1,642	\$375.00	30%	85%	85%	2,152	1
RetailIE9	Retail	HID	Early	9	Photocell dimming control	No prior dimming control	Photocell	\$0.2010	10	5,473	0.314	2,737	\$550.00	50%	85%	85%	2,445	1
RetailIE10	Retail	HID	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1827	10	5,473	0.063	547	\$100.00	10%	85%	45%	2,690	1
MiscIE8	Misc	HID	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2256	10	5,540	0.191	1,662	\$375.00	30%	85%	85%	2,178	1
MiscIE9	Misc	HID	Early	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1986	10	5,540	0.318	2,770	\$550.00	50%	85%	85%	2,475	1
MiscIE10	Misc	HID	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1805	10	5,540	0.064	554	\$100.00	10%	85%	45%	2,723	1
LodgIE8	Lodging	HID	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1946	10	6,423	0.221	1,927	\$375.00	30%	85%	85%	2,526	1
LodgIE9	Lodging	HID	Early	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1713	10	6,423	0.369	3,212	\$550.00	50%	85%	85%	2,870	1
LodgIE10	Lodging	HID	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1557	10	6,423	0.074	642	\$100.00	10%	85%	45%	3,157	1
LodgHT8	Lodging	HID	Turnover	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1427	10	6,423	0.221	1,927	\$275.00	30%	85%	85%	3,444	1
LodgHT9	Lodging	HID	Turnover	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1713	10	6,423	0.369	3,212	\$550.00	50%	85%	85%	2,870	1
LodgHT10	Lodging	HID	Turnover	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1168	10	6,423	0.074	642	\$75.00	10%	85%	45%	4,209	1
GroceHT8	Grocery	HID	Turnover	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1211	10	7,571	0.261	2,271	\$375.00	30%	85%	85%	4,060	1
GroceHT9	Grocery	HID	Turnover	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1453	10	7,571	0.435	3,786	\$550.00	50%	85%	85%	3,383	1
GroceHT10	Grocery	HID	Turnover	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.0991	10	7,571	0.087	757	\$75.00	10%	85%	45%	4,962	1
HealthT8	Healthcare	HID	Turnover	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1306	10	7,020	0.242	2,106	\$275.00	30%	85%	85%	3,764	1
HealthT9	Healthcare	HID	Turnover	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1567	10	7,020	0.403	3,510	\$550.00	50%	85%	85%	3,137	1
HealthT10	Healthcare	HID	Turnover	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1068	10	7,020	0.081	702	\$75.00	10%	85%	45%	4,600	1
InstiIT8	Institutional	HID	Turnover	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2671	10	3,432	0.118	1,030	\$275.00	30%	85%	85%	1,840	1
InstiIT9	Institutional	HID	Turnover	9	Photocell dimming control	No prior dimming control	Photocell	\$0.3205	10	3,432	0.197	1,716	\$550.00	50%	85%	85%	1,533	1
InstiIT10	Institutional	HID	Turnover	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.2185	10	3,432	0.039	343	\$75.00	10%	85%	45%	2,249	1
OfficIT8	Office	HID	Turnover	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2511	10	3,650	0.126	1,095	\$275.00	30%	85%	85%	1,957	1
OfficIT9	Office	HID	Turnover	9	Photocell dimming control	No prior dimming control	Photocell	\$0.3013	10	3,650	0.210	1,825	\$550.00	50%	85%	85%	1,631	1
OfficIT10	Office	HID	Turnover	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.2055	10	3,650	0.042	365	\$75.00	10%	85%	45%	2,392	1
MiscIT8	Misc	HID	Turnover	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1655	10	5,540	0.191	1,662	\$275.00	30%	85%	85%	2,970	1
MiscIT9	Misc	HID	Turnover	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1986	10	5,540	0.318	2,770	\$550.00	50%	85%	85%	2,475	1
MiscIT10	Misc	HID	Turnover	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1354	10	5,540	0.064	554	\$75.00	10%	85%	45%	3,630	1
RestaIT8	Restaurant	HID	Turnover	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1614	10	5,678	0.196	1,704	\$275.00	30%	85%	85%	3,045	1
RestaIT9	Restaurant	HID	Turnover	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1937	10	5,678	0.326	2,839	\$550.00	50%	85%	85%	2,537	1
RestaIT10	Restaurant	HID	Turnover	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1321	10	5,678	0.065	568	\$75.00	10%	85%	45%	3,721	1
RetailIT8	Retail	HID	Turnover	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1675	10	5,473	0.189	1,642	\$275.00	30%	85%	85%	2,935	1
RetailIT9	Retail	HID	Turnover	9	Photocell dimming control	No prior dimming control	Photocell	\$0.2010	10	5,473	0.314	2,737	\$550.00	50%	85%	85%	2,445	1
RetailIT10	Retail	HID	Turnover	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1370	10	5,473	0.063	547	\$75.00	10%	85%	45%	3,587	1
WarehIT8	Warehouse	HID	Turnover	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1808	10	5,070	0.175	1,521	\$275.00	30%	85%	85%	2,718	1
WarehIT9	Warehouse	HID	Turnover	9	Photocell dimming control	No prior dimming control	Photocell	\$0.2170	10	5,070	0.291	2,535	\$550.00	50%	85%	85%	2,265	1
WarehIT10	Warehouse	HID	Turnover	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1479	10	5,070	0.058	507	\$75.00	10%	85%	45%	3,323	1
WarehIN8	Warehouse	HID	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1781	10	4,680	0.161	1,404	\$250.00	30%	85%	85%	2,760	1
WarehIN9	Warehouse	HID	New	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1923	10	4,680	0.269	2,340	\$450.00	50%	85%	85%	2,556	1
WarehIN10	Warehouse	HID	New	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1389	10	4,680	0.054	468	\$65.00	10%	25%	45%	3,539	1
GroceIN8	Grocery	HID	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1192	10	6,989	0.241	2,097	\$250.00	30%	85%	85%	4,122	1
GroceIN9	Grocery	HID	New	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1288	10	6,989	0.402	3,494	\$450.00	50%	85%	85%	3,817	1
GroceIN10	Grocery	HID	New	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.0930	10	6,989	0.080	699	\$65.00	10%	25%	45%	5,285	1
HealthIN8	Healthcare	HID	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1286	10	6,480	0.223	1,944	\$250.00	30%	85%	85%	3,822	1
HealthIN9	Healthcare	HID	New	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1389	10	6,480	0.372	3,240	\$450.00	50%	85%	85%	3,539	1
HealthIN10	Healthcare	HID	New	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1003	10	6,480	0.074	648	\$65.00	10%	25%	45%	4,900	1
InstiIN8	Institutional	HID	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2630	10	3,168	0.109	950	\$250.00	30%	85%	85%	1,869	1
InstiIN9	Institutional	HID	New	9	Photocell dimming control	No prior dimming control	Photocell	\$0.2841	10	3,168	0.182	1,584	\$450.00	50%	85%	85%	1,730	1
InstiIN10	Institutional	HID	New	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.2052	10	3,168	0.036	317	\$65.00	10%	25%	45%	2,396	1
LodgIN8	Lodging	HID	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1405	10	5,929	0.204	1,779	\$250.00	30%	85%	85%	3,497	1
LodgIN9	Lodging	HID	New	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1518	10	5,929	0.341	2,965	\$450.00	50%	85%	85%	3,238	1
LodgIN10	Lodging	HID	New	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1096	10	5,929	0.068	593	\$65.00	10%	25%	45%	4,483	1
OfficIN8	Office	HID	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2473	10	3,370	0.116	1,011	\$250.00	30%	85%	85%	1,987	1
OfficIN9	Office	HID	New	9	Photocell dimming control	No prior dimming control	Photocell	\$0.2671	10	3,370	0.194	1,685	\$450.00	50%	85%	85%	1,840	1
OfficIN10	Office	HID	New	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1929	10	3,370	0.039	337	\$65.00	10%	25%	45%	2,548	1
RestaIN8	Restaurant	HID	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1590	10	5,242	0.181	1,572	\$250.00	30%	85%	85%	3,092	1
RestaIN9	Restaurant	HID	New	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1717	10	5,242	0.301	2,621	\$450.00	50%	85%	85%	2,863	1
RestaIN10	Restaurant	HID	New	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1240	10	5,242	0.060	524	\$65.00	10%	25%	45%	3,964	1
RetailIN8	Retail	HID	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1650	10	5,052	0.174	1,516	\$250.00	30%	85%	85%	2,980	1
RetailIN9	Retail	HID	New	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1781	10	5,052	0.290	2,526	\$450.00	50%	85%	85%	2,759	1
RetailIN10	Retail	HID	New	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1287	10	5,052	0.058	505	\$65.00	10%	25%	45%	3,820	1
MiscIN8	Misc	HID	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1630	10	5,114	0.176	1,534	\$250.00	30%	85%	85%	3,016	1
MiscIN9	Misc	HID	New	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1760	10	5,114	0.294	2,537	\$450.00	50%	85%	85%	2,793	1
MiscIN10	Misc	HID	New	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1271	10	5,114	0.059	511	\$65.00	10%	25%	45%	3,867	1
OfficIN3	Office	Incandescent	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0464	14	3,594	0.124	1,078	\$50.00	30%	95%	15%	16,072	1
OfficIN4	Office	Incandescent	New	4	Photocell dimming control	No prior dimming control	Photocell	\$0.0835	9	3,594	0.207	1,797	\$150.00	50%	95%	95%	5,012	1
OfficIN12	Office	Incandescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1159	14	3,594	0.124	1,078	\$125.00	30%	95%	80%	6,429	1
OfficIN13	Office	Incandescent	Turnover	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1252	9	3,594	0.207	1,797	\$225.00	50%	95%	95%	3,342	1
GroceIN3	Grocery	Incandescent	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0224	14	7,455	0.257	2,236	\$50.00	30%	95%	15%	33,334	1
GroceIN12	Grocery	Incandescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0559	14	7,455	0.257	2,236	\$125.00	30%	95%	80%	13,334	1
HealthIN2	Healthcare	Incandescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0603	14	6,912	0.238	2,074	\$125.00	30%	95%	80%	12,363	1
HealthIN4	Grocery	Incandescent	New	4	Photocell dimming control	No prior dimming control	Photocell	\$0.0402	9	7,455	0.428	3,727	\$150.00	50%	95%	95%	10,396	1
HealthIN3	Healthcare	Incandescent	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0241	14	6,912	0.238	2,074	\$50.00	30%	95%	15%	30,907	1
GroceIN13	Grocery	Incandescent	Turnover	3	Photocell dimming control	No prior dimming control	Photocell	\$0.0604	9	7,455	0.428	3,727	\$225.00	50%	95%	95%	6,931	1
HealthIN3	Healthcare	Incandescent	Turnover	3	Photocell dimming control	No prior dimming control	Photocell	\$0.0651	9	6,912	0.397	3,456	\$225.00	50%	95%	95%	6,426	1
HealthIN4	Healthcare	Incandescent	New	4	Photocell dimming control	No prior dimming control	Photocell	\$0.0434	9	6,912	0.397	3,456	\$150.00	50%	95%	95%	9,639	1
InstiIN3	Institutional																	

Penn Electric Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
RetailN2	Retail	Incandescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0773	14	5,389	0.186	1,617	\$125.00	30%	95%	80%	9.638	1
RetailN3	Retail	Incandescent	Turnover	3	Photocell dimming control	No prior dimming control	Photocell	\$0.0835	9	5,389	0.310	2,694	\$225.00	50%	95%	95%	5.010	1
WarehIn3	Warehouse	Incandescent	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0334	14	4,992	0.172	1,498	\$50.00	30%	95%	15%	22.322	1
WarehIn4	Warehouse	Incandescent	New	4	Photocell dimming control	No prior dimming control	Photocell	\$0.0601	9	4,992	0.287	2,496	\$150.00	50%	95%	95%	6.962	1
WarehIn2	Warehouse	Incandescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0835	14	4,992	0.172	1,498	\$125.00	30%	95%	80%	8.929	1
WarehIn3	Warehouse	Incandescent	Turnover	3	Photocell dimming control	No prior dimming control	Photocell	\$0.0601	9	4,992	0.287	2,496	\$150.00	50%	95%	95%	6.962	1
MiscIn3	Misc	Incandescent	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0306	14	5,455	0.188	1,636	\$50.00	30%	95%	15%	24.390	1
MiscIn4	Misc	Incandescent	New	4	Photocell dimming control	No prior dimming control	Photocell	\$0.0550	9	5,455	0.313	2,727	\$150.00	50%	95%	95%	7.607	1
MiscIn2	Misc	Incandescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0764	14	5,455	0.188	1,636	\$125.00	30%	95%	80%	9.756	1
MiscIn3	Misc	Incandescent	Turnover	3	Photocell dimming control	No prior dimming control	Photocell	\$0.0825	9	5,455	0.313	2,727	\$225.00	50%	95%	95%	5.071	1
GroceIn4	Grocery	Incandescent	Turnover	4	LED Lamp - 12 Watt	EISA - 60 Watt equivalent - 43W	Lamp	\$0.1329	5	250	0.021	181	\$23.99	72%	75%	50%	1.760	1
HealthIn4	Healthcare	Incandescent	Turnover	4	LED Lamp - 12 Watt	EISA - 60 Watt equivalent - 43W	Lamp	\$0.1433	5	232	0.019	167	\$23.99	72%	75%	50%	1.632	1
GroceIn5	Grocery	Incandescent	Turnover	5	LED Lamp PAR - 12 Watt	Halogen PAR - 45 W	Lamp	\$0.1908	5	262	0.021	181	\$34.45	69%	75%	90%	1.226	1
HealthIn5	Healthcare	Incandescent	Turnover	5	LED Lamp PAR - 12 Watt	Halogen PAR - 45 W	Lamp	\$0.2058	5	243	0.019	167	\$34.45	69%	75%	90%	1.136	1
InstIn11	Institutional	Incandescent	Turnover	1	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0355	5	140	0.010	84	\$3.00	60%	75%	50%	6.586	1
InstIn14	Institutional	Incandescent	Turnover	4	LED Lamp - 12 Watt	EISA - 60 Watt equivalent - 43W	Lamp	\$0.2931	5	114	0.009	82	\$23.99	72%	75%	50%	0.798	0
InstIn15	Institutional	Incandescent	Turnover	5	LED Lamp PAR - 12 Watt	Halogen PAR - 45 W	Lamp	\$0.4209	5	119	0.009	82	\$34.45	69%	75%	90%	0.556	0
LodgIn11	Lodging	Incandescent	Turnover	1	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0190	5	262	0.018	158	\$3.00	60%	75%	50%	12.326	1
LodgIn14	Lodging	Incandescent	Turnover	4	LED Lamp - 12 Watt	EISA - 60 Watt equivalent - 43W	Lamp	\$0.1566	5	212	0.018	153	\$23.99	72%	75%	50%	1.493	1
LodgIn15	Lodging	Incandescent	Turnover	5	LED Lamp PAR - 12 Watt	Halogen PAR - 45 W	Lamp	\$0.2249	5	222	0.018	153	\$34.45	69%	75%	90%	1.040	1
OfficIn11	Office	Incandescent	Turnover	1	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0334	5	149	0.010	90	\$3.00	60%	75%	50%	7.005	1
OfficIn14	Office	Incandescent	Turnover	4	LED Lamp - 12 Watt	EISA - 60 Watt equivalent - 43W	Lamp	\$0.2756	5	121	0.010	87	\$23.99	72%	75%	50%	0.849	0
OfficIn15	Office	Incandescent	Turnover	5	LED Lamp PAR - 12 Watt	Halogen PAR - 45 W	Lamp	\$0.3958	5	126	0.010	87	\$34.45	69%	75%	90%	0.591	0
RestaIn11	Restaurant	Incandescent	Turnover	1	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0215	5	232	0.016	140	\$3.00	60%	75%	50%	10.897	1
RestaIn4	Restaurant	Incandescent	Turnover	4	LED Lamp - 12 Watt	EISA - 60 Watt equivalent - 43W	Lamp	\$0.1772	5	188	0.016	135	\$23.99	72%	75%	50%	1.320	1
RestaIn5	Restaurant	Incandescent	Turnover	5	LED Lamp PAR - 12 Watt	Halogen PAR - 45 W	Lamp	\$0.2544	5	197	0.016	135	\$34.45	69%	75%	90%	0.919	0
RetailIn11	Retail	Incandescent	Turnover	1	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0223	5	223	0.015	135	\$3.00	60%	75%	50%	10.503	1
RetailIn4	Retail	Incandescent	Turnover	4	LED Lamp - 12 Watt	EISA - 60 Watt equivalent - 43W	Lamp	\$0.1838	5	181	0.015	131	\$23.99	72%	75%	50%	1.272	1
RetailIn5	Retail	Incandescent	Turnover	5	LED Lamp PAR - 12 Watt	Halogen PAR - 45 W	Lamp	\$0.2640	5	189	0.015	131	\$34.45	69%	75%	90%	0.886	0
miscIn11	misc	Incandescent	Turnover	1	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0220	5	262	0.016	136	\$3.00	60%	75%	50%	10.631	1
miscIn14	misc	Incandescent	Turnover	4	LED Lamp - 12 Watt	EISA - 60 Watt equivalent - 43W	Lamp	\$0.1816	5	183	0.015	132	\$23.99	72%	75%	50%	1.288	1
miscIn15	misc	Incandescent	Turnover	5	LED Lamp PAR - 12 Watt	Halogen PAR - 45 W	Lamp	\$0.2608	5	192	0.015	132	\$34.45	69%	75%	90%	0.897	0
WarehIn11	Warehouse	Incandescent	Turnover	1	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0240	5	207	0.014	125	\$3.00	60%	75%	50%	9.729	1
WarehIn14	Warehouse	Incandescent	Turnover	4	LED Lamp - 12 Watt	EISA - 60 Watt equivalent - 43W	Lamp	\$0.1984	5	168	0.014	121	\$23.99	72%	75%	50%	1.179	1
WarehIn15	Warehouse	Incandescent	Turnover	5	LED Lamp PAR - 12 Watt	Halogen PAR - 45 W	Lamp	\$0.2849	5	176	0.014	121	\$34.45	69%	75%	90%	0.821	0
LodgIn6	Lodging	Incandescent	New	6	Hotel Occupancy Sensors	No prior control	Per Room	\$0.4468	10	240	0.019	168	\$75.00	70%	90%	95%	1.100	1
LodgIn16	Lodging	Incandescent	Turnover	6	Hotel Occupancy Sensors	No prior control	Per Room	\$0.5957	10	240	0.019	168	\$100.00	70%	90%	95%	0.825	0
ALLSIn1	All	Signage	New	1	Induction Street Lighting	Base HID Streetlighting	Fixture	\$0.54	15	2,762	0.101	1,619	\$875.00	59%	95%	95%	1.398	1
ALLSIn2	All	Signage	New	2	LED or equivalent sign lighting	Replace fluorescent sign lighting	Exit Sign	\$0.58	15	52	0.002	30	\$17.36	58%	95%	7%	5.299	1
ALLSIn3	All	Signage	New	3	LED Street Lighting	Std HID Street Lighting	Pole	\$0.56	15	3,023	0.047	756	\$425.00	25%	95%	95%	1.343	1
ALLSIn1	All	Signage	Early	1	Dusk to Dawn	Time Clock Control	Pole	\$0.17	15	3,023	0.076	1,209	\$200.00	40%	95%	50%	4.567	1
OfficMo122	Office	Motors	Turnover	22	Air Comp Improvements	Air Comp Improvements		\$0.11	15	56148	1.148	8,928	\$990.00	16%	28%	65%	7.313	1
OfficMoE2	Office	Motors	Early	2	Air Compressor Optimization	Air Compressor Optimization		\$0.16	15	56148	2.174	16,901	\$2,750.00	30%	38%	65%	4.984	1
GroceMoE1	Grocery	Motors	Early	1	Motor Retrocommissioning	Motor Retrocommissioning	Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.235	1
AlloT11	All	Other	Turnover	1	Motor Improvements Bundle - Industrial Model	No Motor Improvements	Motor	\$0.48	14	10000	0.128	1,092	\$522.00	11%	90%	95%	1.562	1
AlloT12	All	Other	Turnover	2	EE Transformer - CSL 3	NEMA Transformer - 75W	Motor	\$0.60	15	4197	0.187	1,595	\$950.00	23%	90%	95%	1.346	1
AlloOn1	All	Other	New	1	EE Transformer - CSL 3	NEMA Transformer - 75W	Motor	\$0.60	15	4197	0.187	1,595	\$950.00	23%	90%	95%	1.346	1
AllRen26	All	Refrigeration	New	26	Anti-sweat heat (ASH) controls - Freezer	ASH without controls	Per Door	\$0.16	12	2,985	0.029	1,882	\$300.00	63%	95%	85%	3.588	1
AllRen27	All	Refrigeration	New	27	Anti-sweat heat (ASH) controls - Cooler	ASH without controls	Per Door	\$0.29	12	1,621	0.028	1,023	\$300.00	63%	95%	85%	1.971	1
GroceMoN1	Grocery	Motors	New	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.1015	15	15384	0.0282	139.5	\$154	0.91%	74.4%	100%	0.777	0
GroceMoN2	Grocery	Motors	New	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.1901	15	58940	0.0231	437.7	\$521	0.74%	74.4%	100%	0.642	0
GroceMoN3	Grocery	Motors	New	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.0693	15	144688	0.0138	644.1	\$689	0.45%	66.3%	100%	0.697	0
GroceMoN4	Grocery	Motors	New	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.4499	15	290922	0.0121	1135.2	\$511	0.39%	55.8%	100%	1.642	1
GroceMoN5	Grocery	Motors	New	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.3775	15	624328	0.0284	5711.1	\$2,156	0.91%	55.8%	100%	1.948	1
GroceMoN6	Grocery	Motors	New	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.5635	15	97600	2.511	19,520	\$11,000.00	20%	55.0%	100%	1.439	1
GroceMoN7	Grocery	Motors	New	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.4367	15	97600	3.941	29767.9	\$13,000.00	31%	70.0%	100%	1.862	1
GroceMoN8	Grocery	Motors	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4149	15	97600	0.000	31329.5	\$13,000.00	32%	90.0%	100%	1.765	1
GroceMoN9	Grocery	Motors	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.4915	15	97600	3.941	26449.5	\$13,000.00	27%	70.0%	100%	1.675	1
GroceMoN10	Grocery	Motors	New	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.4515	15	97600	2.798	28791.9	\$13,000.00	36%	55.0%	100%	1.753	1
GroceMoN11	Grocery	Motors	New	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.4915	15	97600	3.941	26449.5	\$13,000.00	27%	30.0%	100%	1.675	1
GroceMoT1	Grocery	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.1015	15	15384	0.0282	139.5	\$154	0.91%	74.4%	100%	0.777	0
GroceMoT2	Grocery	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.1901	15	58940	0.0231	437.7	\$521	0.74%	74.4%	100%	0.642	0
GroceMoT3	Grocery	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.0693	15	144688	0.0138	644.1	\$689	0.45%	66.3%	100%	0.697	0
GroceMoT4	Grocery	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.4499	15	290922	0.0121	1135.2	\$511	0.39%	55.8%	100%	1.642	1

Penn Electric Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
HealthMo2	Healthcare	Motors	New	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$0.9266	15	75700	0.0231	562.2	\$521	0.74%	74.4%	100%	0.817	0
HealthMo3	Healthcare	Motors	New	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$0.8325	15	185830	0.0138	827.3	\$689	0.45%	66.3%	100%	0.892	0
HealthMo4	Healthcare	Motors	New	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.3503	15	373646	0.0121	1458.0	\$511	0.39%	55.8%	100%	2.105	1
HealthMo5	Healthcare	Motors	New	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.2939	15	801855	0.0284	7335.1	\$2,156	0.91%	55.8%	100%	2.500	1
HealthMo6	Healthcare	Motors	New	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.4388	15	125352	3.225	25,070	\$11,000.00	20%	55.0%	100%	1.848	1
HealthMo7	Healthcare	Motors	New	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.3771	15	125352	3.941	34471.8	\$13,000.00	28%	70.0%	100%	2.127	1
HealthMo8	Healthcare	Motors	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.3231	15	125352	0.000	40238.0	\$13,000.00	32%	80.0%	100%	2.267	1
HealthMo9	Healthcare	Motors	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.4490	15	125352	3.941	28956.3	\$13,000.00	23%	70.0%	100%	1.816	1
HealthMo10	Healthcare	Motors	New	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.3758	15	125352	2.798	34597.2	\$13,000.00	28%	55.0%	100%	2.080	1
HealthMo11	Healthcare	Motors	New	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.4233	15	125352	3.941	30711.3	\$13,000.00	25%	30.0%	100%	1.915	1
HealthMo12	Healthcare	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$0.8576	15	19759	0.0282	179.2	\$154	0.91%	74.4%	100%	0.966	0
HealthMo13	Healthcare	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$0.9266	15	75700	0.0231	562.2	\$521	0.74%	74.4%	100%	0.817	0
HealthMo14	Healthcare	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$0.8325	15	185830	0.0138	827.3	\$689	0.45%	66.3%	100%	0.892	0
HealthMo15	Healthcare	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.3503	15	373646	0.0121	1458.0	\$511	0.39%	55.8%	100%	2.105	1
HealthMo16	Healthcare	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.2939	15	801855	0.0284	7335.1	\$2,156	0.91%	55.8%	100%	2.500	1
HealthMo17	Healthcare	Motors	Turnover	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.4388	15	125352	3.225	25,070	\$11,000.00	20%	55.0%	80%	1.848	1
HealthMo18	Healthcare	Motors	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.3771	15	125352	3.941	34471.8	\$13,000.00	28%	90.0%	80%	2.127	1
HealthMo19	Healthcare	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.3231	15	125352	0.000	40238.0	\$13,000.00	32%	90.0%	80%	2.267	1
HealthMo20	Healthcare	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.4490	15	125352	3.941	28956.3	\$13,000.00	23%	90.0%	80%	1.816	1
HealthMo21	Healthcare	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.3758	15	125352	2.798	34597.2	\$13,000.00	28%	80.0%	80%	2.080	1
HealthMo22	Healthcare	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.4233	15	125352	3.941	30711.3	\$13,000.00	25%	55.0%	80%	1.915	1
HealthMo23	Healthcare	Motors	Turnover	12	Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0.3969	15	376056	0.243	1889.7	\$750	0.5%	35.0%	95%	2.043	1
HealthMo24	Healthcare	Motors	Turnover	13	Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0.4885	15	814788	0.527	4094.4	\$2,000	0.5%	50.0%	95%	1.660	1
HealthMo25	Healthcare	Motors	Turnover	14	Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0.3663	15	76864	0.088	682.5	\$250	0.9%	10.0%	95%	2.214	1
HealthMo26	Healthcare	Motors	Turnover	15	Motors: Rewind 500+ HP	(E) Motor	Motor	\$0.4233	15	1880281	1.216	9448.6	\$4,000	0.5%	70.0%	95%	1.916	1
HealthMo27	Healthcare	Motors	Turnover	16	Motors: Rewind 51-100 HP	(E) Motor	Motor	\$0.4548	15	190072	0.141	1099.4	\$500	0.6%	20.0%	95%	1.783	1
HealthMo28	Healthcare	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	3.079	1
HealthMo29	Healthcare	Motors	New	12	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.635	1
HealthMo30	Healthcare	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.031	0
HealthMo31	Healthcare	Motors	New	14	Electrically Commutated Motors (ECM) on an Air Handler Unit	replaced with 85% eff. ECPM motor	Motor	\$0.21	15	5,194	0.120	935	\$2,000.09	18.00%	75%	95%	3.789	1
HealthMo32	Healthcare	Motors	New	15	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.628	0
HealthMo33	Healthcare	Motors	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.635	1
HealthMo34	Healthcare	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.031	0
HealthMo35	Healthcare	Motors	Turnover	20	Electrically Commutated Motors (ECM) on an Air Handler Unit	replaced with 85% eff. ECPM motor	Motor	\$0.21	15	5,194	0.120	935	\$2,000.09	18.00%	75%	95%	3.789	1
HealthMo36	Healthcare	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.628	0
HealthMo37	Healthcare	Motors	Turnover	22	Air Comp Improvements		Motor	\$0.11	15	56,148	1.148	8,928	\$990.00	16%	28%	65%	7.313	1
HealthMo38	Healthcare	Motors	Early	2	Air Compressor Optimization		Motor	\$0.16	15	56,148	2.174	16,901	\$2,750.00	30%	38%	65%	4.984	1
HealthMo39	Healthcare	Motors	Early	1	Motor Retrocommissioning		Motor	\$0.27	7	56,148	1.156	8,984	\$2,450.00	16%	95%	75%	1.235	1
InstiMo1	Institutional	Motors	New	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.2757	15	13284	0.0282	120.5	\$154	0.91%	74.4%	100%	0.686	0
InstiMo2	Institutional	Motors	New	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.3783	15	50893	0.0231	377.9	\$521	0.74%	74.4%	100%	0.558	0
InstiMo3	Institutional	Motors	New	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.2384	15	124933	0.0138	556.2	\$689	0.45%	66.3%	100%	0.604	0
InstiMo4	Institutional	Motors	New	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.5211	15	251201	0.0121	980.2	\$511	0.39%	55.8%	100%	1.420	1
InstiMo5	Institutional	Motors	New	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.4372	15	539086	0.0284	4931.3	\$2,156	0.91%	55.8%	100%	1.683	1
InstiMo6	Institutional	Motors	New	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.6526	15	84274	2.168	16,855	\$11,000.00	20%	55.0%	100%	1.243	1
InstiMo7	Institutional	Motors	New	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.5074	15	84274	6.136	25619.3	\$13,000.00	30%	70.0%	100%	1.732	1
InstiMo8	Institutional	Motors	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4806	15	84274	0.000	27051.9	\$13,000.00	32%	80.0%	100%	1.524	1
InstiMo9	Institutional	Motors	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5713	15	84274	6.136	22754.0	\$13,000.00	27%	70.0%	100%	1.570	1
InstiMo10	Institutional	Motors	New	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.5265	15	84274	4.452	24692.3	\$13,000.00	29%	55.0%	100%	1.600	1
InstiMo11	Institutional	Motors	New	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5713	15	84274	6.136	22754.0	\$13,000.00	27%	30.0%	100%	1.570	1
InstiMo12	Institutional	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.2757	15	13284	0.0282	120.5	\$154	0.91%	74.4%	100%	0.686	0
InstiMo13	Institutional	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.5265	15	84274	4.452	24692.3	\$13,000.00	29%	80.0%	80%	1.600	1
InstiMo14	Institutional	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5713	15	84274	6.136	22754.0	\$13,000.00	27%	55.0%	80%	1.570	1
InstiMo15	Institutional	Motors	Turnover	12	Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0.5903	15	252822	0.163	1270.5	\$750	0.5%	35.0%	95%	1.374	1
InstiMo16	Institutional	Motors	Turnover	13	Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0.7266	15	547781	0.354	2752.7	\$2,000	0.5%	50.0%	95%	1.116	1
InstiMo17	Institutional	Motors	Turnover	14	Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0.5448	15	51676	0.059	458.9	\$250	0.9%	10.0%	95%	1.488	1
InstiMo18	Institutional	Motors	Turnover	15	Motors: Rewind 500+ HP	(E) Motor	Motor	\$0.6297	15	1264109	0.817	6352.3	\$4,000	0.5%	70.0%	95%	1.288	1
InstiMo19	Institutional	Motors	Turnover	16	Motors: Rewind 51-100 HP	(E) Motor	Motor	\$0.6765	15	127785	0.095	739.1	\$500	0.6%	20.0%	95%	1.199	1
InstiMo20	Institutional	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	3.079	1
InstiMo21	Institutional	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.3783	15	50893	0.0231	377.9	\$521	0.74%	74.4%	100%	0.558	0
InstiMo22	Institutional	Motors	Turnover	23	Motor Retrocommissioning		Motor	\$0.27	7	56,148	1.156	8,984	\$2,450.00	16%	95%	75%	1.235	1
InstiMo23	Institutional	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.2384	15	124933	0.0138	556.2						

Penn Electric Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
LodgMo12	Lodging	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1,2008	15	58416	0.0231	433.8	\$521	0.74%	74.4%	100%	0.637	0
LodgMo13	Lodging	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1,0789	15	143401	0.0138	638.4	\$689	0.45%	66.3%	100%	0.691	0
LodgMo14	Lodging	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0,4540	15	288334	0.0121	1125.1	\$511	0.39%	55.8%	100%	1.628	1
LodgMo15	Lodging	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0,3809	15	618773	0.0284	5660.3	\$2,156	0.91%	55.8%	100%	1.931	1
LodgMo16	Lodging	Motors	Turnover	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0,5686	15	96731	2.489	19,346	\$11,000.00	20%	55.0%	80%	1.426	1
LodgMo17	Lodging	Motors	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0,4477	15	96731	4.693	29035.5	\$13,000.00	30%	90.0%	80%	1.856	1
LodgMo18	Lodging	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0,4187	15	96731	0.000	31050.8	\$13,000.00	32%	90.0%	80%	1.749	1
LodgMo19	Lodging	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0,5087	15	96731	4.693	25553.2	\$13,000.00	26%	90.0%	80%	1.660	1
LodgMo110	Lodging	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0,4616	15	96731	3.364	28164.9	\$13,000.00	29%	80.0%	80%	1.745	1
LodgMo111	Lodging	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0,5043	15	96731	4.693	25778.9	\$13,000.00	27%	55.0%	80%	1.673	1
LodgMo112	Lodging	Motors	Turnover	12	Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0,5143	15	290194	0.188	1458.3	\$750	0.5%	35.0%	95%	1.577	1
LodgMo113	Lodging	Motors	Turnover	13	Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0,6330	15	628754	0.406	3159.6	\$2,000	0.5%	50.0%	95%	1.281	1
LodgMo114	Lodging	Motors	Turnover	14	Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0,4747	15	59314	0.068	526.7	\$250	0.9%	10.0%	95%	1.708	1
LodgMo115	Lodging	Motors	Turnover	15	Motors: Rewind 500+ HP	(E) Motor	Motor	\$0,5486	15	1450970	0.938	7291.3	\$4,000	0.5%	70.0%	95%	1.478	1
LodgMo116	Lodging	Motors	Turnover	16	Motors: Rewind 51-100 HP	(E) Motor	Motor	\$0,5894	15	146674	0.109	848.4	\$500	0.6%	20.0%	95%	1.376	1
LodgMo117	Lodging	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0,34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	3.079	1
LodgMo112	Lodging	Motors	New	12	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0,19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.635	1
LodgMo113	Lodging	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16,21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.031	0
LodgMo114	Lodging	Motors	New	14	Electronically Commutated Motors (ECM) on an Air Handler Unit	replaced with 85% eff. ECPM motor	Motor	\$0,21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.789	1
LodgMo115	Lodging	Motors	New	15	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0,80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.628	0
LodgMo118	Lodging	Motors	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0,19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.635	1
LodgMo119	Lodging	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16,21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.031	0
LodgMo120	Lodging	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	replaced with 85% eff. ECPM motor	Motor	\$0,21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.789	1
LodgMo121	Lodging	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0,80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.628	0
LodgMo122	Lodging	Motors	Turnover	22	Air Comp Improvements		Motor	\$0,11	15	56148	1.148	8,928	\$990.00	16%	28%	65%	7.313	1
LodgMo122	Lodging	Motors	Early	2	Air Compressor Optimization		Motor	\$0,16	15	56148	2.174	16,901	\$2,750.00	30%	38%	65%	4.984	1
InstiMo123	Institutional	Motors	Turnover	23	Motor Retrocommissioning		Motor	\$0,27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.235	1
miscMoN1	misc	Motors	New	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1,1114	15	15247	0.0282	138.3	\$154	0.91%	74.4%	100%	0.771	0
miscMoN2	misc	Motors	New	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1,2008	15	58416	0.0231	433.8	\$521	0.74%	74.4%	100%	0.637	0
miscMoN3	misc	Motors	New	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1,0789	15	143401	0.0138	638.4	\$689	0.45%	66.3%	100%	0.691	0
miscMoN4	misc	Motors	New	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0,4540	15	288334	0.0121	1125.1	\$511	0.39%	55.8%	100%	1.628	1
miscMoN5	misc	Motors	New	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0,3809	15	618773	0.0284	5660.3	\$2,156	0.91%	55.8%	100%	1.931	1
miscMoN6	misc	Motors	New	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0,5686	15	96731	2.489	19,346	\$11,000.00	20%	55.0%	80%	1.426	1
miscMoN7	misc	Motors	New	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0,4477	15	96731	4.693	29035.5	\$13,000.00	30%	70.0%	100%	1.856	1
miscMoN8	misc	Motors	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0,4187	15	96731	0.000	31050.8	\$13,000.00	32%	80.0%	100%	1.749	1
miscMoN9	misc	Motors	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0,5087	15	96731	4.693	25553.2	\$13,000.00	26%	70.0%	100%	1.660	1
miscMoN10	misc	Motors	New	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0,4616	15	96731	3.364	28164.9	\$13,000.00	29%	55.0%	100%	1.745	1
miscMoN11	misc	Motors	New	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0,5043	15	96731	4.693	25778.9	\$13,000.00	27%	30.0%	100%	1.673	1
miscMo11	misc	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1,1114	15	15247	0.0282	138.3	\$154	0.91%	74.4%	100%	0.771	0
miscMo12	misc	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1,2008	15	58416	0.0231	433.8	\$521	0.74%	74.4%	100%	0.637	0
miscMo13	misc	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1,0789	15	143401	0.0138	638.4	\$689	0.45%	66.3%	100%	0.691	0
miscMo14	misc	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0,4540	15	288334	0.0121	1125.1	\$511	0.39%	55.8%	100%	1.628	1
miscMo15	misc	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0,3809	15	618773	0.0284	5660.3	\$2,156	0.91%	55.8%	100%	1.931	1
miscMo16	misc	Motors	Turnover	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0,5686	15	96731	2.489	19,346	\$11,000.00	20%	55.0%	80%	1.426	1
miscMo17	misc	Motors	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0,4477	15	96731	4.693	29035.5	\$13,000.00	30%	90.0%	80%	1.856	1
miscMo18	misc	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0,4187	15	96731	0.000	31050.8	\$13,000.00	32%	90.0%	80%	1.749	1
miscMo19	misc	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0,5087	15	96731	4.693	25553.2	\$13,000.00	26%	90.0%	80%	1.660	1
miscMo110	misc	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0,4616	15	96731	3.364	28164.9	\$13,000.00	29%	80.0%	80%	1.745	1
miscMo111	misc	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0,5043	15	96731	4.693	25778.9	\$13,000.00	27%	55.0%	80%	1.673	1
miscMo112	misc	Motors	Turnover	12	Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0,5143	15	290194	0.188	1458.3	\$750	0.5%	35.0%	95%	1.577	1
miscMo113	misc	Motors	Turnover	13	Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0,6330	15	628754	0.406	3159.6	\$2,000	0.5%	50.0%	95%	1.281	1
miscMo114	misc	Motors	Turnover	14	Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0,4747	15	59314	0.068	526.7	\$250	0.9%	10.0%	95%	1.708	1
miscMo115	misc	Motors	Turnover	15	Motors: Rewind 500+ HP	(E) Motor	Motor	\$0,5486	15	1450970	0.938	7291.3	\$4,000	0.5%	70.0%	95%	1.478	1
miscMo116	misc	Motors	Turnover	16	Motors: Rewind 51-100 HP	(E) Motor	Motor	\$0,5894	15	146674	0.109	848.4	\$500	0.6%	20.0%	95%	1.376	1
miscMo117	misc	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0,34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	3.079	1
miscMo112	misc	Motors	New	12	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0,19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.635	1
miscMo113	misc	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16,21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.031	0
miscMo114	misc	Motors	New	14	Electronically Commutated Motors (ECM) on an Air Handler Unit	replaced with 85% eff. ECPM motor	Motor	\$0,21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.789	1
miscMo115	misc	Motors	New	15	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0,80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.628	0
miscMo118	misc	Motors	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0,19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.635	1
miscMo119	misc	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16,21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.031	0
miscMo120	misc	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	replaced with 85% eff. ECPM motor	Motor	\$0,21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.789	1
miscMo121	misc	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0,80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.628	0
miscMo122	misc	Motors	Turnover	22	Air Comp Improvements		Motor	\$0,11	15	56148	1.148	8,928	\$990.00	16%	28%	65%	7.313	1
miscMo122	misc	Motors	Early	2	Air Compressor Optimization		Motor	\$0,16	15	56148	2.174	16,901	\$2,750.00	30%	38%	65%	4.984	1
LodgMoE1	Lodging	Motors	Early	1	Motor Retrocommissioning		Motor	\$0,27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.235	1
RetaiMoN1	Retail	Motors	New	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1,1015	15	15384	0.0282	139.5	\$154	0.91%	74.4%	100%	0.777	0
RetaiMoN2	Retail	Motors	New	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1,1901	15	58940	0.0231	437.7	\$521	0.74%	74.4%	100%	0.642	0
RetaiMoN3	Retail	Motors	New	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200													

Penn Electric Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
RetaMo113	Retail	Motors	Turnover	13	Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0.6274	15	634398	0.410	3187.9	\$2,000	0.5%	50.0%	95%	1.293	1
RetaMo114	Retail	Motors	Turnover	14	Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0.4074	15	59847	0.068	531.4	\$250	0.9%	10.0%	95%	1.724	1
RetaMo115	Retail	Motors	Turnover	15	Motors: Rewind 500+ HP	(E) Motor	Motor	\$0.5437	15	1463995	0.946	7356.8	\$4,000	0.5%	70.0%	95%	1.491	1
RetaMo116	Retail	Motors	Turnover	16	Motors: Rewind 51-100 HP	(E) Motor	Motor	\$0.5841	15	147991	0.110	856.0	\$500	0.6%	20.0%	95%	1.388	1
RetaMo117	Retail	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	3.079	1
RetaMo118	Retail	Motors	New	12	Demand Control Ventilation (DCV)	Base Standard Ventilation		\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.635	1
RetaMo119	Retail	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood		\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.031	0
RetaMo120	Retail	Motors	New	14	Electronically Commutated Motors (ECM) on an Air Handler Unit	replaced with 85% eff. ECPM motor		\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.789	1
RetaMo121	Retail	Motors	New	15	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%		\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.628	0
RetaMo122	Retail	Motors	Turnover	22	Demand Control Ventilation (DCV)	Base Standard Ventilation		\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.635	1
RetaMo123	Retail	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood		\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.031	0
RetaMo124	Retail	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	replaced with 85% eff. ECPM motor		\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.789	1
RetaMo125	Retail	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%		\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.628	0
RetaMo126	Retail	Motors	Turnover	22	Air Comp Improvements			\$0.11	15	56148	1.148	8,928	\$990.00	16%	28%	65%	7.313	1
RetaMo127	Retail	Motors	Early	2	Air Compressor Optimization			\$0.16	15	56148	2.174	16,901	\$2,750.00	30%	38%	65%	4.984	1
RetaMo128	Retail	Motors	Turnover	23	Motor Retrocommissioning			\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.235	1
RetaMo129	Retail	Motors	New	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.1487	15	14753	0.0282	133.8	\$154	0.91%	74.4%	100%	0.749	0
RetaMo130	Retail	Motors	New	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.2410	15	56520	0.0231	419.7	\$521	0.74%	74.4%	100%	0.617	0
RetaMo131	Retail	Motors	New	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.1151	15	138748	0.0138	617.7	\$689	0.45%	66.3%	100%	0.669	0
RetaMo132	Retail	Motors	New	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.4692	15	278979	0.0121	1088.6	\$511	0.39%	55.8%	100%	1.575	1
RetaMo133	Retail	Motors	New	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.3937	15	598698	0.0284	5476.7	\$2,156	0.91%	55.8%	100%	1.868	1
RetaMo134	Retail	Motors	New	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.5877	15	93593	2.408	18,719	\$11,000.00	20%	55.0%	100%	1.380	1
RetaMo135	Retail	Motors	New	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.4524	15	93593	3.941	28733.0	\$13,000.00	31%	70.0%	100%	1.804	1
RetaMo136	Retail	Motors	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4327	15	93593	0.000	30043.3	\$13,000.00	32%	80.0%	100%	1.692	1
RetaMo137	Retail	Motors	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5107	15	93593	3.941	25457.3	\$13,000.00	27%	70.0%	100%	1.619	1
RetaMo138	Retail	Motors	New	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.4708	15	93593	2.798	27609.9	\$13,000.00	30%	55.0%	100%	1.687	1
RetaMo139	Retail	Motors	New	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5107	15	93593	3.941	25457.3	\$13,000.00	27%	30.0%	100%	1.619	1
RetaMo140	Retail	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.1487	15	14753	0.0282	133.8	\$154	0.91%	74.4%	100%	0.749	0
RetaMo141	Retail	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.2410	15	56520	0.0231	419.7	\$521	0.74%	74.4%	100%	0.617	0
RetaMo142	Retail	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.1151	15	138748	0.0138	617.7	\$689	0.45%	66.3%	100%	0.669	0
RetaMo143	Retail	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.4692	15	278979	0.0121	1088.6	\$511	0.39%	55.8%	100%	1.575	1
RetaMo144	Retail	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.3937	15	598698	0.0284	5476.7	\$2,156	0.91%	55.8%	100%	1.868	1
RetaMo145	Retail	Motors	Turnover	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.5877	15	93593	2.408	18,719	\$11,000.00	20%	55.0%	80%	1.380	1
RetaMo146	Retail	Motors	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.4524	15	93593	3.941	28733.0	\$13,000.00	31%	90.0%	80%	1.804	1
RetaMo147	Retail	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4327	15	93593	0.000	30043.3	\$13,000.00	32%	80.0%	80%	1.692	1
RetaMo148	Retail	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5107	15	93593	3.941	25457.3	\$13,000.00	27%	90.0%	80%	1.619	1
RetaMo149	Retail	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.4708	15	93593	2.798	27609.9	\$13,000.00	30%	80.0%	80%	1.687	1
RetaMo150	Retail	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5107	15	93593	3.941	25457.3	\$13,000.00	27%	55.0%	80%	1.619	1
RetaMo151	Retail	Motors	Turnover	12	Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0.5316	15	280779	0.182	1410.9	\$750	0.5%	35.0%	95%	1.526	1
RetaMo152	Retail	Motors	Turnover	13	Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0.6542	15	608354	0.393	3057.1	\$2,000	0.5%	50.0%	95%	1.240	1
RetaMo153	Retail	Motors	Turnover	14	Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0.4906	15	57390	0.066	509.6	\$250	0.9%	10.0%	95%	1.653	1
RetaMo154	Retail	Motors	Turnover	15	Motors: Rewind 500+ HP	(E) Motor	Motor	\$0.5670	15	1403894	0.908	7054.7	\$4,000	0.5%	70.0%	95%	1.430	1
RetaMo155	Retail	Motors	Turnover	16	Motors: Rewind 51-100 HP	(E) Motor	Motor	\$0.6091	15	149115	0.106	820.8	\$500	0.6%	20.0%	95%	1.331	1
RetaMo156	Retail	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	3.079	1
RetaMo157	Retail	Motors	New	12	Demand Control Ventilation (DCV)	Base Standard Ventilation		\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.635	1
RetaMo158	Retail	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood		\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.031	0
RetaMo159	Retail	Motors	New	14	Electronically Commutated Motors (ECM) on an Air Handler Unit	replaced with 85% eff. ECPM motor		\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.789	1
RetaMo160	Retail	Motors	New	15	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%		\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.628	0
RetaMo161	Retail	Motors	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation		\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.635	1
RetaMo162	Retail	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood		\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.031	0
RetaMo163	Retail	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	replaced with 85% eff. ECPM motor		\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.789	1
RetaMo164	Retail	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%		\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.628	0
RetaMo165	Retail	Motors	Turnover	22	Air Comp Improvements			\$0.11	15	56148	1.148	8,928	\$990.00	16%	28%	65%	7.313	1
RetaMo166	Retail	Motors	Early	2	Air Compressor Optimization			\$0.16	15	56148	2.174	16,901	\$2,750.00	30%	38%	65%	4.984	1
RetaMo167	Retail	Motors	Early	1	Motor Retrocommissioning			\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.235	1
WarehMo1	Warehouse	Motors	New	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.1114	15	15247	0.0282	138.3	\$154	0.91%	74.4%	100%	0.771	0
WarehMo2	Warehouse	Motors	New	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.2008	15	58416	0.0231	433.8	\$521	0.74%	74.4%	100%	0.637	0
WarehMo3	Warehouse	Motors	New	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.0789	15	143401	0.0138	638.4	\$689	0.45%	66.3%	100%	0.691	0
WarehMo4	Warehouse	Motors	New	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.4540	15	288334	0.0121	1125.1	\$511	0.39%	55.8%	100%	1.628	1
WarehMo5	Warehouse	Motors	New	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.3809	15	618773	0.0284	5660.3	\$2,156	0.91%	55.8%	100%	1.931	1
WarehMo6	Warehouse	Motors	New	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.5686	15	96731	2.489	19,346	\$11,000.00	20%	55.0%	100%	1.426	1
WarehMo7	Warehouse	Motors	New	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.4477	15	96731	4.693	29035.5	\$13,000.00	30%	70.0%	100%	1.856	1
WarehMo8	Warehouse	Motors	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4187	15	96731	0.000	31050.8	\$13,000.00	32%	80.0%	100%	1.749	1
WarehMo9	Warehouse	Motors	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5087	15	96731	4.693	25553.2	\$13,000.00	26%	70.0%	100%	1.660	1
WarehMo10	Warehouse	Motors	New	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.4616	15	96731	3.364	28164.9	\$13,000.00	29%	80.0%	80%	1.745	1
WarehMo11	Warehouse	Motors	New	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5043	15	96731	4.693	25778.9	\$13,000.00	27%	55.0%	80%	1.673	1
WarehMo12	Warehouse	Motors	Turnover	12	Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0.5143	15	290194	0.188	1458.3	\$750	0.5%	35.0%	95%	1.577	1
WarehMo13	Warehouse	Motors	Turnover	13	Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0.6330	15	628754	0.406	3159.6	\$2,000	0.5%	50.0%	95%	1.281	1
WarehMo14	Warehouse	Motors	Turnover	14	Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0.4747	15	59314	0.068	526.7	\$250	0.9%	10.0%	95%	1.708	1
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Penn Electric Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
WarchMo20	Warehouse	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	replaced with 85% eff. ECM motor	ton	\$0.21	15	5,194	0.120	935	\$2,000.00	18.00%	75%	95%	3,789	1
WarchMo21	Warehouse	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	ton	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.628	0
WarchMo22	Warehouse	Motors	Turnover	22	Air Comp Improvements		ton	\$0.11	15	56148	1.148	8,928	\$990.00	16%	28%	65%	7,313	1
WarchMo2	Warehouse	Motors	Early	2	Air Compressor Optimization		ton	\$0.16	15	56148	2.174	16,901	\$2,750.00	30%	38%	65%	4,984	1
MiscMo123	Misc	Motors	Turnover	23	Motor Retrocommissioning		Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1,235	1
HealtheN2	Healthcare	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$41.47	15	298	0.23	18	\$ 750.00	6%	20%	95%	0.209	0
HealtheN3	Healthcare	Heating	new	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$41.47	15	298	0.000	18	\$750.00	6%	100%	95%	0.018	0
GrocePa1	Grocery	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3.13	20	970	0.05	64	\$200.00	7%	15%	9%	0.475	0
GrocePa2	Grocery	Packaged DX	Early	2	Adding window shade film	No shade film	4 ft window area	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.033	0
GrocePa3	Grocery	Packaged DX	Early	3	Adding window shade screen	No shade screen	4 ft window area	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.206	0
GrocePa4	Grocery	Packaged DX	Early	4	Windows U<0.40, .55 SHGC	Existing window specifications	4 ft window area	0	2	0.000	0	\$0.28	13%	50%	95%	0.951	0	
GrocePa5	Grocery	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$3.48	20	970	0.05	65	\$225.00	7%	95%	95%	0.425	0
GrocePa7	Grocery	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$0.49	10	1,025	0.006	51	\$25.00	5%	100%	65%	1,013	1
GrocePa8	Grocery	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	970	0.05	12	\$95.00	1%	45%	80%	0.400	0
GrocePa9	Grocery	Packaged DX	Early	9	Hotel Keypad Sensors	No prior controls	Room Control	\$0.29	10	870	0.041	342	\$1,000.00	3%	95%	80%	1.690	1
GrocePa10	Grocery	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	1,054	0.05	64	\$35.00	6%	100%	45%	0.202	0
GrocePa11	Grocery	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	970	0.015	125	\$55.00	13%	100%	45%	1.123	1
GrocePa13	Grocery	Packaged DX	Early	13	Re-commissioning	economizer not functioning	ton	\$0.36	7	970	0.05	155	\$55.15	16%	95%	75%	1.125	1
GrocePaN1	Grocery	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	970	0.05	64	\$87.00	7%	100%	95%	1.091	1
GrocePaN2	Grocery	Packaged DX	New	2	Adding reflective roof treatment	Std color roof	ton	\$4.50	20	970	0.05	10	\$45.00	1%	100%	95%	0.972	0
GrocePaN3	Grocery	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$1.93	20	970	0.05	65	\$125.00	7%	100%	95%	0.764	0
GrocePaN4	Grocery	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Std Roof	ton	\$1.97	20	970	0.05	65	\$127.43	7%	45%	95%	0.750	0
GrocePaN5	Grocery	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	970	0.05	12	\$125.00	1%	100%	95%	0.365	0
GrocePaN6	Grocery	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.51	20	835	0.04	60	\$90.40	7%	100%	95%	0.975	0
GrocePaN7	Grocery	Packaged DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.62	20	835	0.08	111	\$180.81	13%	100%	95%	0.910	0
GrocePaN8	Grocery	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.73	20	835	0.12	157	\$271.21	19%	100%	95%	0.853	0
GrocePaN9	Grocery	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.85	20	970	0.05	65	\$55.00	7%	100%	95%	1.737	1
GrocePaN10	Grocery	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.85	20	987	0.06	82	\$70.00	8%	100%	95%	1.737	1
GrocePaN11	Grocery	Packaged DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.43	20	1,086	0.06	80	\$115.13	7%	100%	95%	1.033	1
GrocePaN12	Grocery	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$1.79	20	1,120	0.04	55	\$98.39	5%	100%	95%	0.824	0
GrocePaN13	Grocery	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.37	15	987	0.23	317	\$ 750.00	32%	20%	95%	0.500	0
GrocePaN14	Grocery	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$4.24	15	987	0.021	177	\$750.00	18%	100%	95%	0.189	0
GrocePaN15	Grocery	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$1.17	15	970	0.017	145	\$170.00	15%	75%	45%	0.687	0
GrocePaN16	Grocery	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$0.92	15	970	0.023	194	\$179.00	20%	100%	95%	0.870	0
GrocePaN17	Grocery	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.40	15	1,025	0.006	46	\$110.89	5%	100%	95%	0.334	0
GrocePaT1	Grocery	Packaged DX	Turnover	1	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	970	0.05	12	\$125.00	1%	100%	95%	0.304	0
GrocePaT2	Grocery	Packaged DX	Turnover	2	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.51	20	835	0.04	60	\$90.40	7%	100%	95%	0.975	0
GrocePaT3	Grocery	Packaged DX	Turnover	3	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.62	20	835	0.08	111	\$180.81	13%	100%	95%	0.910	0
GrocePaT4	Grocery	Packaged DX	Turnover	4	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.73	20	835	0.12	157	\$271.21	19%	100%	95%	0.853	0
GrocePaT5	Grocery	Packaged DX	Turnover	5	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.85	20	970	0.05	65	\$55.00	7%	100%	95%	1.737	1
GrocePaT6	Grocery	Packaged DX	Turnover	6	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.85	20	987	0.06	82	\$70.00	8%	100%	95%	1.737	1
GrocePaT7	Grocery	Packaged DX	Turnover	7	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.43	20	1,086	0.06	80	\$115.13	7%	100%	95%	1.033	1
GrocePaT8	Grocery	Packaged DX	Turnover	8	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$1.79	20	1,120	0.04	55	\$98.39	5%	100%	95%	0.824	0
GrocePaT9	Grocery	Packaged DX	Turnover	9	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.37	15	987	0.23	317	\$ 750.00	32%	5%	95%	0.500	0
GrocePaT10	Grocery	Packaged DX	Turnover	10	Ground Source HP Closed	Air Source Heat Pump	ton	\$4.24	15	987	0.021	177	\$750.00	18%	100%	95%	0.189	0
GrocePaT11	Grocery	Packaged DX	Turnover	11	Air-side Economizer	No Economizer	ton	\$1.17	15	970	0.017	145	\$170.00	15%	75%	45%	0.687	0
GrocePaT12	Grocery	Packaged DX	Turnover	12	Energy Recovery Units	No Energy Recovery	ton	\$0.92	15	970	0.023	194	\$179.00	20%	100%	95%	0.870	0
GrocePaT13	Grocery	Packaged DX	Turnover	13	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.40	15	1,025	0.006	46	\$110.89	5%	100%	95%	0.334	0
GrocePaN18	Grocery	Packaged DX	New	18	Automated control system	Baseline DX	ton	\$0.49	10	1,025	0.006	51	\$25.00	5%	100%	65%	1,013	1
GrocePaN19	Grocery	Packaged DX	New	19	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$0.91	10	870	0.006	47	\$43.00	5%	100%	95%	0.546	0
GrocePaT15	Grocery	Packaged DX	Turnover	15	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$0.91	10	870	0.006	47	\$43.00	5%	100%	95%	0.546	0
InstiPa1	Institutional	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3.13	20	722	0.05	64	\$200.00	9%	15%	9%	0.475	0
InstiPa2	Institutional	Packaged DX	Early	2	Adding window shade film	No shade film	4 ft window area	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.033	0
InstiPa3	Institutional	Packaged DX	Early	3	Adding window shade screen	No shade screen	4 ft window area	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.206	0
InstiPa4	Institutional	Packaged DX	Early	4	Windows U<0.40, .55 SHGC	Existing window specifications	4 ft window area	0	2	0.000	0	\$0.28	13%	50%	95%	0.951	0	
InstiPa5	Institutional	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$4.67	20	722	0.05	48	\$225.00	7%	95%	95%	0.355	0
InstiPa7	Institutional	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$0.66	10	763	0.005	38	\$25.00	5%	100%	65%	0.754	0
InstiPa8	Institutional	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	722	0.05	12	\$95.00	2%	45%	80%	0.400	0
InstiPa9	Institutional	Packaged DX	Early	9	Hotel Keypad Sensors	No prior controls	Room Control	\$0.29	10	648	0.041	342	\$1,000.00	3%	95%	80%	1.690	1
InstiPa10	Institutional	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	785	0.05	64	\$35.00	6%	100%	45%	0.202	0
InstiPaE11	Institutional	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	722	0.015	125	\$55.00	17%	100%	45%	1.123	1
InstiPaE13	Institutional	Packaged DX	Early	13	Re-commissioning	economizer not functioning	ton	\$0.48	7	722	0.05	116	\$55.15	16%	95%	75%	0.918	0
InstiPaN1	Institutional	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	722	0.05	64	\$87.00	9%	100%	95%	1.091	1
InstiPaN2	Institutional	Packaged DX	New	2	Adding reflective roof treatment	Std color roof	ton	\$4.50	20	722	0.05	10	\$45.00	1%	100%	95%	0.972	0
InstiPaN3	Institutional	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$2.60	20	722	0.05	48	\$125.00	7%	100%	95%	0.639	0
InstiPaN4	Institutional	Packaged DX	New	4	Green													

Penn Electric Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
InstiPaT11	Institutional	Packaged DX	Turnover	11	Air-side Economizer	No Economizer	ton	\$1.57	15	722	0.013	108	\$17000	15%	75%	45%	0.512	0
InstiPaT12	Institutional	Packaged DX	Turnover	12	Energy Recovery Units	No Energy Recovery	ton	\$1.24	15	722	0.017	144	\$17900	20%	100%	95%	0.648	0
InstiPaT13	Institutional	Packaged DX	Turnover	13	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$3.23	15	763	0.004	34	\$110.89	5%	100%	95%	0.249	0
InstiPaN18	Institutional	Packaged DX	New	18	Automated control system	Baseline DX	ton	\$0.66	10	763	0.005	38	\$25.00	5%	100%	65%	0.754	0
InstiPaN19	Institutional	Packaged DX	New	19	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.22	10	648	0.004	35	\$43.00	5%	100%	95%	0.406	0
InstiPaT15	Institutional	Packaged DX	Turnover	15	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.22	10	648	0.004	35	\$43.00	5%	100%	95%	0.406	0
LodgiPaF1	Lodging	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3.13	20	863	0.05	64	\$2000.00	7%	15%	9%	0.475	0
LodgiPaF2	Lodging	Packaged DX	Early	2	Adding window shade film	No shade film	4 ft window area	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.033	0
LodgiPaF3	Lodging	Packaged DX	Early	3	Adding window shade screen	No shade screen	4 ft window area	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.206	0
LodgiPaF4	Lodging	Packaged DX	Early	4	Windows U<0.40, 55 SHGC	Existing window specifications	4 ft window area	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	0.951	0
LodgiPaF5	Lodging	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$3.39	20	863	0.05	66	\$225.00	7%	95%	95%	0.394	0
LodgiPaF7	Lodging	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$0.55	10	911	0.005	46	\$25.00	5%	100%	65%	0.901	0
LodgiPaF8	Lodging	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	863	0.05	12	\$95.00	1%	45%	80%	0.400	0
LodgiPaF9	Lodging	Packaged DX	Early	9	Hotel Keycard Sensors	No prior controls	room Control	\$0.29	10	774	0.041	342	\$1000.00	44%	95%	80%	1.690	1
LodgiPaF10	Lodging	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	938	0.05	64	\$35.00	7%	100%	45%	0.202	0
LodgiPaF11	Lodging	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	863	0.015	125	\$55.00	14%	100%	45%	1.123	1
LodgiPaF13	Lodging	Packaged DX	Early	13	Re-commissioning	economizer not functioning	ton	\$0.40	7	863	0.05	138	\$55.15	16%	95%	75%	1.035	1
LodgiPaN1	Lodging	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	863	0.05	64	\$87.00	7%	100%	95%	1.091	1
LodgiPaN2	Lodging	Packaged DX	New	2	Adding reflective roof treatment	Std color roof	ton	\$4.50	20	863	0.05	10	\$45.00	1%	100%	95%	0.972	0
LodgiPaN3	Lodging	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$2.17	20	863	0.05	58	\$125.00	7%	100%	95%	0.710	0
LodgiPaN4	Lodging	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Std Roof	ton	\$2.22	20	863	0.05	58	\$127.43	7%	45%	95%	0.697	0
LodgiPaN5	Lodging	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	863	0.05	12	\$125.00	1%	100%	95%	0.365	0
LodgiPaN6	Lodging	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.70	20	743	0.04	53	\$90.40	7%	100%	95%	0.906	0
LodgiPaN7	Lodging	Packaged DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.82	20	743	0.08	99	\$180.81	13%	100%	95%	0.846	0
LodgiPaN8	Lodging	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.95	20	743	0.12	139	\$271.21	19%	100%	95%	0.793	0
LodgiPaN9	Lodging	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.96	20	863	0.05	58	\$55.00	7%	100%	95%	1.614	1
LodgiPaN10	Lodging	Packaged DX	New	10	135-240k AC unit, existing efficiency value (11 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.96	20	878	0.06	73	\$70.00	8%	100%	95%	1.614	1
LodgiPaN11	Lodging	Packaged DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.61	20	966	0.06	72	\$115.13	7%	100%	95%	0.959	0
LodgiPaN12	Lodging	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$2.02	20	996	0.04	49	\$98.39	5%	100%	95%	0.766	0
LodgiPaN13	Lodging	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.66	15	878	0.23	282	\$ 750.00	32%	20%	95%	0.466	0
LodgiPaN14	Lodging	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$4.77	15	878	0.019	157	\$750.00	18%	100%	95%	0.168	0
LodgiPaN15	Lodging	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$1.31	15	863	0.015	129	\$1700.00	15%	75%	45%	0.611	0
LodgiPaN16	Lodging	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$1.04	15	863	0.021	173	\$1700.00	20%	100%	95%	0.774	0
LodgiPaN17	Lodging	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.70	15	911	0.005	41	\$110.89	5%	100%	95%	0.297	0
LodgiPaT1	Lodging	Packaged DX	Turnover	1	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	863	0.05	12	\$125.00	1%	100%	95%	0.304	0
LodgiPaT2	Lodging	Packaged DX	Turnover	2	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.70	20	743	0.04	53	\$90.40	7%	100%	95%	0.906	0
LodgiPaT3	Lodging	Packaged DX	Turnover	3	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.82	20	743	0.08	99	\$180.81	13%	100%	95%	0.846	0
LodgiPaT4	Lodging	Packaged DX	Turnover	4	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.95	20	743	0.12	139	\$271.21	19%	100%	95%	0.793	0
LodgiPaT5	Lodging	Packaged DX	Turnover	5	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.96	20	863	0.05	58	\$55.00	7%	100%	95%	1.614	1
LodgiPaT6	Lodging	Packaged DX	Turnover	6	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.96	20	878	0.06	73	\$70.00	8%	100%	95%	1.614	1
LodgiPaT7	Lodging	Packaged DX	Turnover	7	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.61	20	966	0.06	72	\$115.13	7%	100%	95%	0.959	0
LodgiPaT8	Lodging	Packaged DX	Turnover	8	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$2.02	20	996	0.04	49	\$98.39	5%	100%	95%	0.766	0
LodgiPaT9	Lodging	Packaged DX	Turnover	9	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.66	15	878	0.23	282	\$ 750.00	32%	5%	95%	0.466	0
LodgiPaT10	Lodging	Packaged DX	Turnover	10	Ground Source HP Closed	Air Source Heat Pump	ton	\$4.77	15	878	0.019	157	\$750.00	18%	100%	95%	0.168	0
LodgiPaT11	Lodging	Packaged DX	Turnover	11	Air-side Economizer	No Economizer	ton	\$1.31	15	863	0.015	129	\$1700.00	15%	75%	45%	0.611	0
LodgiPaT12	Lodging	Packaged DX	Turnover	12	Energy Recovery Units	No Energy Recovery	ton	\$1.04	15	863	0.021	173	\$1700.00	20%	100%	95%	0.774	0
LodgiPaT13	Lodging	Packaged DX	Turnover	13	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.70	15	911	0.005	41	\$110.89	5%	100%	95%	0.297	0
LodgiPaN18	Lodging	Packaged DX	New	18	Automated control system	Baseline DX	ton	\$0.55	10	911	0.005	46	\$25.00	5%	100%	65%	0.901	0
LodgiPaN19	Lodging	Packaged DX	New	19	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.02	10	774	0.005	42	\$43.00	5%	100%	95%	0.485	0
LodgiPaT15	Lodging	Packaged DX	Turnover	15	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.02	10	774	0.005	42	\$43.00	5%	100%	95%	0.485	0
MiscPaF1	Misc	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3.13	20	995	0.05	64	\$2000.00	6%	15%	9%	0.475	0
MiscPaF2	Misc	Packaged DX	Early	2	Adding window shade film	No shade film	4 ft window area	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.033	0
MiscPaF3	Misc	Packaged DX	Early	3	Adding window shade screen	No shade screen	4 ft window area	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.206	0
MiscPaF4	Misc	Packaged DX	Early	4	Windows U<0.40, 55 SHGC	Existing window specifications	4 ft window area	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	0.951	0
MiscPaF5	Misc	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$3.39	20	995	0.05	66	\$225.00	7%	95%	95%	0.432	0
MiscPaF7	Misc	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$0.48	10	1,051	0.006	53	\$25.00	5%	100%	65%	1.039	1
MiscPaF8	Misc	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	995	0.05	12	\$95.00	1%	45%	80%	0.400	0
MiscPaF9	Misc	Packaged DX	Early	9	Hotel Keycard Sensors	No prior controls	room Control	\$0.29	10	893	0.041	342	\$1000.00	38%	95%	80%	1.690	1
MiscPaF10	Misc	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	1,081	0.05	64	\$35.00	6%	100%	45%	0.202	0
MiscPaF11	Misc	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	995	0.015	125	\$55.00	13%	100%	45%	1.123	1
MiscPaF13	Misc	Packaged DX	Early	13	Re-commissioning	economizer not functioning	ton	\$0.35	7	995	0.05	159	\$55.15	16%	95%	75%	1.146	1
MiscPaN1	Misc	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	995	0.05	64	\$87.00	6%	100%	95%	1.091	1
MiscPaN2	Misc	Packaged DX	New	2	Adding reflective roof treatment	Std color roof	ton	\$4.50	20	995	0.05	10	\$45.00	1%	100%	95%	0.972	0
MiscPaN3	Misc	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$1.89	20	995	0.05	66	\$125.00	7%	100%	95%	0.777	0
MiscPaN4	Misc	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Std Roof	ton	\$1.92	20	995	0.05	66	\$127.43	7%	45%	95%	0.762	0
MiscPaN5	Misc	Packaged DX	New															

Penn Electric Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
MiscPaT12	Misc	Packaged DX	Turnover	12	Energy Recovery Units	No Energy Recovery	ton	\$0.90	15	995	0.024	199	\$179.00	20%	100%	95%	0.893	0
MiscPaT13	Misc	Packaged DX	Turnover	13	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.34	15	1,051	0.006	47	\$110.89	5%	100%	95%	0.343	0
MiscPaN18	Misc	Packaged DX	New	18	Automated control system	Baseline DX	ton	\$0.48	10	1,051	0.006	53	\$25.00	5%	100%	65%	1.039	1
MiscPaN19	Misc	Packaged DX	New	19	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$0.88	10	893	0.006	49	\$43.00	5%	100%	95%	0.560	0
MiscPaT15	Misc	Packaged DX	Turnover	15	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$0.88	10	893	0.006	49	\$43.00	5%	100%	95%	0.560	0
OfficPaE1	Office	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3.13	20	970	0.05	64	\$200.00	7%	15%	9%	0.475	0
OfficPaE2	Office	Packaged DX	Early	2	Adding window shade film	No shade film	1/4 ft window area	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.033	0
OfficPaE3	Office	Packaged DX	Early	3	Adding window shade screen	No shade screen	1/4 ft window area	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.206	0
OfficPaE4	Office	Packaged DX	Early	4	Windows U<0.40, 55 SHGC	Existing window specifications	1/4 ft window area	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	0.951	0
OfficPaE5	Office	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$3.48	20	970	0.05	65	\$225.00	7%	95%	95%	0.425	0
OfficPaE7	Office	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$0.49	10	1,025	0.006	51	\$25.00	5%	100%	65%	1.013	1
OfficPaE8	Office	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	970	0.05	12	\$95.00	1%	45%	80%	0.400	0
OfficPaE9	Office	Packaged DX	Early	9	Hotel Keycard Sensors	No prior controls	room Controll	\$0.29	10	870	0.041	342	\$100.00	3%	95%	80%	1.690	1
OfficPaE10	Office	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	1,054	0.05	64	\$35.00	6%	100%	45%	0.202	0
OfficPaE11	Office	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	970	0.015	125	\$55.00	13%	100%	45%	1.123	1
OfficPaE13	Office	Packaged DX	Early	13	Re-commissioning	economizer not functioning	ton	\$0.36	7	970	0.05	155	\$55.15	16%	95%	75%	1.125	1
OfficPaN1	Office	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	970	0.05	64	\$87.00	7%	100%	95%	1.091	1
OfficPaN2	Office	Packaged DX	New	2	Adding reflective roof treatment	Std color roof	ton	\$4.50	20	970	0.05	10	\$45.00	1%	100%	95%	0.972	0
OfficPaN3	Office	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$1.93	20	970	0.05	65	\$125.00	7%	100%	95%	0.764	0
OfficPaN4	Office	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Std Roof	ton	\$1.97	20	970	0.05	65	\$127.43	7%	45%	95%	0.750	0
OfficPaN5	Office	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	970	0.05	12	\$125.00	1%	100%	95%	0.365	0
OfficPaN6	Office	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.51	20	835	0.04	60	\$90.40	7%	100%	95%	0.975	0
OfficPaN7	Office	Packaged DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.62	20	835	0.08	111	\$180.81	13%	100%	95%	0.910	0
OfficPaN8	Office	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.73	20	835	0.12	157	\$271.21	19%	100%	95%	0.853	0
OfficPaN9	Office	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.85	20	970	0.05	65	\$55.00	7%	100%	95%	1.737	1
OfficPaN10	Office	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.85	20	987	0.06	82	\$70.00	8%	100%	95%	1.737	1
OfficPaN11	Office	Packaged DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.43	20	1,086	0.06	80	\$115.13	7%	100%	95%	1.033	1
OfficPaN12	Office	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$1.79	20	1,120	0.04	55	\$98.39	5%	100%	95%	0.824	0
OfficPaN13	Office	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.37	15	987	0.23	317	\$ 750.00	32%	20%	95%	0.500	0
OfficPaN14	Office	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$4.24	15	987	0.021	177	\$750.00	18%	100%	95%	0.189	0
OfficPaN15	Office	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$1.17	15	970	0.017	145	\$170.00	15%	75%	45%	0.687	0
OfficPaN16	Office	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$0.92	15	970	0.023	194	\$179.00	20%	100%	95%	0.870	0
OfficPaN17	Office	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.40	15	1,025	0.006	46	\$110.89	5%	100%	95%	0.334	0
OfficPaT1	Office	Packaged DX	Turnover	1	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	970	0.05	12	\$125.00	1%	100%	95%	0.304	0
OfficPaT2	Office	Packaged DX	Turnover	2	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.51	20	835	0.04	60	\$90.40	7%	100%	95%	0.975	0
OfficPaT3	Office	Packaged DX	Turnover	3	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.62	20	835	0.08	111	\$180.81	13%	100%	95%	0.910	0
OfficPaT4	Office	Packaged DX	Turnover	4	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.73	20	835	0.12	157	\$271.21	19%	100%	95%	0.853	0
OfficPaT5	Office	Packaged DX	Turnover	5	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.85	20	970	0.05	65	\$55.00	7%	100%	95%	1.737	1
OfficPaT6	Office	Packaged DX	Turnover	6	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.85	20	987	0.06	82	\$70.00	8%	100%	95%	1.737	1
OfficPaT7	Office	Packaged DX	Turnover	7	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.43	20	1,086	0.06	80	\$115.13	7%	100%	95%	1.033	1
OfficPaT8	Office	Packaged DX	Turnover	8	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$1.79	20	1,120	0.04	55	\$98.39	5%	100%	95%	0.824	0
OfficPaT9	Office	Packaged DX	Turnover	9	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.37	15	987	0.23	317	\$ 750.00	32%	5%	95%	0.500	0
OfficPaT10	Office	Packaged DX	Turnover	10	Ground Source HP Closed	Air Source Heat Pump	ton	\$4.24	15	987	0.021	177	\$750.00	18%	100%	95%	0.189	0
OfficPaT11	Office	Packaged DX	Turnover	11	Air-side Economizer	No Economizer	ton	\$1.17	15	970	0.017	145	\$170.00	15%	75%	45%	0.687	0
OfficPaT12	Office	Packaged DX	Turnover	12	Energy Recovery Units	No Energy Recovery	ton	\$0.92	15	970	0.023	194	\$179.00	20%	100%	95%	0.870	0
OfficPaT13	Office	Packaged DX	Turnover	13	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.40	15	1,025	0.006	46	\$110.89	5%	100%	95%	0.334	0
OfficPaN18	Office	Packaged DX	New	18	Automated control system	Baseline DX	ton	\$0.49	10	1,025	0.006	51	\$25.00	5%	100%	65%	1.013	1
OfficPaN19	Office	Packaged DX	New	19	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$0.91	10	870	0.006	47	\$43.00	5%	100%	95%	0.546	0
OfficPaT15	Office	Packaged DX	Turnover	15	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$0.91	10	870	0.006	47	\$43.00	5%	100%	95%	0.546	0
RestaPaE1	Restaurant	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3.13	20	1,038	0.05	64	\$200.00	6%	15%	9%	0.475	0
RestaPaE2	Restaurant	Packaged DX	Early	2	Adding window shade film	No shade film	1/4 ft window area	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.033	0
RestaPaE3	Restaurant	Packaged DX	Early	3	Adding window shade screen	No shade screen	1/4 ft window area	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.206	0
RestaPaE4	Restaurant	Packaged DX	Early	4	Windows U<0.40, 55 SHGC	Existing window specifications	1/4 ft window area	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	0.951	0
RestaPaE5	Restaurant	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$3.25	20	1,038	0.05	69	\$225.00	7%	95%	95%	0.444	0
RestaPaE7	Restaurant	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$0.46	10	1,097	0.007	55	\$25.00	5%	100%	65%	1.084	1
RestaPaE8	Restaurant	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	1,038	0.05	12	\$95.00	1%	45%	80%	0.400	0
RestaPaE9	Restaurant	Packaged DX	Early	9	Hotel Keycard Sensors	No prior controls	room Controll	\$0.29	10	932	0.041	342	\$100.00	3%	95%	80%	1.690	1
RestaPaE10	Restaurant	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	1,129	0.05	64	\$35.00	6%	100%	45%	0.202	0
RestaPaE11	Restaurant	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	1,038	0.015	125	\$55.00	12%	100%	45%	1.123	1
RestaPaE13	Restaurant	Packaged DX	Early	13	Re-commissioning	economizer not functioning	ton	\$0.33	7	1,038	0.05	166	\$55.15	16%	95%	75%	1.182	1
RestaPaN1	Restaurant	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	1,038	0.05	64	\$87.00	6%	100%	95%	1.091	1
RestaPaN2	Restaurant	Packaged DX	New	2	Adding reflective roof treatment	Std color roof	ton	\$4.50	20	1,038	0.05	10	\$45.00	1%	100%	95%	0.972	0
RestaPaN3	Restaurant	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$1.81	20	1,038	0.05	69	\$125.00	7%	100%	95%	0.799	0
RestaPaN4	Restaurant	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Std Roof	ton	\$1.84	20	1,038	0.05	69	\$127.43	7%	45%	95%	0.784	0
RestaPaN5	Restaurant	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	1,038	0.05	12	\$125.00	1%	100%	95%	0.365	0
RestaPaN6	Restaurant	Packaged DX</																

Penn Electric Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
RestaPa113	Restaurant	Packaged DX	Turnover	13	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.24	15	1,097	0.006	49	\$110.89	5%	100%	95%	0.358	0
RestaPa118	Restaurant	Packaged DX	New	18	Automated control system	Baseline DX	ton	\$0.46	10	1,097	0.007	55	\$25.00	5%	100%	65%	1.084	1
RestaPa119	Restaurant	Packaged DX	New	19	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$0.85	10	932	0.006	51	\$43.00	5%	100%	95%	0.584	0
RestaPa115	Restaurant	Packaged DX	Turnover	15	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$0.85	10	932	0.006	51	\$43.00	5%	100%	95%	0.584	0
RetaiPaF1	Retail	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3.13	20	1,018	0.05	64	\$200.00	6%	15%	9%	0.475	0
RetaiPaF2	Retail	Packaged DX	Early	2	Adding window shade film	No shade film	4 ft window area	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.033	0
RetaiPaF3	Retail	Packaged DX	Early	3	Adding window shade screen	No shade screen	4 ft window area	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.206	0
RetaiPaF4	Retail	Packaged DX	Early	4	Windows U<0.40, 55 SHGC	Existing window specifications	4 ft window area	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	0.951	0
RetaiPaF5	Retail	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$4.29	20	788	0.05	53	\$225.00	7%	95%	95%	0.438	0
RetaiPaF7	Retail	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$0.60	10	832	0.005	42	\$25.00	5%	100%	65%	1.063	1
RetaiPaF8	Retail	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	788	0.05	12	\$95.00	2%	45%	80%	0.400	0
RetaiPaF9	Retail	Packaged DX	Early	9	Hotel Keycard Sensors	No prior controls	room Controller	\$0.29	10	707	0.041	342	\$100.00	37%	95%	80%	1.690	1
RetaiPaE10	Retail	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	1,107	0.05	64	\$35.00	6%	100%	45%	0.202	0
RetaiPaE11	Retail	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	1,018	0.015	125	\$55.00	12%	100%	45%	1.123	1
RetaiPaE13	Retail	Packaged DX	Early	13	Re-commissioning	economizer not functioning	ton	\$0.34	7	1,018	0.05	163	\$55.15	16%	95%	75%	1.165	1
RetaiPaN1	Retail	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	1,018	0.05	64	\$87.00	6%	100%	95%	1.091	1
RetaiPaN2	Retail	Packaged DX	New	2	Adding reflective roof treatment	Std color roof	ton	\$4.50	20	1,018	0.05	10	\$45.00	1%	100%	95%	0.972	0
RetaiPaN3	Retail	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$1.84	20	1,018	0.05	68	\$125.00	7%	100%	95%	0.789	0
RetaiPaN4	Retail	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Std Roof	ton	\$1.88	20	1,018	0.05	68	\$127.43	7%	45%	95%	0.774	0
RetaiPaN5	Retail	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	1,018	0.05	12	\$125.00	1%	100%	95%	0.365	0
RetaiPaN6	Retail	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.44	20	877	0.04	63	\$90.40	7%	100%	95%	1.007	1
RetaiPaN7	Retail	Packaged DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.55	20	877	0.08	117	\$180.81	13%	100%	95%	0.939	0
RetaiPaN8	Retail	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.65	20	877	0.12	164	\$271.21	19%	100%	95%	0.881	0
RetaiPaN9	Retail	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.81	20	1,018	0.05	68	\$55.00	7%	100%	95%	1.792	1
RetaiPaN10	Retail	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.81	20	1,036	0.06	86	\$70.00	8%	100%	95%	1.792	1
RetaiPaN11	Retail	Packaged DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.36	20	1,140	0.06	84	\$115.13	7%	100%	95%	1.066	1
RetaiPaN12	Retail	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$1.71	20	1,175	0.04	58	\$98.39	5%	100%	95%	0.851	0
RetaiPaN13	Retail	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.25	15	1,036	0.23	333	\$ 750.00	32%	20%	95%	0.515	0
RetaiPaN14	Retail	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$4.04	15	1,036	0.022	186	\$750.00	18%	100%	95%	0.199	0
RetaiPaN15	Retail	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$1.11	15	1,018	0.018	153	\$170.00	15%	75%	45%	0.721	0
RetaiPaN16	Retail	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$0.88	15	1,018	0.024	204	\$179.00	20%	100%	95%	0.914	0
RetaiPaN17	Retail	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.29	15	1,075	0.006	48	\$110.89	5%	100%	95%	0.351	0
RetaiPaI1	Retail	Packaged DX	Turnover	1	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	1,018	0.05	12	\$125.00	1%	100%	95%	0.304	0
RetaiPaI2	Retail	Packaged DX	Turnover	2	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.44	20	877	0.04	63	\$90.40	7%	100%	95%	1.007	1
RetaiPaI3	Retail	Packaged DX	Turnover	3	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.55	20	877	0.08	117	\$180.81	13%	100%	95%	0.939	0
RetaiPaI4	Retail	Packaged DX	Turnover	4	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.65	20	877	0.12	164	\$271.21	19%	100%	95%	0.881	0
RetaiPaI5	Retail	Packaged DX	Turnover	5	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.81	20	1,018	0.05	68	\$55.00	7%	100%	95%	1.792	1
RetaiPaI6	Retail	Packaged DX	Turnover	6	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.81	20	1,036	0.06	86	\$70.00	8%	100%	95%	1.792	1
RetaiPaI7	Retail	Packaged DX	Turnover	7	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.36	20	1,140	0.06	84	\$115.13	7%	100%	95%	1.066	1
RetaiPaI8	Retail	Packaged DX	Turnover	8	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$1.71	20	1,175	0.04	58	\$98.39	5%	100%	95%	0.851	0
RetaiPaI9	Retail	Packaged DX	Turnover	9	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.25	15	1,036	0.23	333	\$ 750.00	32%	5%	95%	0.515	0
RetaiPaI10	Retail	Packaged DX	Turnover	10	Ground Source HP Closed	Air Source Heat Pump	ton	\$4.04	15	1,036	0.022	186	\$750.00	18%	100%	95%	0.199	0
RetaiPaI11	Retail	Packaged DX	Turnover	11	Air-side Economizer	No Economizer	ton	\$1.11	15	1,018	0.018	153	\$170.00	15%	75%	45%	0.721	0
RetaiPaI12	Retail	Packaged DX	Turnover	12	Energy Recovery Units	No Energy Recovery	ton	\$0.88	15	1,018	0.024	204	\$179.00	20%	100%	95%	0.914	0
RetaiPaI13	Retail	Packaged DX	Turnover	13	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.29	15	1,075	0.006	48	\$110.89	5%	100%	95%	0.351	0
RetaiPaN18	Retail	Packaged DX	New	18	Automated control system	Baseline DX	ton	\$0.46	10	1,075	0.006	54	\$25.00	5%	100%	65%	1.063	1
RetaiPaN19	Retail	Packaged DX	New	19	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$0.86	10	913	0.006	50	\$43.00	5%	100%	95%	0.573	0
RetaiPaT15	Retail	Packaged DX	Turnover	15	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$0.86	10	913	0.006	50	\$43.00	5%	100%	95%	0.573	0
WarehPaE1	Warehouse	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3.13	20	788	0.05	64	\$200.00	8%	15%	9%	0.475	0
WarehPaE2	Warehouse	Packaged DX	Early	2	Adding window shade film	No shade film	4 ft window area	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.033	0
WarehPaE3	Warehouse	Packaged DX	Early	3	Adding window shade screen	No shade screen	4 ft window area	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.206	0
WarehPaE4	Warehouse	Packaged DX	Early	4	Windows U<0.40, 55 SHGC	Existing window specifications	4 ft window area	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	0.951	0
WarehPaE5	Warehouse	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$4.29	20	788	0.05	53	\$225.00	7%	95%	95%	0.373	0
WarehPaE7	Warehouse	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$0.60	10	832	0.005	42	\$25.00	5%	100%	65%	1.063	1
WarehPaE8	Warehouse	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	788	0.05	12	\$95.00	2%	45%	80%	0.400	0
WarehPaE9	Warehouse	Packaged DX	Early	9	Hotel Keycard Sensors	No prior controls	room Controller	\$0.29	10	707	0.041	342	\$100.00	48%	95%	80%	1.690	1
WarehPaE10	Warehouse	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	856	0.05	64	\$35.00	7%	100%	45%	0.202	0
WarehPaE11	Warehouse	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	788	0.015	125	\$55.00	16%	100%	45%	1.123	1
WarehPaE13	Warehouse	Packaged DX	Early	13	Re-commissioning	economizer not functioning	ton	\$0.44	7	788	0.05	126	\$55.15	16%	95%	75%	0.973	0
WarehPaN1	Warehouse	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	788	0.05	64	\$87.00	6%	100%	95%	1.091	1
WarehPaN2	Warehouse	Packaged DX	New	2	Adding reflective roof treatment	Std color roof	ton	\$4.50	20	788	0.05	10	\$45.00	1%	100%	95%	0.972	0
WarehPaN3	Warehouse	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$2.38	20	788	0.05	53	\$125.00	7%	100%	95%	0.672	0
WarehPaN4	Warehouse	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Std Roof	ton	\$2.43	20	788	0.05	53	\$127.43	7%	45%	95%	0.659	0
WarehPaN5	Warehouse	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	788	0.05	12	\$125.00	2%	100%	95%	0.365	0
WarehPaN6	Warehouse	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.87	20	678	0.04	48	\$90.40	7%	100%	95%	0.858	0

Penn Electric Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
WarehPaN18	Warehouse	Packaged DX	New	18	Automated control system	Baseline DX	ton	\$0.60	10	832	0.005	42	\$25.00	5%	100%	65%	0.823	0
WarehPaN19	Warehouse	Packaged DX	New	19	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.12	10	707	0.005	39	\$43.00	5%	100%	95%	0.443	0
WarehPa15	Warehouse	Packaged DX	Turnover	15	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.12	10	707	0.005	39	\$43.00	5%	100%	95%	0.443	0
HealtheN4	Healthcare	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$6.13	15	298	0.000	18	\$110.89	6%	100%	95%	0.121	0
HealtheT1	Healthcare	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$6.13	15	298	0.000	18	\$110.89	6%	100%	95%	0.121	0
GroceHe1	Grocery	Heating	Early	1	Re-commissioning	economizer not functioning	sq ft	\$0.2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.078	1
GroceHe2	Grocery	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$4.44	20	1,282	0.05	45	\$200.00	4%	100%	95%	0.385	0
GroceHe3	Grocery	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.67	20	1,282	0.05	75	\$125.00	6%	100%	95%	0.844	0
GroceHe4	Grocery	Heating	Early	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$3.75	20	1,282	0.05	34	\$127.43	3%	100%	95%	0.522	0
GroceHe5	Grocery	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0.1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	2.354	1
GroceHeN1	Grocery	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	1,282	0.05	45	\$87.00	4%	100%	95%	0.885	0
GroceHeN2	Grocery	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$9.65	15	1,282	0.23	78	\$ 750.00	6%	20%	95%	0.267	0
GroceHeN3	Grocery	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$9.65	15	1,282	0.001	78	\$750.00	6%	100%	95%	0.077	0
GroceHeN4	Grocery	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.43	15	1,282	0.001	78	\$110.89	6%	100%	95%	0.519	0
GroceHeT1	Grocery	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.43	15	1,282	0.001	78	\$110.89	6%	100%	95%	0.519	0
InstiHe1	Institutional	Heating	Early	1	Re-commissioning	economizer not functioning	sq ft	\$0.2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.078	1
InstiHe2	Institutional	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$4.44	20	913	0.05	45	\$200.00	5%	100%	95%	0.385	0
InstiHe3	Institutional	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.67	20	913	0.05	75	\$125.00	8%	100%	95%	0.844	0
InstiHe4	Institutional	Heating	Early	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$3.75	20	913	0.05	34	\$127.43	4%	100%	95%	0.522	0
InstiHe5	Institutional	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0.1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	2.354	1
InstiHeN1	Institutional	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	913	0.05	45	\$87.00	5%	100%	95%	0.885	0
InstiHeN2	Institutional	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$13.55	15	913	0.23	55	\$ 750.00	6%	20%	95%	0.245	0
InstiHeN3	Institutional	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$13.55	15	913	0.001	55	\$750.00	6%	100%	95%	0.055	0
InstiHeN4	Institutional	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$2.00	15	913	0.001	55	\$110.89	6%	100%	95%	0.370	0
InstiHeT1	Institutional	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$2.00	15	913	0.001	55	\$110.89	6%	100%	95%	0.370	0
LodgHe1	Lodging	Heating	Early	1	Re-commissioning	economizer not functioning	sq ft	\$0.2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.078	1
LodgHe2	Lodging	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$4.44	20	1,553	0.05	45	\$200.00	3%	100%	95%	0.385	0
LodgHe3	Lodging	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.67	20	1,553	0.05	75	\$125.00	5%	100%	95%	0.844	0
LodgHe4	Lodging	Heating	Early	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$3.75	20	1,553	0.05	34	\$127.43	2%	100%	95%	0.522	0
LodgHe5	Lodging	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0.1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	2.354	1
LodgHeN1	Lodging	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	1,553	0.05	45	\$87.00	3%	100%	95%	0.885	0
LodgHeN2	Lodging	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$7.97	15	1,553	0.23	94	\$ 750.00	6%	20%	95%	0.283	0
LodgHeN3	Lodging	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$7.97	15	1,553	0.001	94	\$750.00	6%	100%	95%	0.093	0
LodgHeN4	Lodging	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.18	15	1,553	0.001	94	\$110.89	6%	100%	95%	0.629	0
LodgHeT1	Lodging	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.18	15	1,553	0.001	94	\$110.89	6%	100%	95%	0.629	0
MiscHe1	Misc	Heating	Early	1	Re-commissioning	economizer not functioning	sq ft	\$0.2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.078	1
MiscHe2	Misc	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$4.44	20	1,062	0.05	45	\$200.00	4%	100%	95%	0.385	0
MiscHe3	Misc	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.67	20	1,062	0.05	75	\$125.00	7%	100%	95%	0.844	0
MiscHe4	Misc	Heating	Early	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$3.75	20	1,062	0.05	34	\$127.43	3%	100%	95%	0.522	0
MiscHe5	Misc	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0.1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	2.354	1
MiscHeN1	Misc	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	1,062	0.05	45	\$87.00	4%	100%	95%	0.885	0
MiscHeN2	Misc	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$11.65	15	1,062	0.23	64	\$ 750.00	6%	20%	95%	0.254	0
MiscHeN3	Misc	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$11.65	15	1,062	0.001	64	\$750.00	6%	100%	95%	0.064	0
MiscHeN4	Misc	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.72	15	1,062	0.001	64	\$110.89	6%	100%	95%	0.430	0
MiscHeT1	Misc	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.72	15	1,062	0.001	64	\$110.89	6%	100%	95%	0.430	0
OffiHe1	Office	Heating	Early	1	Re-commissioning	economizer not functioning	sq ft	\$0.2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.078	1
OffiHe2	Office	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$4.44	20	819	0.05	45	\$200.00	5%	100%	95%	0.385	0
OffiHe3	Office	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.67	20	819	0.05	75	\$125.00	9%	100%	95%	0.844	0
OffiHe4	Office	Heating	Early	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$3.75	20	819	0.05	34	\$127.43	4%	100%	95%	0.522	0
OffiHe5	Office	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0.1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	2.354	1
OffiHeN1	Office	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	819	0.05	45	\$87.00	5%	100%	95%	0.885	0
OffiHeN2	Office	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$15.11	15	819	0.23	50	\$ 750.00	6%	20%	95%	0.240	0
OffiHeN3	Office	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$15.11	15	819	0.001	50	\$750.00	6%	100%	95%	0.049	0
OffiHeN4	Office	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$2.23	15	819	0.001	50	\$110.89	6%	100%	95%	0.332	0
OffiHeT1	Office	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$2.23	15	819	0.001	50	\$110.89	6%	100%	95%	0.332	0
RestaHe1	Restaurant	Heating	Early	1	Re-commissioning	economizer not functioning	sq ft	\$0.2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.078	1
RestaHe2	Restaurant	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$4.44	20	1,248	0.05	45	\$200.00	4%	100%	95%	0.385	0
RestaHe3	Restaurant	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.67	20	1,248	0.05	75	\$125.00	6%	100%	95%	0.844	0
RestaHe4	Restaurant	Heating	Early	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$3.75	20	1,248	0.05	34	\$127.43	3%	100%	95%	0.522	0
RestaHe5	Restaurant	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0.1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	2.354	1
RestaHeN1	Restaurant	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	1,248	0.05	45	\$87.00	4%	100%	95%	0.885	0
RestaHeN2	Restaurant	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$9.92	15	1,248	0.23	76	\$ 750.00	6%	20%	95%	0.265	0
RestaHeN3	Restaurant	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$9.92	15	1,248	0.001	76	\$750.00	6%	100%	95%	0.075	0
RestaHeN4	Restaurant	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.47	15	1,248	0.001	76	\$110.89	6%	100%	95%	0.506	0
RestaHeT1	Restaurant	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.47	15	1,248	0.001	76	\$110.89	6%				

Penn Electric Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
GroceCh5	Grocery	Chiller	Early	5	Re-commissioning	economizer not functioning	ton	\$0.3447	7	6,612	0.209	1,058	\$364.67	16%	75%	75%	1.033	1
GroceCh6	Grocery	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	6,612	0.05	245	\$200.00	4%	15%	95%	1.032	1
GroceCh7	Grocery	Chiller	Early	7	Adding window shade film	No shade film	1/2 ft window area	\$7.0453	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.036	0
GroceCh8	Grocery	Chiller	Early	8	Adding window shade screen	No shade screen	1/2 ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.216	0
GroceCh9	Grocery	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.13	20	6,612	0.05	198	\$225.00	3%	75%	95%	0.981	0
GroceChN1	Grocery	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.38	20	6,612	0.05	231	\$87.00	4%	15%	95%	2.893	1
GroceChN2	Grocery	Chiller	New	2	Adding window shade screen	No shade screen	1/2 ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.216	0
GroceChN3	Grocery	Chiller	New	3	Adding reflective roof treatment	Std color roof	sq ft roof area	\$4.50	20	6,612	0.05	10	\$45.00	0%	100%	95%	0.970	0
GroceChN4	Grocery	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$1.97	20	6,612	0.05	65	\$127.43	1%	45%	95%	0.745	0
GroceChN5	Grocery	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.3195	15	6,612	0.76	798	\$255.00	12%	95%	95%	4.074	1
GroceChN6	Grocery	Chiller	New	6	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.1767	15	6,612	1.944	2,052	\$362.50	31%	95%	95%	7.369	1
GroceChN7	Grocery	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.0916	15	15,846	1.728	1,824	\$167.00	12%	95%	95%	14.219	1
GroceChN8	Grocery	Chiller	New	8	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.3479	15	6,612	0.065	330.6000	\$115.00	5%	95%	75%	2.426	1
GroceChN9	Grocery	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.1891	15	6,612	0.261	1,322.4	\$250.00	20%	95%	75%	4.463	1
GroceChN10	Grocery	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$1.8905	15	6,612	0.013	66.1200	\$125.00	1%	100%	95%	0.446	0
GroceChT1	Grocery	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.3697	15	6,612	0.76	798	\$295.00	12%	95%	95%	3.522	1
GroceChT2	Grocery	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.2254	15	6,612	1.944	2,052	\$462.50	31%	95%	95%	5.776	1
GroceChT3	Grocery	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.3595	15	6,612	1.944	1,157	\$416.00	18%	95%	95%	4.866	1
GroceChN11	Grocery	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.3595	15	6,612	1.944	1,157	\$416.00	18%	95%	95%	4.866	1
GroceChT5	Grocery	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.3842	15	6,612	0.065	330.6000	\$127.00	5%	95%	75%	2.197	1
GroceChT4	Grocery	Chiller	Turnover	4	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.1135	15	15,846	1.728	1,824	\$207.00	12%	95%	95%	11.471	1
InstiCh1	Institutional	Chiller	Early	1	Duct Sealing, down to 15%	Leakage of 29%	ton	\$2.0251	15	4,691	0.009	46.9104	\$95.00	1%	40%	\$0.90	0.417	0
InstiCh2	Institutional	Chiller	Early	2	Duct Insulation, Add R8	No Insulation	ton	\$2.6647	15	4,691	0.009	46.9104	\$125.00	1%	50%	95%	0.317	0
InstiCh3	Institutional	Chiller	Early	3	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0.5329	15	4,691	0.046	234.5520	\$125.00	5%	75%	75%	1.583	1
InstiCh4	Institutional	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0.4796	15	4,691	0.185	938.2	\$450.00	20%	75%	75%	1.759	1
InstiCh5	Institutional	Chiller	Early	5	Re-commissioning	economizer not functioning	ton	\$0.4859	7	4,691	0.148	751	\$364.67	16%	75%	95%	0.733	0
InstiCh6	Institutional	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	4,691	0.05	245	\$200.00	5%	15%	95%	1.032	1
InstiCh7	Institutional	Chiller	Early	7	Adding window shade film	No shade film	1/2 ft window area	\$7.0453	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.036	0
InstiCh8	Institutional	Chiller	Early	8	Adding window shade screen	No shade screen	1/2 ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.216	0
InstiCh9	Institutional	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.60	20	4,691	0.05	141	\$225.00	3%	75%	95%	0.740	0
InstiChN1	Institutional	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.53	20	4,691	0.05	164	\$87.00	4%	15%	95%	2.167	1
InstiChN2	Institutional	Chiller	New	2	Adding window shade screen	No shade screen	1/2 ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.216	0
InstiChN3	Institutional	Chiller	New	3	Adding reflective roof treatment	Std color roof	sq ft roof area	\$4.50	20	4,691	0.05	10	\$45.00	0%	100%	95%	0.970	0
InstiChN4	Institutional	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$2.65	20	4,691	0.05	48	\$127.43	1%	45%	95%	0.624	0
InstiChN5	Institutional	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.4504	15	4,691	0.76	566	\$255.00	12%	95%	95%	3.416	1
InstiChN6	Institutional	Chiller	New	6	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.2490	15	4,691	1.944	1,456	\$362.50	31%	95%	95%	6.180	1
InstiChN7	Institutional	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.1290	15	11,242	1.728	1,294	\$167.00	12%	95%	95%	11.924	1
InstiChN8	Institutional	Chiller	New	8	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.4903	15	4,691	0.046	234.5520	\$115.00	5%	95%	75%	1.721	1
InstiChN9	Institutional	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.2665	15	4,691	0.185	938.2	\$250.00	20%	95%	75%	3.167	1
InstiChN10	Institutional	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$2.6647	15	4,691	0.009	46.9104	\$125.00	1%	100%	95%	0.317	0
InstiChT1	Institutional	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.5211	15	4,691	0.76	566	\$295.00	12%	95%	95%	2.953	1
InstiChT2	Institutional	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.3177	15	4,691	1.944	1,456	\$462.50	31%	95%	95%	4.844	1
InstiChT3	Institutional	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.5067	15	4,691	1.944	821	\$416.00	18%	95%	95%	4.281	1
InstiChN11	Institutional	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.5067	15	4,691	1.944	821	\$416.00	18%	95%	95%	4.281	1
InstiChT5	Institutional	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.5415	15	4,691	0.046	234.5520	\$127.00	5%	95%	75%	1.558	1
InstiChT4	Institutional	Chiller	Turnover	4	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.1600	15	11,242	1.728	1,294	\$207.00	12%	95%	95%	9.620	1
LodgChE1	Lodging	Chiller	Early	1	Duct Sealing, down to 15%	Leakage of 29%	ton	\$1.6956	15	5,603	0.011	56.0280	\$95.00	1%	40%	\$0.90	0.498	0
LodgChE2	Lodging	Chiller	Early	2	Duct Insulation, Add R8	No Insulation	ton	\$2.2310	15	5,603	0.011	56.0280	\$125.00	1%	50%	95%	0.378	0
LodgChE3	Lodging	Chiller	Early	3	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0.4462	15	5,603	0.055	280.1400	\$125.00	5%	75%	75%	1.891	1
LodgChE4	Lodging	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0.4016	15	5,603	0.221	1,120.6	\$450.00	20%	75%	75%	2.101	1
LodgChE5	Lodging	Chiller	Early	5	Re-commissioning	economizer not functioning	ton	\$0.4068	7	5,603	0.177	896	\$364.67	16%	75%	95%	0.875	0
LodgChE6	Lodging	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	5,603	0.05	245	\$200.00	4%	15%	95%	1.032	1
LodgChE7	Lodging	Chiller	Early	7	Adding window shade film	No shade film	1/2 ft window area	\$7.0453	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.036	0
LodgChE8	Lodging	Chiller	Early	8	Adding window shade screen	No shade screen	1/2 ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.216	0
LodgChE9	Lodging	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.34	20	5,603	0.05	168	\$225.00	3%	75%	95%	0.854	0
LodgChN1	Lodging	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.44	20	5,603	0.05	196	\$87.00	4%	15%	95%	2.512	1
LodgChN2	Lodging	Chiller	New	2	Adding window shade screen	No shade screen	1/2 ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.216	0
LodgChN3	Lodging	Chiller	New	3	Adding reflective roof treatment	Std color roof	sq ft roof area	\$4.50	20	5,603	0.05	10	\$45.00	0%	100%	95%	0.970	0
LodgChN4	Lodging	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$2.22	20	5,603	0.05	58	\$127.43	1%	45%	95%	0.693	0
LodgChN5	Lodging	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.3771	15	5,603	0.76	676	\$255.00	12%	95%	95%	3.729	1
LodgChN6	Lodging	Chiller	New	6	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.2085	15	5,603	1.944	1,739	\$362.50	31%	95%	95%	6.744	1
LodgChN7	Lodging	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.1080	15	13,427	1.728	1,546	\$167.00	12%	95%	95%	13.013	1
LodgChN8	Lodging	Chiller	New	8	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.4105	15	5,603	0.055	280.1400	\$115.00	5%	95%	75%	2.056	1
LodgChN9	Lodging	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.2231	15	5,603	0.221	1,120.6	\$250.00	20%	95%	75%	3.782	1
LodgChN10	Lodging	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$2.2310	15	5								

Penn Electric Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
MiscChN10	Misc	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$19231	15	6,500	0.013	64,9977	\$125.00	1%	100%	95%	0.439	0
MiscChF1	Misc	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.3761	15	6,500	0.76	784	\$295.00	12%	95%	95%	3.488	1
MiscChF2	Misc	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.2293	15	6,500	1.944	2,017	\$462.50	31%	95%	95%	5.722	1
MiscChF3	Misc	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.3657	15	6,500	1.944	1,137	\$416.00	18%	95%	95%	4.832	1
MiscChN11	Misc	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.3657	15	6,500	1.944	1,137	\$416.00	18%	95%	95%	4.832	1
MiscChF5	Misc	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.3908	15	6,500	0.064	324,9885	\$127.00	5%	95%	75%	2.159	1
MiscChF4	Misc	Chiller	Turnover	4	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.1154	15	15,577	1.728	1,793	\$207.00	12%	95%	95%	11.363	1
OfficChE1	Office	Chiller	Early	1	Duct Sealing, down to 15%	Leakage of 29%	ton	\$1.5082	15	6,299	0.012	62,9880	\$95.00	1%	40%	\$0.90	0.559	0
OfficChE2	Office	Chiller	Early	2	No Insulation	No Insulation	ton	\$1.9845	15	6,299	0.012	62,9880	\$125.00	1%	50%	95%	0.425	0
OfficChE3	Office	Chiller	Early	3	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0.3969	15	6,299	0.062	314,9400	\$125.00	5%	75%	75%	2.126	1
OfficChE4	Office	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0.3572	15	6,299	0.249	1,259.8	\$450.00	20%	75%	75%	2.362	1
OfficChE5	Office	Chiller	Early	5	Re-commissioning	economizer not functioning	ton	\$0.3618	7	6,299	0.199	1,008	\$364.67	16%	75%	75%	0.984	0
OfficChE6	Office	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	6,299	0.05	245	\$200.00	4%	15%	95%	1.032	1
OfficChE7	Office	Chiller	Early	7	Adding window shade film	No shade film	1/2 ft window arg	\$7.0453	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.036	0
OfficChE8	Office	Chiller	Early	8	Adding window shade screen	No shade screen	1/2 ft window arg	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.216	0
OfficChE9	Office	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.19	20	6,299	0.05	189	\$225.00	3%	75%	95%	0.941	0
OfficChN1	Office	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.39	20	6,299	0.05	220	\$87.00	4%	15%	95%	2.775	1
OfficChN2	Office	Chiller	New	2	Adding window shade screen	No shade screen	1/2 ft window arg	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.216	0
OfficChN3	Office	Chiller	New	3	Adding reflective roof treatment	Std color roof	sq ft roof area	\$4.50	20	6,299	0.05	10	\$45.00	0%	100%	95%	0.970	0
OfficChN4	Office	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$1.97	20	6,299	0.05	65	\$127.43	1%	45%	95%	0.745	0
OfficChN5	Office	Chiller	New	5	High Efficiency Chiller, 0.58 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.3354	15	6,299	0.76	760	\$255.00	12%	95%	95%	3.967	1
OfficChN6	Office	Chiller	New	6	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.1854	15	6,299	1.944	1,955	\$362.50	31%	95%	95%	7.175	1
OfficChN7	Office	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.0961	15	15,095	1.728	1,738	\$167.00	12%	95%	95%	13.845	1
OfficChN8	Office	Chiller	New	8	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.3651	15	6,299	0.062	314,9400	\$115.00	5%	95%	75%	2.311	1
OfficChN9	Office	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.1985	15	6,299	0.249	1,259.8	\$250.00	20%	95%	75%	4.252	1
OfficChN10	Office	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$1.9845	15	6,299	0.012	62,9880	\$125.00	1%	100%	95%	0.425	0
OfficChF1	Office	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.3881	15	6,299	0.76	760	\$295.00	12%	95%	95%	3.429	1
OfficChF2	Office	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.2366	15	6,299	1.944	1,955	\$462.50	31%	95%	95%	5.624	1
OfficChF3	Office	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.3774	15	6,299	1.944	1,102	\$416.00	18%	95%	95%	4.770	1
OfficChN11	Office	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.3774	15	6,299	1.944	1,102	\$416.00	18%	95%	95%	4.770	1
OfficChF5	Office	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.4033	15	6,299	0.062	314,9400	\$127.00	5%	95%	75%	2.093	1
OfficChF4	Office	Chiller	Turnover	4	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.1191	15	15,095	1.728	1,738	\$207.00	12%	95%	95%	11.169	1
RestaChE1	Restaurant	Chiller	Early	1	Duct Sealing, down to 15%	Leakage of 29%	ton	\$1.4086	15	6,744	0.013	67,4424	\$95.00	1%	40%	\$0.90	0.599	0
RestaChE2	Restaurant	Chiller	Early	2	Duct Insulation, Add R8	No Insulation	ton	\$1.8534	15	6,744	0.013	67,4424	\$125.00	1%	50%	95%	0.455	0
RestaChE3	Restaurant	Chiller	Early	3	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0.3707	15	6,744	0.067	337,2120	\$125.00	5%	75%	75%	2.276	1
RestaChE4	Restaurant	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0.3336	15	6,744	0.266	1,348.8	\$450.00	20%	75%	75%	2.529	1
RestaChE5	Restaurant	Chiller	Early	5	Re-commissioning	economizer not functioning	ton	\$0.3379	7	6,744	0.213	1,079	\$364.67	16%	75%	75%	1.053	1
RestaChE6	Restaurant	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	6,744	0.05	245	\$200.00	4%	15%	95%	1.032	1
RestaChE7	Restaurant	Chiller	Early	7	Adding window shade film	No shade film	1/2 ft window arg	\$7.0453	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.036	0
RestaChE8	Restaurant	Chiller	Early	8	Adding window shade screen	No shade screen	1/2 ft window arg	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.216	0
RestaChE9	Restaurant	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.11	20	6,744	0.05	202	\$225.00	3%	75%	95%	0.997	0
RestaChN1	Restaurant	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.37	20	6,744	0.05	236	\$87.00	4%	15%	95%	2.943	1
RestaChN2	Restaurant	Chiller	New	2	Adding window shade screen	No shade screen	1/2 ft window arg	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.216	0
RestaChN3	Restaurant	Chiller	New	3	Adding reflective roof treatment	Std color roof	sq ft roof area	\$4.50	20	6,744	0.05	10	\$45.00	0%	100%	95%	0.970	0
RestaChN4	Restaurant	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$1.84	20	6,744	0.05	69	\$127.43	1%	45%	95%	0.779	0
RestaChN5	Restaurant	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.3133	15	6,744	0.76	814	\$255.00	12%	95%	95%	4.119	1
RestaChN6	Restaurant	Chiller	New	6	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.1732	15	6,744	1.944	2,093	\$362.50	31%	95%	95%	7.451	1
RestaChN7	Restaurant	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.0898	15	16,163	1.728	1,860	\$167.00	12%	95%	95%	14.377	1
RestaChN8	Restaurant	Chiller	New	8	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.3410	15	6,744	0.067	337,2120	\$115.00	5%	95%	75%	2.474	1
RestaChN9	Restaurant	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.1853	15	6,744	0.266	1,348.8	\$250.00	20%	95%	75%	4.553	1
RestaChN10	Restaurant	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$1.8534	15	6,744	0.013	67,4424	\$125.00	1%	100%	95%	0.455	0
RestaChF1	Restaurant	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.3624	15	6,744	0.76	814	\$295.00	12%	95%	95%	3.561	1
RestaChF2	Restaurant	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.2210	15	6,744	1.944	2,093	\$462.50	31%	95%	95%	5.840	1
RestaChF3	Restaurant	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.3525	15	6,744	1.944	1,180	\$416.00	18%	95%	95%	4.906	1
RestaChN11	Restaurant	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.3525	15	6,744	1.944	1,180	\$416.00	18%	95%	95%	4.906	1
RestaChF5	Restaurant	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.3766	15	6,744	0.067	337,2120	\$127.00	5%	95%	75%	2.240	1
RestaChF4	Restaurant	Chiller	Turnover	4	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.1113	15	16,163	1.728	1,860	\$207.00	12%	95%	95%	11.599	1
RetaiChE1	Retail	Chiller	Early	1	Duct Sealing, down to 15%	Leakage of 29%	ton	\$1.4368	15	6,612	0.013	66,1200	\$95.00	1%	40%	\$0.90	0.587	0
RetaiChE2	Retail	Chiller	Early	2	No Insulation	No Insulation	ton	\$1.8905	15	6,612	0.013	66,1200	\$125.00	1%	50%	95%	0.446	0
RetaiChE3	Retail	Chiller	Early	3	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0.3781	15	6,612	0.065	330,6000	\$125.00	5%	75%	75%	2.232	1
RetaiChE4	Retail	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0.3403	15	6,612	0.261	1,322.4	\$450.00	20%	75%	75%	2.480	1
RetaiChE5	Retail	Chiller	Early	5	Re-commissioning	economizer not functioning	ton	\$0.3447	7	6,612	0.209	1,058	\$364.67	16%	75%	75%	1.033	1
RetaiChE6	Retail	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	6,612	0.05	245	\$200.00	4%	15%	95%	1.032	1
RetaiChE7	Retail	Chiller	Early	7	Adding window shade film	No shade film	1/2 ft window arg	\$7.0453	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.036	0
RetaiChE8	Retail	Chiller	Early	8	Adding window shade screen	No shade screen	1/2 ft window arg	\$3.9001	15	1.54	0.000							

Penn Electric Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
WarehChE8	Warehouse	Chiller	Early	8	Adding window shade screen	No shade screen	1 ft window area	\$3,9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.216	0
WarehChE9	Warehouse	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.47	20	5,116	0.05	153	\$225.00	3%	75%	95%	0.793	0
WarehChN1	Warehouse	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.49	20	5,116	0.05	179	\$87.00	4%	15%	95%	2.328	1
WarehChN2	Warehouse	Chiller	New	2	Adding window shade screen	No shade screen	1 ft window area	\$3,9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.216	0
WarehChN3	Warehouse	Chiller	New	3	Adding reflective roof treatment	Std color roof	sq ft roof area	\$4.50	20	5,116	0.05	10	\$45.00	0%	100%	95%	0.970	0
WarehChN4	Warehouse	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$2.43	20	5,116	0.05	53	\$127.43	1%	45%	95%	0.656	0
WarehChN5	Warehouse	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.4130	15	5,116	0.76	617	\$255.00	12%	95%	95%	3.562	1
WarehChN6	Warehouse	Chiller	New	6	VFD Centrifugal Chiller, .4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.2283	15	5,116	1.944	1,588	\$362.50	31%	95%	95%	6.443	1
WarehChN7	Warehouse	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.1183	15	12,260	1.728	1,411	\$167.00	12%	95%	95%	12.431	1
WarehChN8	Warehouse	Chiller	New	8	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.4496	15	5,116	0.050	255.7800	\$115.00	5%	95%	75%	1.877	1
WarehChN9	Warehouse	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.2444	15	5,116	0.202	1,023.1	\$250.00	20%	95%	75%	3.453	1
WarehChN10	Warehouse	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$2.4435	15	5,116	0.010	51.1560	\$125.00	1%	100%	95%	0.345	0
WarehChT1	Warehouse	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.4778	15	5,116	0.76	617	\$295.00	12%	95%	95%	3.079	1
WarehChT2	Warehouse	Chiller	Turnover	2	VFD Centrifugal Chiller, .4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.2913	15	5,116	1.944	1,588	\$462.50	31%	95%	95%	5.050	1
WarehChT3	Warehouse	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.4647	15	5,116	1.944	895	\$416.00	18%	95%	95%	4.410	1
WarehChN11	Warehouse	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.4647	15	5,116	1.944	895	\$416.00	18%	95%	95%	4.410	1
WarehChT5	Warehouse	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.4965	15	5,116	0.050	255.7800	\$127.00	5%	95%	75%	1.699	1
WarehChT4	Warehouse	Chiller	Turnover	4	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.1467	15	12,260	1.728	1,411	\$207.00	12%	95%	95%	10.029	1
WarehHeT2	Warehouse	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.10	10	3,761	0.008	564	\$55.00	15%	100%	45%	4.571	1
GrocHeT2	Grocery	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.08	10	4,374	0.010	656	\$55.00	15%	100%	45%	5.317	1
HealthHeT2	Healthcare	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.36	10	1,018	0.002	153	\$55.00	15%	100%	45%	1.237	1
InstitHeT2	Institutional	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.12	10	3,116	0.007	467	\$55.00	15%	100%	45%	3.788	1
MiscHeT2	Misc	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.10	10	3,624	0.008	544	\$55.00	15%	100%	45%	4.405	1
OfficHeT2	Office	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.13	10	2,795	0.006	419	\$55.00	15%	100%	45%	3.397	1
RestHeT2	Restaurant	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.09	10	4,258	0.009	639	\$55.00	15%	100%	45%	5.176	1
RetailHeT2	Retail	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.08	10	4,374	0.010	656	\$55.00	15%	100%	45%	5.317	1
LodgHeT2	Lodging	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.07	10	5,299	0.012	795	\$55.00	15%	100%	45%	6.441	1
OfficMoE1	Office	Motors	Early	1	Motor Retrocommissioning		Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.235	1
OfficMoT23	Office	Motors	Turnover	23	Motor Retrocommissioning		Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.235	1
RestMoE1	Restaurant	Motors	Early	1	Motor Retrocommissioning		Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.235	1
InstitMoT9	Institutional	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5713	15	84274	6.136	22754.0	\$13,000.00	27%	90.0%	80%	1.570	1
RestMoT23	Restaurant	Motors	Turnover	23	Motor Retrocommissioning		Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.235	1
RetailMoE1	Retail	Motors	Early	1	Motor Retrocommissioning		Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.235	1
RetailMoT23	Retail	Motors	Turnover	23	Motor Retrocommissioning		Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.235	1
WarehMoE1	Warehouse	Motors	Early	1	Motor Retrocommissioning		Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.235	1
WarehMoT23	Warehouse	Motors	Turnover	23	Motor Retrocommissioning		Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.235	1

Penn Power Commercial Measures

ID	Measure	Status	New Commercial Segment	New End Use	Vintage	Measure Description	Baseline Description	Unit	Total Cost (\$/kW)	Measure Life	Baseline kWh	PJM Summer Peak KWh Savings	Change case kWh Savings	Customer	Savings %	Applicability	Percent	TRC (\$/kW)	Economic Flag
HeatChE1	Healthcare	Chiller	Early	Duct Sealing, down to 15%	Early	Leakage of 20%	ton	\$1,297.5	15	7,322	0.014	73,219.2	\$92.00	1%	40%	95%	0.6101782	0	
HeatChE2	Healthcare	Chiller	Early	No Insulation, Add R8	Early	Duct Insulation, Add R8	ton	\$1,707.2	15	7,322	0.014	73,219.2	\$125.00	1%	50%	95%	0.46373043	0	
HeatChE3	Healthcare	Chiller	Early	EMS - Chiller	Early	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0,341.4	15	7,322	0.072	366,096.0	\$125.00	5%	75%	95%	2.31875174	1	
HeatChE4	Healthcare	Chiller	Early	Energy Recovery Units	Early	No Energy Recovery	ton	\$0,307.3	15	7,322	0.289	1,464.4	\$450.00	20%	75%	95%	2.576390794	1	
HeatChE5	Healthcare	Chiller	Early	Re-commissioning	Early	Current Controls not working properly, setpoints not optimized,	ton	\$0,313.7	7	7,322	0.231	1,172	\$364.67	16%	75%	95%	1.042183918	1	
HeatChE6	Healthcare	Chiller	Early	Wall Insulation Going to R-19	Early	Existing insulation level = R2.375	sq ft	\$0.82	15	7,322	0.05	245	\$200.00	3%	15%	95%	0.966858422	0	
HeatChE7	Healthcare	Chiller	Early	Adding window shade film	Early	No shade film	sq ft window area	\$7,045.3	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.032529568	0	
HeatChE8	Healthcare	Chiller	Early	Adding window shade screen	Early	No shade screen	sq ft window area	\$3,900.1	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.20299871	0	
HeatChE9	Healthcare	Chiller	Early	Roof Insulation Going to R-30	Early	Existing insulation level = R16	sq ft	\$1.02	20	7,322	0.05	220	\$225.00	3%	75%	95%	1.006325827	1	
HeatChN1	Healthcare	Chiller	Early	Wall Insulation Going to R-19	Early	New Construction Standard Practice = R13.5	sq ft	\$0.34	20	7,322	0.05	256	\$87.00	4%	15%	95%	2.98431679	1	
HeatChN2	Healthcare	Chiller	New	Adding window shade screen	Early	No shade screen	sq ft window area	\$3,900.1	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.20299871	0	
HeatChN3	Healthcare	Chiller	New	Adding reflective roof treatment	Early	Std color roof	sq ft roof area	\$4.50	20	7,322	0.05	10	\$45.00	0%	100%	95%	0.80492318	0	
HeatChN4	Healthcare	Chiller	New	Green Roof (New construction or roof replacement)	Early	Std Roof	sq ft	\$1.70	20	7,322	0.05	75	\$127.43	1%	45%	95%	0.748014249	0	
HeatChN5	Healthcare	Chiller	New	High Efficiency Chiller, 0.51 kW/ton	Early	Std Chiller, 0.58 kW/Ton	ton	\$0,288.6	15	7,322	0.76	884	\$255.00	12%	95%	95%	3.824197608	1	
HeatChN6	Healthcare	Chiller	New	VFD Centrifugal Chiller, 4 kW/ton	Early	Std Chiller, 0.58 kW/Ton	ton	\$0,159.5	15	7,322	1.944	2,272	\$362.50	31%	95%	95%	6.917464837	1	
HeatChN7	Healthcare	Chiller	New	Air-Cooled Chillers (1.23 kW/ton)	Early	Std Chiller, 1.39 kW/Ton	ton	\$0,082.7	15	17,547	1.728	2,020	\$167.00	12%	95%	95%	13.34707121	1	
HeatChN8	Healthcare	Chiller	New	EMS - Chiller	Early	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0,314.1	15	7,322	0.072	366,096.0	\$115.00	5%	95%	75%	2.52382298	1	
HeatChN9	Healthcare	Chiller	New	Energy Recovery Units	Early	No Energy Recovery	ton	\$0,170.7	15	7,322	0.289	1,464.4	\$250.00	20%	95%	75%	4.637503429	1	
HeatChN10	Healthcare	Chiller	New	Duct Insulation, Add R8	Early	No Insulation	ton	\$1,707.2	15	7,322	0.014	73,219.2	\$125.00	1%	100%	95%	0.46373043	0	
HeatChT1	Healthcare	Turnover	Early	High Efficiency Chiller, 0.51 kW/ton	Early	Std Chiller, 0.58 kW/Ton	ton	\$0,338.15	15	7,322	0.76	884	\$255.00	12%	95%	95%	3.30566239	1	
HeatChT2	Healthcare	Turnover	Early	VFD Centrifugal Chiller, 4 kW/ton	Early	Std Chiller, 0.58 kW/Ton	ton	\$0,203.15	15	7,322	1.944	2,272	\$362.50	31%	95%	95%	5.421796744	1	
HeatChT3	Healthcare	Turnover	Early	Water-side Economizer	Early	Std Chiller, 0.58 kW/Ton	ton	\$0,324.7	15	7,322	1.944	2,281	\$416.00	18%	95%	95%	4.364625074	1	
HeatChN11	Healthcare	Chiller	New	Water-side Economizer	Early	Std Chiller, 0.58 kW/Ton	ton	\$0,324.7	15	7,322	1.944	2,281	\$416.00	18%	95%	95%	4.364625074	1	
HeatChT5	Healthcare	Turnover	Early	EMS - Chiller	Early	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0,346.9	15	7,322	0.072	366,096.0	\$127.00	5%	95%	75%	2.28223599	1	
HeatChT4	Healthcare	Turnover	Early	Air-Cooled Chillers (1.23 kW/ton)	Early	Std Chiller, 1.39 kW/Ton	ton	\$0,102.5	15	17,547	1.728	2,020	\$207.00	12%	95%	95%	10.76792701	1	
OffChE1	Office	Chiller	Early	Duct Sealing, down to 15%	Early	Leakage of 20%	ton	\$2,126.1	15	4,468	0.009	44,683.2	\$95.00	1%	40%	80%	0.37238308	0	
GroceT16	Grocery	Fluorescent	Turnover	LED Retrofit Tube	Early	Replace (1) high efficiency 32 W T8 Lamp	Lamp	\$1,014.6	6	163	0.007	64	\$65.00	39%	40%	95%	0.25776312	0	
OffChE2	Office	Chiller	Early	No Insulation	Early	Duct Insulation, Add R8	ton	\$2,797.5	15	4,468	0.009	44,683.2	\$125.00	1%	50%	95%	0.28301141	0	
OffChE3	Office	Chiller	Early	EMS - Chiller	Early	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0,559.5	15	4,468	0.044	223,416.0	\$125.00	5%	75%	95%	1.41505704	1	
LodgH6	Lodging	Incandescent	Early	Hotel Occupancy Sensors	Early	No prior control	Per Room	\$0,744.7	10	240	0.019	168	\$125.00	70%	90%	95%	0.620907651	0	
OffChE4	Office	Chiller	Early	Energy Recovery Units	Early	No Energy Recovery	ton	\$0,503.5	15	4,468	0.176	893.7	\$450.00	20%	75%	95%	1.572284116	1	
OffChE5	Office	Chiller	Early	Re-commissioning	Early	Current Controls not working properly, setpoints not optimized,	ton	\$0,510.1	7	4,468	0.141	715	\$364.67	16%	75%	95%	0.636009577	0	
HeatHe1	Healthcare	Heating	Early	Re-commissioning	Early	Current Controls not working properly, setpoints not optimized,	sq ft	\$0,271.0	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.04942818	1	
HeatHe2	Healthcare	Heating	Early	Wall Insulation Going to R-19	Early	Existing insulation level = R2.375	sq ft	\$4.44	20	314	0.05	45	\$200.00	14%	10%	95%	0.342229633	0	
HeatHe3	Healthcare	Heating	Early	Roof Insulation Going to R-30	Early	Existing insulation level = R16	sq ft	\$1.67	20	314	0.05	75	\$125.00	24%	10%	95%	0.767813348	0	
HeatHe4	Healthcare	Heating	Early	Green Roof (New construction or roof replacement)	Early	Std Roof	sq ft	\$3.75	20	314	0.05	34	\$127.43	11%	10%	95%	0.457908822	0	
HeatHe5	Healthcare	Heating	Early	Humidification with High pressure, ULTRASONIC devices	Early	Electric Resistive Elements	unit	\$0,189.3	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	2.264366625	1	
HeatHeN1	Healthcare	Heating	New	Wall Insulation Going to R-19	Early	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	314	0.05	45	\$87.00	14%	10%	95%	0.786374788	0	
WareH1E1	Warehouse	Heating	Early	4' T8 High Bay fixture - 32 W - 8 lamps HPI	Early	Replace HPI fixture drawing 250W	Fixture	\$0,567.0	10	1,268	0.043	378	\$214.50	30%	85%	80%	0.815460938	0	
WareH1E2	Warehouse	Heating	Early	4' T8 High Bay fixture - 32 W - 8 lamps HPI	Early	Replace HPI fixture drawing 400 W	Fixture	\$0,447.2	10	1,856	0.077	671	\$300.00	36%	85%	80%	1.035863661	1	
WareH1E3	Warehouse	Heating	Early	4' T5 HO fixture - 54 W - 4 lamp	Early	Replace HPI fixture drawing 250 W	Fixture	\$0,511.50	10	1,856	0.052	456	\$235.00	30%	85%	80%	0.809729656	0	
WareH1E4	Warehouse	Heating	Early	4' T5 HO fixture - 54 W - 6 lamp	Early	Replace HPI fixture drawing 400 W	Fixture	\$0,508.1	10	1,856	0.074	640	\$320.00	34%	85%	80%	0.909953325	1	
WareH1E5	Warehouse	Heating	Early	Ceramic Metal Halide lamp	Early	Replace non-ceramic lamp lamp 400 W	Lamp	\$0,128.2	4	1,560	0.031	273	\$35.00	18%	85%	55%	1.309562003	1	
WareH1E6	Warehouse	Heating	Early	Occupancy sensor, wall or ceiling mounted	Early	Manual Wall Switch	Sensor	\$0,246.5	10	5,070	0.175	1,251	\$375.00	30%	85%	85%	1.875392022	1	
WareH1E9	Warehouse	Heating	Early	Photocell dimming control	Early	No prior dimming control	Photocell	\$0,217.0	10	5,070	0.291	2,535	\$550.00	50%	85%	85%	2.131272798	1	
WareH1E10	Warehouse	Heating	Early	Central lighting control system	Early	Replace manual switches or no control	Control Point	\$0,197.2	10	5,070	0.058	507	\$100.00	10%	85%	45%	2.344240027	1	
WareH1E7	Warehouse	Heating	Early	Induction High Bay Lighting	Early	Base High Bay HPI, 250W	Fixture	\$1,216.6	15	1,268	0.063	566	\$688.00	45%	85%	80%	0.623810512	0	
WareH1E8	Warehouse	Heating	Early	4' T8 High Bay fixture - 32 W - 6 lamps HPI	Early	Replace HPI fixture drawing 250W	Fixture	\$0,292.1	10	1,268	0.045	378	\$110.50	30%	85%	80%	1.582953586	1	
WareH1E11	Warehouse	Heating	Early	4' T8 High Bay fixture - 32 W - 8 lamps HPI	Early	Replace HPI fixture drawing 400 W	Fixture	\$0,335.4	10	1,856	0.077	671	\$225.00	36%	85%	80%	1.378493281	1	
WareH1E12	Warehouse	Heating	Early	4' T5 HO fixture - 54 W - 4 lamp	Early	Replace HPI fixture drawing 250 W	Fixture	\$0,378.10	10	1,268	0.052	456	\$145.00	36%	85%	80%	1.455045534	1	
WareH1E13	Warehouse	Heating	Early	4' T5 HO fixture - 54 W - 6 lamp	Early	Replace HPI fixture drawing 400 W	Fixture	\$0,406.5	10	1,856	0.074	640	\$260.00	34%	85%	80%	1.137441907	1	
WareH1E14	Warehouse	Heating	Early	Multi Lamp Hard Wired CFL	Early	Replace HPI Fixture Drawing 400 W	Fixture	\$0,514.0	10	1,856	0.095	827	\$425.00	45%	85%	55%	0.895092936	0	
WareH1E15	Warehouse	Heating	Early	Induction High Bay Lighting	Early	Base High Bay HPI, 250W	Fixture	\$0,663.1	15	1,268	0.063	566	\$375.00	45%	85%	80%	1.144484353	1	
OffChE6	Office	Chiller	Early	Wall Insulation Going to R-19	Early	Existing insulation level = R2.375	sq ft	\$0.82	15	4,468	0.05	245	\$200.00	5%	15%	95%	0.966858422	0	
OffChE7	Office	Chiller	Early	Adding window shade film	Early	No shade film	sq ft window area	\$7,045.3	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.032529568	0	
GroceN1	Grocery	Incandescent	New	HE Lighting Fixtures/Design 15% better than code	Early	Code Baseline	per Building	\$0,057.15	15	9,629	0.111	963	\$55.11	10%	95%	100%	3.12602325	1	
HeatN1	Healthcare	Incandescent	New	HE Lighting Fixtures/Design 15% better than code	Early	Code Baseline	per Building	\$0,084.2	15	49,948	0.574	4,995	\$420.44	10%	95%	100%	9.016229516	1	
OffChE8	Office	Chiller	Early	Adding window shade screen	Early	No shade screen	sq ft window area	\$3,900.1	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.20299871	0	
OffChE9	Office	Chiller	Early	Roof Insulation Going to R-30	Early	Existing insulation level = R16	sq ft window area	\$1.68	20	4,468	0.05	134	\$225.00	3%	75%	95%	0.661154159	0	
OffChN1	Office	Chiller	New	Wall Insulation Going to R-19	Early	New Construction Standard Practice = R13.5	sq ft window area	\$0.36	20	4,468	0.05	156	\$87.00	4%	15%	95%	1.942850348	1	
OffChN2	Office	Chiller	New	Adding window shade screen	Early	No shade screen	sq ft window area	\$3,900.1	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.20299871	0	
OffChN3	Office	Chiller	New	Adding reflective roof treatment	Early	Std color roof	sq ft roof area	\$4.50	20	4,468	0.05	10	\$45.00	0%	100%	95%	0.80492318	0	

Penn Power Commercial Measures

Measure ID	Commercial Segment	New End Use	Measure Description	Measure Description	Unit	Total Cost (\$/kWh)	Measure Life	Baseline kWh	PJM Summer Peak KWh Savings	Change case kWh Savings	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC (\$/kWh)	Economic Flag	
																	Measure Life
Offc1T1	Office	Fluorescent	Turnover	Premium Efficiency Lighting Replacement (2W lamps)	Replace (2) high efficiency 32 W T8 Lamp	Lamp	\$0.1548	14	79	0.001	\$2,132.32	22%	90%	95%	5.2110961	1	
Offc1T4	Office	Fluorescent	Turnover	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (2) high efficiency 32 W T8 Lamp	Lamp	\$0.2053	14	79	0.001	\$2,132.32	13%	60%	95%	3.44024382	1	
Offc1E15	Office	Fluorescent	Turnover	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0637	11	281	0.005	\$4,255	14%	75%	95%	8.302092031	1	
Offc1E14	Office	Fluorescent	Early	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0726	11	281	0.005	\$4,000	14%	75%	95%	6.005870255	0	
Offc1E11	Office	Heating	Early	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0.2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.034942818	1
Offc1E12	Office	Heating	Early	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$4.44	20	865	0.05	45	\$200.00	5%	10%	95%	0.34229633	0
Offc1E13	Office	Heating	Early	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.67	20	865	0.05	75	\$125.00	9%	10%	95%	0.767813348	0
Offc1E14	Office	Heating	Early	Green Roof (New construction or roof replacement)	Sfd Roof	sq ft	\$3.75	20	865	0.05	34	\$127.43	4%	10%	95%	0.457908822	0
Offc1E15	Office	Heating	Early	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0.1893	10	2,794	0.039	2,641	\$500.00	95%	10%	95%	2.263466225	1
Offc1E11	Office	Heating	Early	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	865	0.05	45	\$87.00	5%	10%	95%	0.786734788	0
Offc1E12	Office	Heating	New	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$14.31	15	865	0.23	52	\$ 750.0	6%	20%	95%	0.03750252	0
Offc1E13	Office	Heating	New	Ground Source HP Closed	Air Source Heat Pump	ton	\$14.31	15	865	0.001	52	\$750.00	6%	10%	95%	0.049867019	0
Offc1E14	Office	Heating	New	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$2.12	15	865	0.001	52	\$110.89	6%	10%	95%	0.337273553	0
Offc1E11	Office	Heating	Turnover	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$2.12	15	865	0.001	52	\$110.89	6%	10%	95%	0.337273553	0
Offc1E12	Office	Heating	Turnover	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.12	10	2,950	0.007	442	\$55.00	15%	10%	45%	3.448485624	1
Offc1HN1	Office	HID	New	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1781	15	621	0.007	62	\$11.06	10%	95%	100%	4.622217589	1
Offc1HN2	Office	HID	New	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3561	15	621	0.018	155	\$55.32	25%	85%	100%	2.131108795	1
Offc1H11	Office	HID	Early	4' T8 High Bay fixture - 32 W - 6 lamps HPE	Replace HID fixture drawing 250W	Fixture	\$0.7875	10	913	0.031	272	\$214.50	30%	85%	80%	0.587131876	0
Offc1H12	Office	HID	Early	4' T8 High Bay fixture - 32 W - 8 lamps HPE	Replace HID fixture drawing 400 W	Fixture	\$0.6211	10	1,337	0.056	483	\$300.00	36%	85%	80%	0.744386372	0
Offc1H13	Office	HID	Early	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.7153	10	913	0.038	329	\$235.50	36%	85%	80%	0.664417178	0
Offc1H14	Office	HID	Early	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.7057	10	1,337	0.043	461	\$325.00	34%	85%	80%	0.653166338	0
Offc1H15	Office	HID	Turnover	Ceramic Metal Halide Lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0.1781	5	1,123	0.023	197	\$35.00	18%	85%	55%	1.208997618	1
Offc1H16	Office	HID	Early	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$1.6988	15	913	0.047	407	\$688.00	45%	85%	80%	0.449143569	0
Offc1H17	Office	HID	Turnover	4' T8 High Bay fixture - 32 W - 6 lamps HPE	Replace HID fixture drawing 250W	Fixture	\$0.4057	10	913	0.031	272	\$110.50	30%	85%	80%	1.139726582	1
HealtPa11	Healthcare	Packaged DX	Early	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3.13	20	1,127	0.05	64	\$200.00	6%	15%	95%	0.428582596	0
HealtPa12	Healthcare	Packaged DX	Early	Adding window shade film	No shade film	sq ft window area	\$7.05	5	7.58	0.000	58	\$2.67	5%	50%	95%	0.030776812	0
HealtPa13	Healthcare	Packaged DX	Early	Adding window shade screen	No shade screen	sq ft window area	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.195291286	0
HealtPa14	Healthcare	Packaged DX	Early	Windows U<0.40, 55 SHGC	Existing window specifications	sq ft window area	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	0.906343104	0
HealtPa15	Healthcare	Packaged DX	Early	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$2.99	20	1,127	0.05	75	\$225.00	7%	95%	95%	0.426281783	0
HealtPa16	Healthcare	Packaged DX	Early	Automated control system	Baseline DX	ton	\$0.42	10	1,191	0.007	60	\$25.00	5%	10%	65%	1.06610421	1
HealtPa18	Healthcare	Packaged DX	Early	Duct Sealing, down to 15%	Leakage of 20%	ton	\$7.92	15	1,127	0.05	12	\$95.00	1%	45%	80%	0.327749011	0
HealtPa19	Healthcare	Packaged DX	Early	Hurt Keyboard Sensors	No prior controls	Room Controlled	\$0.29	10	1,012	0.041	342	\$100.00	34%	95%	80%	1.588911636	1
HealtPa10	Healthcare	Packaged DX	Early	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	1,226	0.05	64	\$35.00	5%	10%	45%	0.089753801	0
HealtPa11	Healthcare	Packaged DX	Early	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	1,127	0.015	125	\$55.00	11%	10%	45%	1.055895558	1
HealtPa13	Healthcare	Packaged DX	Early	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.31	7	1,127	0.05	180	\$55.15	16%	95%	75%	1.128540654	1
HealtPa12	Healthcare	Packaged DX	New	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	1,127	0.05	64	\$87.00	6%	10%	95%	0.985247348	0
HealtPa21	Healthcare	Packaged DX	New	Adding reflective roof treatment	Sfd color roof	ton	\$4.50	20	1,127	0.05	10	\$45.00	1%	10%	95%	0.80668581	0
HealtPa3	Healthcare	Packaged DX	New	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$1.66	20	1,127	0.05	75	\$125.00	7%	10%	95%	0.767307209	0
HealtPa4	Healthcare	Packaged DX	New	Green Roof (New construction or roof replacement)	Sfd Roof	ton	\$1.70	20	1,127	0.05	75	\$127.43	7%	45%	95%	0.752675203	0
HealtPa5	Healthcare	Packaged DX	New	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	1,127	0.05	12	\$125.00	1%	10%	95%	0.305048568	0
HealtPa6	Healthcare	Packaged DX	New	<65k, 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.30	20	971	0.04	69	\$90.74	7%	10%	95%	0.97374538	0
HealtPa7	Healthcare	Packaged DX	New	<65k, 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.40	20	971	0.08	129	\$180.81	13%	10%	95%	0.914032333	0
HealtPa8	Healthcare	Packaged DX	New	<65k, 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.49	20	971	0.12	182	\$271.21	19%	10%	95%	0.856921016	0
HealtPa9	Healthcare	Packaged DX	New	65-135k, AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.73	20	1,127	0.05	75	\$55.00	7%	10%	95%	1.743880019	1
HealtPa10	Healthcare	Packaged DX	New	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.73	20	1,148	0.06	96	\$70.00	8%	10%	95%	1.743880019	1
HealtPa11	Healthcare	Packaged DX	New	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.23	20	1,262	0.06	94	\$115.13	7%	10%	95%	1.036731513	1
HealtPa12	Healthcare	Packaged DX	New	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$1.54	20	1,301	0.04	64	\$98.39	5%	10%	95%	0.827629021	0
HealtPa13	Healthcare	Packaged DX	New	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.04	15	1,148	0.23	368	\$ 750.0	32%	20%	95%	0.494547136	0
HealtPa14	Healthcare	Packaged DX	New	Ground Source HP Closed	Air Source Heat Pump	ton	\$3.65	15	1,148	0.025	206	\$750.00	18%	10%	95%	0.208741116	0
HealtPa15	Healthcare	Packaged DX	New	Air-side Economizer	No Economizer	ton	\$1.01	15	1,127	0.020	169	\$170.00	15%	75%	45%	0.75749509	0
HealtPa16	Healthcare	Packaged DX	New	No Energy Recovery Units	No Energy Recovery	ton	\$0.79	15	1,127	0.027	225	\$179.00	20%	10%	95%	0.959211659	0
HealtPa17	Healthcare	Packaged DX	Turnover	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.07	15	1,191	0.007	54	\$110.89	5%	10%	95%	0.368471824	0
HealtPa11	Healthcare	Packaged DX	Turnover	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	1,127	0.05	12	\$125.00	1%	10%	95%	0.249089173	0
HealtPa12	Healthcare	Packaged DX	Turnover	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.30	20	971	0.04	69	\$90.74	7%	10%	95%	0.979374415	0
HealtPa13	Healthcare	Packaged DX	Turnover	<65k, 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.40	20	971	0.08	129	\$180.81	13%	10%	95%	0.914032333	0
HealtPa14	Healthcare	Packaged DX	Turnover	<65k, 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.49	20	971	0.12	182	\$271.21	19%	10%	95%	0.856921016	0
HealtPa15	Healthcare	Packaged DX	Turnover	65-135k, AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.73	20	1,127	0.05	75	\$55.00	7%	10%	95%	1.743880019	1
HealtPa16	Healthcare	Packaged DX	Turnover	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.73	20	1,148	0.06	96	\$70.00	8%	10%	95%	1.743880019	1
HealtPa17	Healthcare	Packaged DX	Turnover	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.23	20	1,262	0.06	94	\$115.13	7%	10%	95%	1.036731513	1
HealtPa18	Healthcare	Packaged DX	Turnover	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$1.54	20	1,301	0.04	64	\$98.39	5%	10%	95%	0.827629021	0
HealtPa19	Healthcare	Packaged DX	Turnover	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.04	15	1,148	0.23	368	\$ 750.0	32%	20%	95%	0.494547136	0
HealtPa10	Healthcare	Packaged DX	Turnover	Ground Source HP Closed	Air Source Heat Pump	ton	\$3.65	15	1,148	0.025	206	\$750.00	18%	10%	95%	0.208741116	0
HealtPa11	Healthcare	Packaged DX	Turnover	Air-side Economizer	No Economizer	ton	\$1.01	15	1,127	0.020	169	\$170.00	15%	75%	45%	0.75749509	0
HealtPa12	Healthcare	Packaged DX	Turnover	No Energy Recovery Units	No Energy Recovery	ton	\$0.79	15	1,127	0.027	225	\$179.00	20%	10%	95%	0.959211659	0
HealtPa13	Healthcare	Packaged DX	Turnover														

Penn Power Commercial Measures

ID	Sector	Measure	Status	Start	End	Measure Description	Device Description	Unit	Total Cost (\$/kWh)	Measure Life	Baseline kWh	Peak (kW)	PJM Summer Peak KWh Savings	Change case kWh Savings	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	IPET (Est)	Economic Flag
All_A10	All	Large Appliances	Turnover	New		High-efficiency coin-op washer w/ Electric water heat	Coin-op wash, electric hot water	washer	\$0.4380	10	2,262	0.12	959	\$420.00	29%	100%	50%	1,046,643.22	1	
All_A11	All	Large Appliances	Turnover	New		EnergyStar vending machine	Standard vending machine	machine	\$0.2672	15	3,619	0.140	1,310	\$350.00	36%	100%	50%	2,816,338.62	0	
All_A12	All	Large Appliances	Turnover	New		Beverage machine control	Vending machine with no sensor	machine	\$0.1021	5	3,619	0.178	1,665	\$170.00	46%	100%	50%	2,079,990.09	1	
All_A13	All	Large Appliances	Turnover	New		Other cold product control	Vending machine with no sensor	machine	\$0.1111	5	3,504	0.142	1,612	\$179.00	46%	100%	50%	1,903,705.442	1	
All_A14	All	Large Appliances	Turnover	New		Non-cooled snack control	Vending machine with no sensor	machine	\$0.4671	5	745	0.037	343	\$160.00	46%	100%	50%	4,452,762.23	0	
All_A15	All	Large Appliances	Turnover	New		EnergyStar dishwasher	Sid Dishwasher	dishwasher	\$0.4015	12	250	0.015	137	\$55.00	55%	100%	50%	1,458,544.93	1	
All_A16	All	Large Appliances	Turnover	New		EnergyStar refrigerator	Sid Refrigerator	refrigerator	\$0.3000	12	750	0.011	100	\$30.00	13%	100%	50%	1,951,824.15	1	
All_A17	All	Large Appliances	Turnover	New		Low-temperature dish machine	High temp dish machine with booster heater	washer	\$0.0634	15	17,451	0.894	8,362	\$350.00	48%	100%	50%	11,873,594.54	1	
All_A18	All	Large Appliances	Turnover	New		High-efficiency washer	Standard washer, electric hot water	washer	\$0.4380	10	2,262	0.12	959	\$420.00	42%	100%	50%	1,043,651.22	1	
All_A19	All	Large Appliances	Turnover	New		High-efficiency coin-op washer w/ Electric water heat	Coin-op wash, w/out electric hot water	washer	\$1.7872	10	1,180	0.025	235	\$420.00	20%	100%	50%	2,557,492.28	1	
OfficMo10	Office	Motors	Turnover	New		VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.4380	10	2,262	0.102	959	\$420.00	42%	100%	50%	1,043,651.22	1	
OfficMoN1	Office	Motors	New			Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.3115	15	12921	0.0282	117.2	\$154	0.91%	74.4%	100%	6,258,988.3	0	
OfficMoN2	Office	Motors	New			Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.4170	15	49501	0.0231	367.6	\$521	0.74%	74.4%	100%	6,519,990.24	0	
OfficMoN3	Office	Motors	New			Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.2732	15	121517	0.0138	541.0	\$689	0.45%	66.3%	100%	6,564,801.41	0	
OfficMoN4	Office	Motors	New			Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.5357	15	244333	0.0121	953.4	\$511	0.39%	55.8%	100%	1,330,594.89	0	
OfficMoN5	Office	Motors	New			Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.4495	15	523436	0.0284	4796.5	\$2156	0.91%	55.8%	100%	1,579,075.85	1	
OfficMoN6	Office	Motors	New			Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.6710	15	81970	2.109	16,394	\$11,000.00	20%	55.0%	100%	1,144,895.71	1	
OfficMoN7	Office	Motors	New			VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.5200	15	81970	6.257	25,000.8	\$13,000.00	31%	70.0%	100%	1,587,649.836	1	
OfficMoN8	Office	Motors	New			VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4941	15	81970	0.000	26,312.3	\$13,000.00	32%	80.0%	100%	1,430,389.23	1	
OfficMoN9	Office	Motors	New			VFD on Cooling Water Pump (Average 50HP)	Constant power control	Motor	\$0.5874	15	81970	6.257	22,131.8	\$13,000.00	27%	70.0%	100%	1,431,628.58	1	
OfficMoN10	Office	Motors	New			VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.5874	15	81970	6.257	22,131.8	\$13,000.00	27%	90.0%	100%	1,431,628.58	1	
OfficMoN11	Office	Motors	New			VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5874	15	81970	6.257	22,131.8	\$13,000.00	29%	30.0%	100%	1,431,628.58	1	
OfficMoT1	Office	Motors	Turnover	New		Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.3115	15	12921	0.0282	117.2	\$154	0.91%	74.4%	100%	6,258,988.3	0	
OfficMoT2	Office	Motors	Turnover	New		Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.4170	15	49501	0.0231	367.6	\$521	0.74%	74.4%	100%	6,519,990.24	0	
OfficMoT3	Office	Motors	Turnover	New		Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.2732	15	121517	0.0138	541.0	\$689	0.45%	66.3%	100%	6,564,801.41	0	
OfficMoT4	Office	Motors	Turnover	New		Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.5357	15	244333	0.0121	953.4	\$511	0.39%	55.8%	100%	1,330,594.89	0	
OfficMoT5	Office	Motors	Turnover	New		Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.4495	15	523436	0.0284	4796.5	\$2156	0.91%	55.8%	100%	1,579,075.85	1	
OfficMoT6	Office	Motors	Turnover	New		Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.6710	15	81970	2.109	16,394	\$11,000.00	20%	55.0%	100%	1,144,895.71	1	
OfficMoT7	Office	Motors	Turnover	New		VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.5200	15	81970	6.257	25,000.8	\$13,000.00	31%	90.0%	100%	1,587,649.836	1	
OfficMoT8	Office	Motors	Turnover	New		VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4941	15	81970	0.000	26,312.3	\$13,000.00	32%	90.0%	100%	1,430,389.23	1	
OfficMoT9	Office	Motors	Turnover	New		VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5874	15	81970	6.257	22,131.8	\$13,000.00	27%	90.0%	100%	1,431,628.58	1	
OfficMoT10	Office	Motors	Turnover	New		VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.5874	15	81970	6.257	22,131.8	\$13,000.00	27%	90.0%	100%	1,431,628.58	1	
OfficMoT11	Office	Motors	Turnover	New		VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5874	15	81970	6.257	22,131.8	\$13,000.00	29%	55.0%	100%	1,431,628.58	1	
OfficMoT12	Office	Motors	Turnover	New		Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0.6069	15	245900	0.159	1235.7	\$750	0.5%	35.0%	95%	1,262,524.853	1	
OfficMoT13	Office	Motors	Turnover	New		Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0.7470	15	532803	0.344	2677.4	\$2,000	0.5%	50.0%	95%	1,028,076.93	1	
OfficMoT14	Office	Motors	Turnover	New		Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0.5601	15	25062	0.057	446.3	\$250	0.9%	10.0%	95%	1,379,535.87	1	
OfficMoT15	Office	Motors	Turnover	New		Motors: Rewind 500+ HP	(E) Motor	Motor	\$0.6474	15	1229546	0.795	6178.6	\$4,000	0.5%	70.0%	95%	1,186,185.79	1	
OfficMoT16	Office	Motors	Turnover	New		Motors: Rewind 51-100 HP	(E) Motor	Motor	\$0.6955	15	124291	0.092	718.9	\$500	0.6%	20.0%	95%	1,1041,182.7	1	
OfficMoT17	Office	Motors	Turnover	New		Downdesigning motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.7%	25%	95%	2,925,124.27	1	
OfficMoN12	Office	Motors	New			Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2,472,190.51	1	
OfficMoN13	Office	Motors	New			Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	6,028,700.21	0	
OfficMoN14	Office	Motors	New			Electrically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is	Motor	\$0.21	15	3,194	0.120	935	\$200.09	18.00%	75%	95%	3,588,451.679	1	
OfficMoN15	Office	Motors	New			Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	6,589,343.22	0	
OfficMoN18	Office	Motors	Turnover	New		Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2,472,190.51	1	
OfficMoT19	Office	Motors	Turnover	New		Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	6,028,700.21	0	
OfficMoT20	Office	Motors	Turnover	New		Electrically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is	Motor	\$0.21	15	3,194	0.120	935	\$200.09	18.00%	75%	95%	3,588,451.679	1	
OfficMoT21	Office	Motors	Turnover	New		Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	6,589,343.22	0	
OfficMoT22	Office	Motors	Turnover	New		Air Comp Improvements	Air Comp Improvements	Motor	\$0.11	15	56148	1.148	8,928	\$990.00	16%	28%	65%	6,924,972.53	1	
OfficMoI2	Office	Motors	Early			Air Compressor Optimization	Air Compressor Optimization	Motor	\$0.16	15	56148	2.174	16,901	\$2,750.00	30%	38%	65%	4,719,423.698	1	
OfficMoI23	Office	Motors	Turnover	New		Motor Retrocommissioning	Motor Retrocommissioning	Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1,145,921.749	1	
OfficPaE1	All	Office Equipment	Early			PC network power management	No central control	PC	\$0.14	5	410	0.023	215	\$30.00	52.44%	75%	80%	1,515,123.84	1	
HealthPaN18	Healthcare	Packaged DX	New			Automated control system	Baseline DX	ton	\$0.42	10	1,191	0.007	60	\$25.00	5%	100%	65%	1,066,042.1	1	
HealthPaN19	Healthcare	Packaged DX	New			PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$0.78	10	1,012	0.007	55	\$43.00	5%	100%	95%	6,596,137.099	0	
HealthPaT15	Healthcare	Packaged DX	Turnover	New		PTAC (10.4 EER/10,000 BTU)	PTAC (12.0 EER/10,000 BTU)	unit	\$0.78	10	1,012	0.007	55	\$43.00	5%	100%	95%	6,596,137.099	0	
AIOR12	All	Office Equipment	Early			Occupancy sensor controls/Smart Strip	Computers, other plug loads	pc	\$0.60	5	413	0.010	124	\$75.00	30.02%	55%	95%	6,341,965.931	0	
AIORN1	All	Office Equipment	New			ENERGY STAR® Office Equipment	Sid Office Equipment	pc	\$1.09	5	4,000	0.021	200	\$218.00	5.00%	90%	80%	6,193,565.07	0	
AIORN2	All	Office Equipment	New			Energy Star - Water Cooler	Sid Water Cooler	pc	\$1.06	5	453	0.022	204	\$215.67	45.08%	35%	80%	6,199,972.663	0	
AIORN3	All	Office Equipment	New			Standard personal computer, desktop	80 Plus® PC-desktop	pc	\$0.19	5	410	0.014	130	\$25.00	31.71%	100%	55%	1,099,345.484	1	
AIORN6	All	Office Equipment	New			Data Center - Server/Storage Virtualization														

Penn Power Commercial Measures

ID	New Commercial Segment	New End Use	Vintage	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh)	Measure Life	Baseline kWh	PJM Summer Peak KWh Savings	Change case kWh Savings	Customer	Savings %	Applicability	Percent	Economic Flag	
																	Cost (\$/kWh)
GroceIN1	Grocery	Fluorescent	New	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.0572	15	60,020	6,002	834.52	10%	95%	100%	9,500,585	1	
GroceIN2	Grocery	Fluorescent	New	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1145	15	60,020	1,724	15,005	\$17,710	25%	75%	100%	6,630,162	1
LodgIN1	Lodging	Fluorescent	New	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1012	15	303,563	3,489	30,356	\$30,718	10%	95%	100%	7,499,863	1
LodgIN2	Lodging	Fluorescent	New	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.2024	15	303,563	8,722	75,891	\$13,359.37	25%	75%	100%	3,749,931	1
RestaIN1	Restaurant	Fluorescent	New	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0763	15	13,140	0.151	1,314	\$10.02	10%	95%	100%	9,945,714	1
RestaIN2	Restaurant	Fluorescent	New	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1526	15	13,140	0.378	3,285	\$50.13	25%	75%	100%	4,972,587	1
RetailIN1	Retail	Fluorescent	New	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0792	15	60,011	0.690	6,001	\$475.15	10%	95%	100%	9,585,439	1
RetailIN2	Retail	Fluorescent	New	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1584	15	60,011	1.724	15,003	\$2,375.74	25%	75%	100%	4,792,719	1
WarehIN1	Warehouse	Fluorescent	New	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1603	15	44,747	0.514	4,475	\$17.11	10%	95%	100%	4,735,973	1
WarehIN2	Warehouse	Fluorescent	New	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3205	15	44,747	1.286	11,187	\$3,585.33	25%	75%	100%	2,367,896	1
GroceIN3	Grocery	LED	New	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0572	15	3,937	0.045	394	\$22.53	10%	95%	100%	13,260,325	1
GroceIN4	Grocery	LED	New	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1145	15	3,937	0.113	984	\$112.66	25%	85%	100%	6,630,162	1
InstiIN1	Institutional	Fluorescent	New	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1722	15	2,159	0.025	216	\$37.18	10%	95%	100%	4,407,944	1
InstiIN2	Institutional	Fluorescent	New	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3444	15	2,159	0.062	540	\$185.89	25%	85%	100%	2,209,621	1
HealthIN1	Healthcare	LED	New	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0842	15	15,203	0.175	1,520	\$127.97	10%	95%	100%	9,012,295	1
HealthIN2	Healthcare	LED	New	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1684	15	15,203	0.437	3,801	\$639.84	25%	85%	100%	4,508,147	1
LodgIH1	Lodging	LED	New	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1012	15	10,539	0.121	1,054	\$106.65	10%	95%	100%	7,499,863	1
LodgIH2	Lodging	LED	New	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.2024	15	10,539	0.303	2,635	\$533.27	25%	85%	100%	3,749,931	1
RestaIH1	Restaurant	LED	New	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0763	15	459	0.005	46	\$3.51	10%	95%	100%	9,945,714	1
RestaIH2	Restaurant	LED	New	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1526	15	459	0.013	115	\$17.53	25%	85%	100%	4,972,587	1
RetailIH1	Retail	LED	New	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0792	15	10,313	0.119	1,031	\$83.55	10%	95%	100%	9,585,439	1
RetailIH2	Retail	LED	New	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1584	15	10,313	0.226	2,578	\$408.25	25%	85%	100%	4,792,719	1
WarehIH1	Warehouse	LED	New	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1603	15	7,843	0.090	784	\$125.69	10%	95%	100%	4,735,973	1
WarehIH2	Warehouse	LED	New	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3205	15	7,843	0.225	1,961	\$628.45	25%	85%	100%	2,367,896	1
MiscHN1	Misc	LED	New	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0988	15	4,211	0.048	421	\$41.61	10%	95%	100%	7,681,077	1
MiscHN2	Misc	LED	New	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1976	15	4,211	0.121	1,053	\$208.03	25%	85%	100%	3,840,564	1
MiscIN1	Misc	Fluorescent	New	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0988	15	121,285	1.394	12,128	\$1,198.38	10%	95%	100%	7,681,077	1
MiscIN2	Misc	Fluorescent	New	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1976	15	121,285	3.485	30,321	\$5,091.88	25%	75%	100%	3,840,564	1
InstiIN3	Institutional	Incandescent	New	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1722	15	7,094	0.082	709	\$122.15	10%	95%	100%	4,407,944	1
InstiIN4	Institutional	Incandescent	New	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3444	15	7,094	0.204	1,774	\$610.75	25%	75%	100%	2,209,621	1
GroceIH1	Grocery	Turnover	Turnover	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0161	5	309	0.021	186	\$3.90	60%	75%	50%	13,276,038	1
HealthIH1	Healthcare	Incandescent	Turnover	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0174	5	286	0.020	173	\$3.00	60%	75%	50%	12,399,757	1
GroceIN5	Grocery	Incandescent	New	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1145	15	9,629	0.277	2,407	\$275.57	25%	75%	100%	6,630,162	1
HealthIN3	Healthcare	Incandescent	New	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1684	15	49,948	1.435	12,487	\$2,102.19	25%	75%	100%	4,508,147	1
LodgIH3	Lodging	Incandescent	New	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1012	15	72,424	0.832	7,242	\$732.89	10%	95%	100%	7,499,863	1
LodgIH4	Lodging	Incandescent	New	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.2024	15	72,424	2.081	18,106	\$3,664.46	25%	75%	100%	3,749,931	1
RestaIN3	Restaurant	Incandescent	New	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0763	15	8,649	0.099	865	\$66.01	10%	95%	100%	9,945,714	1
RestaIN4	Restaurant	Incandescent	New	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1526	15	8,649	0.249	2,162	\$330.03	25%	75%	100%	4,972,587	1
RetailIN3	Retail	Incandescent	New	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0792	15	9,628	0.111	963	\$76.23	10%	95%	100%	9,585,439	1
RetailIN4	Retail	Incandescent	New	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1584	15	9,628	0.227	2,407	\$381.16	25%	75%	100%	4,792,719	1
WarehIN3	Warehouse	Incandescent	New	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1603	15	3,975	0.082	398	\$39.76	10%	95%	100%	4,735,973	1
WarehIN4	Warehouse	Incandescent	New	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3205	15	3,975	0.172	1,494	\$478.78	25%	75%	100%	2,367,896	1
MiscIN3	Misc	Incandescent	New	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0988	15	28,936	0.333	2,894	\$285.91	10%	95%	100%	7,681,077	1
MiscIN4	Misc	Incandescent	New	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1976	15	28,936	0.831	7,234	\$1,429.55	25%	75%	100%	3,840,564	1
MiscIH3	Misc	Fluorescent	Early	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1740	14	2,394	0.083	718	\$125.00	30%	95%	80%	4,058,872	1
MiscIH4	Misc	Fluorescent	Early	Photocontrol dimming control	No prior dimming control	Photocontrol	\$0.1879	9	2,394	0.138	1,197	\$225.00	50%	95%	95%	2,086,072	1
MiscIN5	Misc	Fluorescent	New	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0696	14	2,394	0.083	718	\$50.00	30%	95%	15%	10,147,181	1
MiscIN6	Misc	Fluorescent	New	Photocontrol dimming control	No prior dimming control	Photocontrol	\$0.1253	9	2,394	0.138	1,197	\$150.00	50%	95%	75%	3,129,088	1
InstiIN5	Institutional	Fluorescent	New	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1124	14	1,483	0.051	445	\$50.00	30%	95%	15%	6,286,304	1
InstiIN6	Institutional	Fluorescent	New	Photocontrol dimming control	No prior dimming control	Photocontrol	\$0.2022	9	1,483	0.085	742	\$150.00	50%	95%	75%	1,938,506	1
GroceIN6	Grocery	Fluorescent	New	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0509	14	3,272	0.113	982	\$50.00	30%	95%	80%	13,860,978	1
GroceIN7	Grocery	Fluorescent	New	Photocontrol dimming control	No prior dimming control	Photocontrol	\$0.0917	9	3,272	0.188	1,636	\$150.00	50%	95%	75%	4,276,573	1
HealthIN5	Healthcare	Fluorescent	New	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0549	14	3,034	0.105	910	\$50.00	30%	95%	15%	12,584,698	1
HealthIN6	Healthcare	Fluorescent	New	Photocontrol dimming control	No prior dimming control	Photocontrol	\$0.0989	9	3,034	0.174	1,517	\$150.00	50%	95%	75%	3,965,919	1
LodgIH5	Lodging	Fluorescent	New	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0600	14	2,776	0.096	833	\$50.00	30%	95%	15%	11,765,499	1
LodgIH6	Lodging	Fluorescent	New	Photocontrol dimming control	No prior dimming control	Photocontrol	\$0.1081	9	2,776	0.160	1,388	\$150.00	50%	95%	75%	3,628,152	1
OfficePa8	Office	Packaged DX	Early	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	688	0.05	12	\$95.00	2%	45%	80%	0.327,489	0
OfficePa9	Office	Packaged DX	Early	Hotel Keypad Sensors	No prior controls	Room Controlled	\$0.29	10	617	0.041	342	\$100.00	55%	95%	80%	1,588,916	1
RestaIN5	Restaurant	Fluorescent	New	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0679	14	2,454	0.085	736	\$50.00	30%	95%	15%	10,401,074	1
RestaIN6	Restaurant	Fluorescent	New	Photocontrol dimming control	No prior dimming control	Photocontrol	\$0.1222	9	2,454	0.141	1,227	\$150.00	50%	95%	75%	3,207,403	1
RetailIN5	Retail	Fluorescent	New	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0768	14	2,365	0.082	710	\$50.00	30%	95%	15%	10,248,441	1
RetailIN6	Retail	Fluorescent	New	Photocontrol dimming control	No prior dimming control	Photocontrol	\$0.1268	9	2,365	0.136	1,183	\$150.00	50%	95%	75%	3,091,384	1
WarehIN5	Warehouse	Fluorescent	New	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0761	14	2,191	0.076	657	\$50.00	30%	95%	15%	9,286,627	1
WarehIN6	Warehouse	Fluorescent	New	Photocontrol dimming control	No prior dimming control	Photocontrol	\$0.1369	9	2,191	0.126	1,096	\$150.00	50%	95%	75%	2,863,728	1
MiscIH7	Misc	Fluorescent	Turnover	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0696	14	2,394	0.083	718	\$50.00	30%	95%	80%	10,147,181	1
MiscIH8	Misc	Fluorescent	Turnover	Photocontrol dimming control	No prior dimming control	Photocontrol	\$0.1253	9									

Penn Power Commercial Measures

ID	New Commercial Segment	New End Use	Turnover	Measure Description	Description	Unit	Total Cost (\$/kWh)	Measure Life	Baseline kWh	PJM Summer Peak KWh Savings	Summer Peak KWh Savings	Change case kWh Savings	Customer	Savings %	Applicability	Percent Incomplete	14C Offset	Economic Flag
LodgH1T5	Lodging	Fluorescent	Turnover	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0362	11	494	0.008	71	\$2,685.56	14%	75%	95%	14,608,886	1	
LodgH1E4	Lodging	Fluorescent	Turnover	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.4959	11	494	0.008	71	\$35.00	14%	75%	95%	1,066,096	1	
MiscH1T6	Misc	Fluorescent	Turnover	LED Retrofit Tube	Replace (1) high efficiency 32 W T8 Lamp	Lamp	\$1,386.7	9	119	0.005	47	\$65.00	39%	40%	95%	0,282740682	0	
MiscH1T1	Misc	Fluorescent	Turnover	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (1) high efficiency 32 W T8 Lamp	Lamp	\$0,0888	9	119	0.003	26	\$2.32	22%	90%	95%	4,415,004579	1	
MiscH1T4	Misc	Fluorescent	Turnover	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (1) high efficiency 32 W T8 Lamp	Lamp	\$0,1353	9	119	0.002	15	\$2.02	13%	60%	95%	2,897,94253	1	
MiscH1T5	Misc	Fluorescent	Turnover	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0,0420	11	426	0.007	61	\$2.55	14%	75%	95%	12,59911946	1	
MiscH1E3	Misc	Fluorescent	Early	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0,5750	11	426	0.007	61	\$35.00	14%	75%	95%	0,91458817	0	
OfficePa1E3	Office	Packaged DX	Early	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.50	7	688	0.05	110	\$55.15	16%	95%	75%	0,774091925	0	
OfficePaN1	Office	Packaged DX	New	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	688	0.05	64	\$87.00	9%	100%	95%	0,985247348	0	
OfficePaN2	Office	Packaged DX	New	Adding reflective roof treatment	Sid color roof	ton	\$4.50	20	688	0.05	10	\$45.00	1%	100%	95%	0,38666581	0	
OfficePaN3	Office	Packaged DX	New	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$2.73	20	688	0.05	46	\$125.00	7%	100%	95%	0,55291233	0	
OfficePaN4	Office	Packaged DX	New	Green Roof (New construction or roof replacement)	Existing insulation level = R16	ton	\$2.78	20	688	0.05	46	\$127.43	7%	45%	95%	0,542367607	0	
RestaH1T6	Restaurant	Fluorescent	Turnover	LED Retrofit Tube	Replace (1) high efficiency 32 W T8 Lamp	Lamp	\$1,3528	9	122	0.006	48	\$65.00	39%	40%	95%	0,29815212	0	
RestaH1T1	Restaurant	Fluorescent	Turnover	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (1) high efficiency 32 W T8 Lamp	Lamp	\$0,0866	9	122	0.003	27	\$2.32	22%	90%	95%	4,525473585	1	
RestaH1T4	Restaurant	Fluorescent	Turnover	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (1) high efficiency 32 W T8 Lamp	Lamp	\$0,1320	9	122	0.002	15	\$2.02	13%	60%	95%	2,970452723	1	
RestaH1T5	Restaurant	Fluorescent	Turnover	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0,0409	11	437	0.007	62	\$2.55	14%	75%	95%	12,91436538	1	
RestaH1E4	Restaurant	Fluorescent	Early	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0,5610	11	437	0.007	62	\$35.00	14%	75%	95%	0,94246484	0	
RestaH1T6	Retail	Fluorescent	Turnover	LED Retrofit Tube	Replace (1) high efficiency 32 W T8 Lamp	Lamp	\$1,4036	9	118	0.005	46	\$65.00	39%	40%	95%	0,27933197	0	
RestaH1T1	Retail	Fluorescent	Turnover	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (1) high efficiency 32 W T8 Lamp	Lamp	\$0,0899	9	118	0.003	26	\$2.32	22%	90%	95%	4,361777425	1	
RestaH1T4	Retail	Fluorescent	Turnover	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (1) high efficiency 32 W T8 Lamp	Lamp	\$0,1369	9	118	0.002	15	\$2.02	13%	60%	95%	2,86300528	1	
RestaH1T5	Retail	Fluorescent	Turnover	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0,4235	11	421	0.007	60	\$2.55	14%	75%	95%	12,47224868	1	
RestaH1E4	Retail	Fluorescent	Early	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0,5820	11	421	0.007	60	\$35.00	14%	75%	95%	0,908373851	0	
WarechH1T6	Warehouse	Fluorescent	Turnover	LED Retrofit Tube	Replace (1) high efficiency 32 W T8 Lamp	Lamp	\$1,5152	10	109	0.005	43	\$65.00	39%	40%	95%	0,305167341	0	
WarechH1T1	Warehouse	Fluorescent	Turnover	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (1) high efficiency 32 W T8 Lamp	Lamp	\$0,0970	10	109	0.003	24	\$2.32	22%	90%	95%	4,765197555	1	
WarechH1T4	Warehouse	Fluorescent	Turnover	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (1) high efficiency 32 W T8 Lamp	Lamp	\$0,1478	10	109	0.002	14	\$2.02	13%	60%	95%	3,127803927	1	
WarechH1T5	Warehouse	Fluorescent	Turnover	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0,0459	11	390	0.006	56	\$2.55	14%	75%	95%	11,53068338	1	
WarechH1E4	Warehouse	Fluorescent	Early	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0,6283	11	390	0.006	56	\$35.00	14%	75%	95%	0,841486465	0	
GroceH1H1	Grocery	HID	Early	4' T8 High Bay fixture - 32 W - 6 lamps HPE	Replace HID fixture drawing 250W	Fixture	\$0,3797	10	1,893	0.065	565	\$214.50	30%	85%	80%	1,217755001	1	
GroceH1E2	Grocery	HID	Early	4' T8 High Bay fixture - 32 W - 8 lamps HPE	Replace HID fixture drawing 400 W	Fixture	\$0,2995	10	2,772	0.115	1,002	\$300.00	36%	85%	80%	1,543912475	1	
GroceH1H3	Grocery	HID	Early	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0,3449	10	1,893	0.078	681	\$235.00	36%	85%	80%	1,340705786	1	
GroceH1H4	Grocery	HID	Early	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0,3403	10	2,772	0.110	955	\$325.00	34%	85%	80%	1,358863051	1	
GroceH1H5	Grocery	HID	Turnover	Ceramic Metal Halide Lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0,0859	3	2,330	0.047	408	\$35.00	18%	85%	55%	1,527013968	1	
GroceH1T7	Grocery	HID	Early	Base High Bay HID, 250W	Induction High Bay Lighting	Fixture	\$0,8147	15	1,893	0.097	844	\$688.00	45%	85%	80%	0,931557051	0	
GroceH1T1	Grocery	HID	Turnover	4' T8 High Bay fixture - 32 W - 6 lamps HPE	Replace HID fixture drawing 250W	Fixture	\$0,1956	10	1,893	0.065	565	\$110.50	30%	85%	80%	2,363877355	1	
GroceH1T2	Grocery	HID	Turnover	4' T8 High Bay fixture - 32 W - 8 lamps HPE	Replace HID fixture drawing 400 W	Fixture	\$0,2246	10	2,772	0.115	1,002	\$225.00	36%	85%	80%	2,058549966	1	
GroceH1T3	Grocery	HID	Turnover	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0,2128	10	1,893	0.078	681	\$145.00	36%	85%	80%	2,127867998	1	
GroceH1T4	Grocery	HID	Turnover	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0,2722	10	2,772	0.110	955	\$260.00	34%	85%	80%	1,698579914	1	
GroceH1T5	Grocery	HID	Turnover	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0,3442	10	2,772	0.142	1,235	\$425.00	45%	85%	55%	1,343267215	1	
GroceH1T6	Grocery	HID	Turnover	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0,4441	15	1,893	0.097	844	\$375.00	45%	85%	80%	1,709096633	1	
HealthH1E1	Healthcare	HID	Early	4' T8 High Bay fixture - 32 W - 6 lamps HPE	Replace HID fixture drawing 250W	Fixture	\$0,4095	10	1,755	0.060	524	\$214.50	30%	85%	80%	1,120979761	1	
HealthH1E2	Healthcare	HID	Early	4' T8 High Bay fixture - 32 W - 8 lamps HPE	Replace HID fixture drawing 400 W	Fixture	\$0,3230	10	2,570	0.097	929	\$300.00	36%	85%	80%	1,43702668	1	
HealthH1E3	Healthcare	HID	Early	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0,3720	10	1,755	0.073	632	\$235.00	36%	85%	80%	1,24309458	1	
HealthH1E4	Healthcare	HID	Early	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0,3670	10	2,570	0.102	886	\$325.00	34%	85%	80%	1,259935651	1	
HealthH1T5	Healthcare	HID	Turnover	Ceramic Metal Halide Lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0,0926	3	2,160	0.043	378	\$35.00	18%	85%	55%	1,415843995	1	
HealthH1E7	Healthcare	HID	Early	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0,8787	15	1,755	0.090	783	\$688.00	45%	85%	80%	0,863737632	0	
HealthH1T1	Healthcare	HID	Turnover	4' T8 High Bay fixture - 32 W - 6 lamps HPE	Replace HID fixture drawing 250W	Fixture	\$0,2110	10	1,755	0.060	524	\$110.50	30%	85%	80%	2,191781889	1	
HealthH1T2	Healthcare	HID	Turnover	4' T8 High Bay fixture - 32 W - 8 lamps HPE	Replace HID fixture drawing 400 W	Fixture	\$0,2422	10	2,570	0.107	929	\$225.00	36%	85%	80%	1,908683005	1	
HealthH1T3	Healthcare	HID	Turnover	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0,2295	10	1,755	0.073	632	\$145.00	36%	85%	80%	2,014678432	1	
HealthH1T4	Healthcare	HID	Turnover	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0,2936	10	2,570	0.102	886	\$260.00	34%	85%	80%	1,574919563	1	
HealthH1T6	Healthcare	HID	Turnover	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0,3712	10	2,570	0.132	1,145	\$425.00	45%	85%	55%	1,245474609	1	
HealthH1T7	Healthcare	HID	Turnover	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0,4789	15	1,755	0.090	783	\$375.00	45%	85%	80%	1,584670642	1	
InstH1E1	Institutional	HID	Early	4' T8 High Bay fixture - 32 W - 6 lamps HPE	Replace HID fixture drawing 250W	Fixture	\$0,8376	10	858	0.029	256	\$214.50	30%	85%	80%	0,552004328	0	
InstH1E2	Institutional	HID	Early	4' T8 High Bay fixture - 32 W - 8 lamps HPE	Replace HID fixture drawing 400 W	Fixture	\$0,6607	10	1,257	0.052	454	\$300.00	36%	85%	80%	0,69850455	0	
InstH1E3	Institutional	HID	Early	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0,7608	10	858	0.035	309	\$235.00	36%	85%	80%	0,607737513	0	
InstH1E4	Institutional	HID	Early	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0,7506	10	1,257	0.050	433	\$325.00	34%	85%	80%	0,61596854	0	
InstH1T5	Institutional	HID	Turnover	Ceramic Metal Halide Lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0,1894	6	1,056	0.021	185	\$35.00	18%	85%	55%	1,380873857	1	
InstH1E7	Institutional	HID	Early	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$1,7973	15	858	0.044	383	\$688.00	45%	85%	80%	0,422271731	0	
InstH1T1	Institutional	HID	Turnover	4' T8 High Bay fixture - 32 W - 6 lamps HPE	Replace HID fixture drawing 250W	Fixture	\$0,4315	10	858	0.029	256	\$110.50	30%	85%	80%	1,071537812	1	
InstH1T2	Institutional	HID	Turnover	4' T8 High Bay fixture - 32 W - 8 lamps HPE	Replace HID fixture drawing 400 W	Fixture	\$0,4955	10	1,257	0.052	454	\$225.00	36%	85%	80%	0,933139313	0	
InstH1T3	Institutional	HID	Turnover	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0,4694	10	858	0.035	309	\$145.00	36%	85%	80%	0,69495539	1	
InstH1T4	Institutional	HID	Turnover	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0,6005	10	1,257	0.043	433	\$260.00	34%	85%	80%	0,76906675	1	
InstH1T6	Institutional	HID	Turnover	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0,7594	10	1,257	0.044	360	\$425.00	45%	85%	55%	0,66808996	0	
InstH1T7	Institutional	HID	Turnover	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0,9796	15	858	0.044	383	\$375.00	45%	85%	80%	0,77472787	0	
LodgH1E1	Lodging	HID	Early	4' T8 High Bay fixture														

Penn Power Commercial Measures

Item ID	New Commercial Segment	New End Use	Vintage	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	PJM Summer Peak KWh Savings	Summer Peak KWh Savings	Change case kWh Savings	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	IR (CAGR)	Economic Flag
RetaliHE1	Retail	High Bay	Early	4' T8 High Bay fixture - 32 W - 6 lamps HPIF	Replace HID fixture drawing 250W	Fixture	\$0.5253	10	1,368	0.047	408	\$214.50	85%	85%	80%	0.880270628	0	
RetaliHE2	Retail	High Bay	Early	4' T8 High Bay fixture - 32 W - 8 lamps HPIF	Replace HID fixture drawing 400 W	Fixture	\$0.4143	10	2,004	0.083	724	\$300.00	36%	85%	80%	1.116049368	1	
RetaliHE3	Retail	High Bay	Early	4' T5 HO fixture - 54 W - 4 lamp	Replace HID fixture drawing 250 W	Fixture	\$0.4771	10	1,368	0.057	493	\$325.00	36%	85%	80%	1.09015717	0	
RetaliHE4	Retail	High Bay	Early	4' T5 HO fixture - 54 W - 6 lamp	Replace HID fixture drawing 400 W	Fixture	\$0.4707	10	2,004	0.079	690	\$325.00	34%	85%	80%	0.982283165	0	
RetaliHT5	Retail	High Bay	Turnover	Ceramic Metal Halide Lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0.1188	4	1,684	0.034	295	\$35.00	18%	85%	55%	1.413659927	1	
RetaliHT6	Retail	High Bay	Turnover	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$1.1270	15	1,368	0.070	610	\$688.00	45%	85%	80%	0.67339545	0	
RetaliHT1	Retail	High Bay	Turnover	4' T8 High Bay fixture - 32 W - 6 lamps HPIF	Replace HID fixture drawing 250W	Fixture	\$0.2706	10	1,368	0.047	408	\$110.50	30%	85%	80%	1.708778102	1	
RetaliHT2	Retail	High Bay	Turnover	4' T8 High Bay fixture - 32 W - 8 lamps HPIF	Replace HID fixture drawing 400 W	Fixture	\$0.3107	10	2,004	0.083	724	\$225.00	36%	85%	80%	1.488065824	1	
RetaliHT3	Retail	High Bay	Turnover	4' T5 HO fixture - 54 W - 4 lamp	Replace HID fixture drawing 250 W	Fixture	\$0.2944	10	1,368	0.057	493	\$145.00	36%	85%	80%	1.570703	1	
RetaliHT4	Retail	High Bay	Turnover	4' T5 HO fixture - 54 W - 6 lamp	Replace HID fixture drawing 400 W	Fixture	\$0.3766	10	2,004	0.079	690	\$260.00	34%	85%	80%	1.227853956	1	
RetaliHT5	Retail	High Bay	Turnover	Multi Lamp Hard Wired CFL	Replace HID fixture drawing 400 W	Fixture	\$0.4762	10	2,004	0.103	893	\$425.00	45%	85%	55%	0.971008752	0	
RetaliHT7	Retail	High Bay	Turnover	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0.6143	15	1,368	0.070	610	\$375.00	45%	85%	80%	1.235451686	1	
MiscHE1	Misc	High Bay	Early	4' T8 High Bay fixture - 32 W - 6 lamps HPIF	Replace HID fixture drawing 250W	Fixture	\$0.5189	10	1,385	0.048	413	\$214.50	30%	85%	80%	0.891021788	0	
MiscHE2	Misc	High Bay	Early	4' T8 High Bay fixture - 32 W - 8 lamps HPIF	Replace HID fixture drawing 400 W	Fixture	\$0.4093	10	2,028	0.084	733	\$300.00	36%	85%	80%	1.129668616	1	
MiscHE3	Misc	High Bay	Early	4' T5 HO fixture - 54 W - 4 lamp	Replace HID fixture drawing 250 W	Fixture	\$0.4713	10	1,385	0.057	499	\$235.00	36%	85%	80%	0.98098388	0	
MiscHE4	Misc	High Bay	Early	4' T5 HO fixture - 54 W - 6 lamp	Replace HID fixture drawing 400 W	Fixture	\$0.4650	10	2,028	0.080	699	\$325.00	34%	85%	80%	0.994270052	1	
MiscHT5	Misc	High Bay	Turnover	Ceramic Metal Halide Lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0.1173	4	1,705	0.034	298	\$35.00	18%	85%	55%	1.430910943	1	
MiscHT6	Misc	High Bay	Turnover	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$1.1134	15	1,385	0.071	618	\$688.00	45%	85%	80%	0.681612954	0	
MiscHT1	Misc	High Bay	Turnover	4' T8 High Bay fixture - 32 W - 6 lamps HPIF	Replace HID fixture drawing 250 W	Fixture	\$0.2673	10	1,385	0.048	413	\$110.50	30%	85%	80%	1.729630471	1	
MiscHT2	Misc	High Bay	Turnover	4' T8 High Bay fixture - 32 W - 8 lamps HPIF	Replace HID fixture drawing 400 W	Fixture	\$0.3070	10	2,028	0.084	733	\$225.00	36%	85%	80%	1.506224822	1	
MiscHT3	Misc	High Bay	Turnover	4' T5 HO fixture - 54 W - 4 lamp	Replace HID fixture drawing 250 W	Fixture	\$0.2908	10	1,385	0.057	499	\$145.00	36%	85%	80%	1.58050427	1	
MiscHT4	Misc	High Bay	Turnover	4' T5 HO fixture - 54 W - 6 lamp	Replace HID fixture drawing 400 W	Fixture	\$0.3720	10	2,028	0.080	699	\$260.00	34%	85%	80%	1.242837566	1	
MiscHT6	Misc	High Bay	Turnover	Multi Lamp Hard Wired CFL	Replace HID fixture drawing 400 W	Fixture	\$0.4704	10	2,028	0.104	903	\$425.00	45%	85%	55%	0.982858058	0	
MiscHT7	Misc	High Bay	Turnover	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0.6069	15	1,385	0.071	618	\$375.00	45%	85%	80%	1.250325266	1	
GroceHE9	Grocery	High Bay	Early	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1651	10	7,571	0.261	2,271	\$375.00	50%	85%	85%	2.800585419	1	
GroceHE8	Grocery	High Bay	Early	Photocell dimming control	No prior dimming control	Photocell	\$0.1453	10	7,571	0.435	3,786	\$550.00	50%	85%	85%	3.182483431	1	
GroceHE10	Grocery	High Bay	Early	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1321	10	7,571	0.087	757	\$100.00	10%	85%	45%	3.500731774	1	
HealthHE8	Healthcare	High Bay	Early	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1781	10	7,020	0.242	2,106	\$375.00	30%	85%	85%	2.596696646	1	
HealthHE9	Healthcare	High Bay	Early	Photocell dimming control	No prior dimming control	Photocell	\$0.1567	10	7,020	0.403	3,510	\$550.00	50%	85%	85%	2.950791643	1	
HealthHE10	Healthcare	High Bay	Early	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1425	10	7,020	0.081	702	\$100.00	10%	85%	45%	3.245870807	1	
InstHE18	Institutional	High Bay	Early	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.3642	10	3,432	0.118	1,030	\$375.00	30%	85%	85%	1.326049138	1	
InstHE9	Institutional	High Bay	Early	Photocell dimming control	No prior dimming control	Photocell	\$0.3205	10	3,432	0.197	1,716	\$550.00	50%	85%	85%	1.442602948	1	
InstHE10	Institutional	High Bay	Early	Central lighting control system	Replace manual switches or no control	Control Point	\$0.2914	10	3,432	0.039	343	\$100.00	10%	85%	45%	1.586870172	1	
OfficePaN17	Office	Packaged DX	New	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$3.39	15	727	0.004	33	\$110.89	5%	100%	95%	0.224865885	0	
OfficePaT1	Office	Packaged DX	Turnover	No Insulation, Add R8	Duct Insulation, Add R8	ton	\$10.42	15	688	0.05	12	\$125.00	2%	100%	95%	0.249089173	0	
OfficePaT2	Office	Packaged DX	Turnover	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.14	20	593	0.04	42	\$90.40	7%	100%	95%	0.705724004	0	
RestalHE8	Restaurant	High Bay	Early	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2201	10	5,678	0.196	1,704	\$375.00	30%	85%	85%	2.100439065	1	
RestalHE9	Restaurant	High Bay	Early	Photocell dimming control	No prior dimming control	Photocell	\$0.1937	10	5,678	0.326	2,839	\$550.00	50%	85%	85%	2.38682573	1	
RestalHE10	Restaurant	High Bay	Early	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1761	10	5,678	0.065	568	\$100.00	10%	85%	45%	2.625548831	1	
RetaliHE8	Retail	High Bay	Early	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2284	10	5,473	0.189	1,642	\$375.00	30%	85%	85%	2.02446144	1	
RetaliHE9	Retail	High Bay	Early	Photocell dimming control	No prior dimming control	Photocell	\$0.2010	10	5,473	0.314	2,737	\$550.00	50%	85%	85%	2.301825038	1	
RetaliHE10	Retail	High Bay	Early	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1827	10	5,473	0.063	547	\$100.00	10%	85%	45%	2.53057055	1	
MiscHE8	Misc	High Bay	Early	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2256	10	5,540	0.191	1,662	\$375.00	30%	85%	85%	2.049166328	1	
MiscHE9	Misc	High Bay	Early	Photocell dimming control	No prior dimming control	Photocell	\$0.1986	10	5,540	0.318	2,770	\$550.00	50%	85%	85%	2.3285981	1	
MiscHE10	Misc	High Bay	Early	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1805	10	5,540	0.064	554	\$100.00	10%	85%	45%	2.561457909	1	
LodgHE8	Lodging	High Bay	Early	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1946	10	6,423	0.221	1,927	\$375.00	30%	85%	85%	2.37977431	1	
LodgHE9	Lodging	High Bay	Early	Photocell dimming control	No prior dimming control	Photocell	\$0.1713	10	6,423	0.369	3,212	\$550.00	50%	85%	85%	2.69974353	1	
LodgHE10	Lodging	High Bay	Early	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1557	10	6,423	0.074	642	\$100.00	10%	85%	45%	2.969971789	1	
LodgHT8	Lodging	High Bay	Turnover	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1427	10	6,423	0.221	1,927	\$275.00	30%	85%	85%	3.239969224	1	
LodgHT9	Lodging	High Bay	Turnover	Photocell dimming control	No prior dimming control	Photocell	\$0.1713	10	6,423	0.369	3,212	\$550.00	50%	85%	85%	2.69974353	1	
LodgHT10	Lodging	High Bay	Turnover	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1168	10	6,423	0.074	642	\$75.00	10%	85%	45%	3.35996288	1	
GroceHT8	Grocery	High Bay	Turnover	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1211	10	7,571	0.261	2,271	\$275.00	30%	85%	85%	3.81890117	1	
GroceHT9	Grocery	High Bay	Turnover	Photocell dimming control	No prior dimming control	Photocell	\$0.1453	10	7,571	0.435	3,786	\$550.00	50%	85%	85%	3.182483431	1	
GroceHT10	Grocery	High Bay	Turnover	Central lighting control system	Replace manual switches or no control	Control Point	\$0.0991	10	7,571	0.087	757	\$75.00	10%	85%	45%	4.667642366	1	
HealthHT8	Healthcare	High Bay	Turnover	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1306	10	7,020	0.242	2,106	\$275.00	30%	85%	85%	3.540949972	1	
HealthHT9	Healthcare	High Bay	Turnover	Photocell dimming control	No prior dimming control	Photocell	\$0.1567	10	7,020	0.403	3,510	\$550.00	50%	85%	85%	2.950791643	1	
HealthHT10	Healthcare	High Bay	Turnover	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1068	10	7,020	0.081	702	\$75.00	10%	85%	45%	4.32827743	1	
InstHT8	Institutional	High Bay	Turnover	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2671	10	3,432	0.118	1,030	\$375.00	30%	85%	85%	1.731131097	1	
InstHT9	Institutional	High Bay	Turnover	Photocell dimming control	No prior dimming control	Photocell	\$0.3205	10	3,432	0.197	1,716	\$550.00	50%	85%	85%	1.442602948	1	
InstHT10	Institutional	High Bay	Turnover	Central lighting control system	Replace manual switches or no control	Control Point	\$0.2185	10	3,432	0.039	343	\$75.00	10%	85%	45%	2.115826897	1	
OfficePaT4	Office	Packaged DX	Turnover	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.29	20	593	0.08	70	\$108.81	13%	100%	95%	0.65863908	0	
OfficePaT5	Office	Packaged DX	Turnover	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.20	20	593	0.12	111	\$71.27	19%	100%	95%	0.617485735	0	
MiscHT8	Misc	High Bay	Turnover	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1655	10	5,540	0.191	1,662	\$275.00	30%	85%	85%	2.794317719	1	
MiscHT9	Misc	High Bay	Turnover	Photocell dimming control	No prior dimming control	Photocell	\$0.1986	10	5,540	0.318	2,770	\$550.00	50%	85%	85%	2.3285981	1	
MiscHT10	Misc																	

Penn Power Commercial Measures

Measure ID	New Commercial Segment	New End Use	Vintage	Measure Description	Device Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	PJM Summer Peak KWh Savings	Summer Peak KWh Savings	Change case kWh Savings	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Est.	Economic Flag
miscHN9	Misc	HIID	New	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1630	10	5,114	0.176	1,534	\$25,700	30%	85%	95%	2,837,600	223	1
miscHN9	Misc	HIID	New	Photocell dimming control	No prior dimming control	Photoce	\$0.1760	10	5,114	0.204	2,557	\$450,000	50%	85%	85%	6,272,136	317	1
miscHN10	Misc	HIID	New	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1271	10	5,114	0.059	511	\$65,000	10%	25%	45%	3,637,336	3	0
OfficePt9	Office	Packaged DX	Turnover	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$3.34	15	700	0.23	225	\$ 750.0	32%	5%	95%	0.35958798	0	0
OfficePt10	Office	Packaged DX	Turnover	Ground Source HP Closed	Air Source Heat Pump	ton	\$5.98	15	700	0.015	125	\$750,000	18%	100%	95%	0.127387639	0	0
OfficePt11	Office	Packaged DX	Turnover	Non Economizer	Air-side Economizer	ton	\$1.65	15	688	0.012	103	\$170,000	15%	75%	45%	0.462273619	0	0
OfficePt12	Office	Packaged DX	Turnover	Energy Recovery Units	No Energy Recovery	ton	\$1.30	15	688	0.016	138	\$179,000	20%	100%	95%	0.585374416	0	0
GroceIn3	Grocery	Incandescent	New	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0224	14	7,455	0.257	2,236	\$50,000	30%	95%	15%	31,593,213	37	1
GroceIn2	Grocery	Incandescent	Turnover	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0559	14	7,455	0.257	2,236	\$125,000	30%	95%	80%	12,637,288	5	1
HealthIn4	Healthcare	Incandescent	Turnover	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0603	14	6,912	0.238	2,074	\$125,000	30%	95%	80%	11,717,266	17	1
GroceIn4	Grocery	Incandescent	New	Photocell dimming control	No prior dimming control	Photoce	\$0.0402	9	7,455	0.428	3,727	\$150,000	50%	95%	95%	0.74247501	0	0
HealthIn3	Healthcare	Incandescent	New	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0241	14	6,912	0.238	2,074	\$50,000	30%	95%	15%	29,231,654	1	0
GroceIn3	Grocery	Incandescent	Turnover	Photocell dimming control	No prior dimming control	Photoce	\$0.0604	9	7,455	0.428	3,727	\$225,000	50%	95%	95%	6.49498334	0	0
HealthIn3	Healthcare	Incandescent	Turnover	Photocell dimming control	No prior dimming control	Photoce	\$0.0651	9	6,912	0.397	3,456	\$225,000	50%	95%	95%	6.022134278	0	0
HealthIn4	Healthcare	Incandescent	New	Photocell dimming control	No prior dimming control	Photoce	\$0.0434	9	6,912	0.397	3,456	\$150,000	50%	95%	95%	9.033201417	1	1
InstIn3	Institutional	Incandescent	New	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0493	14	3,379	0.117	1,014	\$50,000	30%	95%	15%	14,321,030	9	0
InstIn4	Institutional	Incandescent	New	Photocell dimming control	No prior dimming control	Photoce	\$0.0888	9	3,379	0.194	1,690	\$150,000	50%	95%	95%	4.416231804	1	1
InstIn2	Institutional	Incandescent	Turnover	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1233	14	3,379	0.117	1,014	\$125,000	30%	95%	80%	5.728441238	1	1
InstIn3	Institutional	Incandescent	Turnover	Photocell dimming control	No prior dimming control	Photoce	\$0.1332	9	3,379	0.194	1,690	\$225,000	50%	95%	95%	2.944154536	1	1
LogInN3	Logging	Incandescent	New	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0264	14	6,324	0.218	1,897	\$50,000	30%	95%	15%	26,803,246	3	0
LogInN4	Logging	Incandescent	New	Photocell dimming control	No prior dimming control	Photoce	\$0.0474	9	6,324	0.312	3,162	\$150,000	50%	95%	95%	8.26192936	0	0
LogInT2	Logging	Incandescent	Turnover	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0659	14	6,324	0.218	1,897	\$125,000	30%	95%	80%	10,721,298	5	1
LogInT3	Logging	Incandescent	Turnover	Photocell dimming control	No prior dimming control	Photoce	\$0.0712	9	6,324	0.363	3,162	\$225,000	50%	95%	95%	5.150252664	1	1
RestIn3	Restaurant	Incandescent	New	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0298	14	5,591	0.193	1,677	\$50,000	30%	95%	15%	23,694,610	3	0
RestIn4	Restaurant	Incandescent	New	Photocell dimming control	No prior dimming control	Photoce	\$0.0537	9	5,591	0.321	2,796	\$150,000	50%	95%	95%	7.306856257	0	0
RestIn2	Restaurant	Incandescent	Turnover	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0745	14	5,591	0.193	1,677	\$125,000	30%	95%	80%	9.477964411	1	1
RestIn3	Restaurant	Incandescent	Turnover	Photocell dimming control	No prior dimming control	Photoce	\$0.0805	9	5,591	0.321	2,796	\$225,000	50%	95%	95%	4.871237505	1	1
RestInN3	Retail	Incandescent	New	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0309	14	5,389	0.186	1,617	\$50,000	30%	95%	15%	22,837,819	7	1
RestIn4	Retail	Incandescent	New	Photocell dimming control	No prior dimming control	Photoce	\$0.0557	9	5,389	0.310	2,694	\$150,000	50%	95%	95%	7.042551475	1	1
RestIn2	Retail	Incandescent	Turnover	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0773	14	5,389	0.186	1,617	\$125,000	30%	95%	80%	9.135127883	1	1
RestIn3	Retail	Incandescent	Turnover	Photocell dimming control	No prior dimming control	Photoce	\$0.0835	9	5,389	0.310	2,694	\$225,000	50%	95%	95%	4.605034317	1	1
WarehIn3	Warehouse	Incandescent	New	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0334	14	4,992	0.172	1,498	\$50,000	30%	95%	15%	21,156,750	2	0
WarehIn4	Warehouse	Incandescent	New	Photocell dimming control	No prior dimming control	Photoce	\$0.0601	9	4,992	0.287	2,496	\$150,000	50%	95%	95%	6.523978001	1	1
WarehIn2	Warehouse	Incandescent	Turnover	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0835	14	4,992	0.172	1,498	\$125,000	30%	95%	80%	8.46247001	1	1
WarehIn3	Warehouse	Incandescent	Turnover	Photocell dimming control	No prior dimming control	Photoce	\$0.0901	9	4,992	0.287	2,496	\$225,000	50%	95%	95%	4.349319201	1	1
MiscIn3	Misc	Incandescent	New	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0306	14	5,455	0.188	1,636	\$50,000	30%	95%	15%	23,116,516	3	0
MiscIn4	Misc	Incandescent	New	Photocell dimming control	No prior dimming control	Photoce	\$0.0550	9	5,455	0.313	2,727	\$150,000	50%	95%	95%	7.12849235	1	1
MiscIn2	Misc	Incandescent	Turnover	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0764	14	5,455	0.188	1,636	\$125,000	30%	95%	80%	9.246604651	1	1
MiscIn3	Misc	Incandescent	Turnover	Photocell dimming control	No prior dimming control	Photoce	\$0.0825	9	5,455	0.313	2,727	\$225,000	50%	95%	95%	4.752328233	1	1
GroceIn4	Grocery	Incandescent	Turnover	LED Lamp - 12 Watt	EISA - 60 Watt equivalent - 43W	Lamp	\$0.1329	5	250	0.021	181	\$23.99	72%	75%	50%	1,620,1348	2	0
HealthIn4	Healthcare	Incandescent	Turnover	LED Lamp - 12 Watt	EISA - 60 Watt equivalent - 43W	Lamp	\$0.1433	5	232	0.019	167	\$23.99	72%	75%	50%	1,501,8542	2	0
GroceIn5	Grocery	Incandescent	Turnover	LED Lamp PAR - 12 Watt	Halogen PAR - 45 W	Lamp	\$0.1908	5	262	0.021	181	\$34.45	69%	75%	90%	11,821,5806	1	0
HealthIn5	Healthcare	Incandescent	Turnover	LED Lamp PAR - 12 Watt	Halogen PAR - 45 W	Lamp	\$0.2058	5	243	0.019	167	\$34.45	69%	75%	90%	10,460,79216	1	0
InstInT1	Institutional	Incandescent	Turnover	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0355	5	140	0.010	84	\$3.00	60%	75%	50%	6,062,02117	1	0
InstIn4	Institutional	Incandescent	Turnover	LED Lamp - 12 Watt	EISA - 60 Watt equivalent - 43W	Lamp	\$0.2931	5	114	0.009	82	\$23.99	72%	75%	50%	0.73401776	0	0
InstInT5	Institutional	Incandescent	Turnover	LED Lamp PAR - 12 Watt	Halogen PAR - 45 W	Lamp	\$0.4209	5	119	0.009	82	\$34.45	69%	75%	90%	0.511416506	0	0
LogInIn1	Logging	Incandescent	Turnover	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0190	5	262	0.018	158	\$3.00	60%	75%	50%	11,345,9764	1	1
LogInIn4	Logging	Incandescent	Turnover	LED Lamp - 12 Watt	EISA - 60 Watt equivalent - 43W	Lamp	\$0.1566	5	212	0.018	153	\$23.99	72%	75%	50%	1,374,99688	1	1
LogInT5	Logging	Incandescent	Turnover	LED Lamp PAR - 12 Watt	Halogen PAR - 45 W	Lamp	\$0.2249	5	222	0.018	153	\$34.45	69%	75%	90%	0.957162483	0	0
OfficePt13	Office	Packaged DX	Turnover	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$3.39	15	727	0.004	33	\$110.89	5%	100%	95%	0.224865885	0	0
OfficePtN8	Office	Packaged DX	New	Automated control system	Baseline DX	unit	\$0.69	10	727	0.004	36	\$25.00	5%	100%	65%	0.67536892	0	0
OfficePtN19	Office	Packaged DX	New	PTAC (10.4 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.28	10	617	0.004	34	\$43.00	5%	100%	95%	0.363802298	0	0
RestInT1	Restaurant	Incandescent	Turnover	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0215	5	232	0.016	140	\$3.00	60%	75%	50%	10,900,0246	1	0
RestIn4	Restaurant	Incandescent	Turnover	LED Lamp - 12 Watt	EISA - 60 Watt equivalent - 43W	Lamp	\$0.1772	5	188	0.016	135	\$23.99	72%	75%	50%	1,251,01121	1	1
RestInT5	Restaurant	Incandescent	Turnover	LED Lamp PAR - 12 Watt	Halogen PAR - 45 W	Lamp	\$0.2544	5	197	0.016	135	\$34.45	69%	75%	90%	0.84611855	0	0
RestInT1	Retail	Incandescent	Turnover	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0223	5	223	0.015	135	\$3.00	60%	75%	50%	9,667,388358	1	0
RestIn4	Retail	Incandescent	Turnover	LED Lamp - 12 Watt	EISA - 60 Watt equivalent - 43W	Lamp	\$0.1838	5	181	0.015	131	\$23.99	72%	75%	50%	1,171,148287	1	1
RestInT5	Retail	Incandescent	Turnover	LED Lamp PAR - 12 Watt	Halogen PAR - 45 W	Lamp	\$0.2640	5	189	0.015	131	\$34.45	69%	75%	90%	0.815554352	0	0
miscIn1	misc	Incandescent	Turnover	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0220	5	226	0.016	136	\$3.00	60%	75%	50%	9,785,560348	1	0
miscIn4	misc	Incandescent	Turnover	LED Lamp - 12 Watt	EISA - 60 Watt equivalent - 43W	Lamp	\$0.1816	5	183	0.015	132	\$23.99	72%	75%	50%	1,185,4391	1	0
miscIn5	misc	Incandescent	Turnover	LED Lamp PAR - 12 Watt	Halogen PAR - 45 W	Lamp	\$0.2608	5	192	0.015	132	\$34.45	69%	75%	90%	0.825506633	0	0
WarehIn1	Warehouse	Incandescent	Turnover	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0240	5	207	0.014	125	\$3.00	60%	75%	50%	8,285,57993	1	0
WarehIn4	Warehouse	Incandescent	Turnover	LED Lamp - 12 Watt	EISA - 60 Watt equivalent - 43W	Lamp	\$0.1984	5	168	0.014	121	\$23.99	72%	75%	50%	1,084,91715	1	

Penn Power Commercial Measures

Measure ID	Measure Name	New Commercial Segment	New End Use	Vintage	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh)	Measure Life	Baseline kWh	PJM Summer Peak KWh Savings	Summer Peak KWh Savings	Change case kWh Savings	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC (\$/kW)	Economic Flag
GroceMo11	Grocery	Turnover	Turnover	Turnover	VFD on Cooling Tower (Average 50HP)	Constant power control	Motor	\$0.4915	15	9760	3.01	26449.5	\$13,000.00	27%	55.0%	80%	1.5820193	1	
GroceMo12	Grocery	Turnover	Turnover	Turnover	Motors Rewind 125-200 HP	(E) Motor	Motor	\$0.5097	15	292799	0.189	14771.4	\$750	0.5%	35.0%	95%	1.506524162	1	
GroceMo13	Grocery	Turnover	Turnover	Turnover	Motors Rewind 201-500 HP	(E) Motor	Motor	\$0.6274	15	634398	0.410	3187.9	\$2,000	0.5%	50.0%	95%	1.224058881	1	
GroceMo14	Grocery	Turnover	Turnover	Turnover	Motors Rewind 20-50 HP	(E) Motor	Motor	\$0.4704	15	59847	0.068	531.4	\$250	0.5%	10.0%	95%	1.632343838	1	
GroceMo15	Grocery	Turnover	Turnover	Turnover	Motors Rewind 500+ HP	(E) Motor	Motor	\$0.5437	15	1463995	0.946	7356.8	\$4,000	0.5%	20.0%	95%	1.412366402	1	
GroceMo16	Grocery	Turnover	Turnover	Turnover	Motors Rewind 51-100 HP	(E) Motor	Motor	\$0.5841	15	147991	0.110	856.0	\$500	0.6%	70.0%	95%	1.314650633	1	
GroceMo17	Grocery	Turnover	Turnover	Turnover	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	2.925124127	1	
GroceMo18	Grocery	Turnover	Turnover	Turnover	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.427196051	1	
GroceMo19	Grocery	Turnover	Turnover	Turnover	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.028977005	0	
GroceMo20	Grocery	Turnover	Turnover	Turnover	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. .35 HP PSC motor operating 2000 hours per year is	Motor	\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.588451679	1	
GroceMo21	Grocery	Turnover	Turnover	Turnover	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.589344322	0	
GroceMo22	Grocery	Turnover	Turnover	Turnover	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.427196051	1	
GroceMo23	Grocery	Turnover	Turnover	Turnover	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.028977005	0	
GroceMo24	Grocery	Turnover	Turnover	Turnover	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. .35 HP PSC motor operating 2000 hours per year is	Motor	\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.588451679	1	
GroceMo25	Grocery	Turnover	Turnover	Turnover	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.589344322	0	
GroceMo26	Grocery	Turnover	Turnover	Turnover	Air Comp Improvements	Air Comp Improvements	Motor	\$0.11	15	56148	1.148	8,928	\$990.00	16%	28%	65%	6.924957253	1	
GroceMo27	Grocery	Turnover	Turnover	Turnover	Motor Retrocommissioning	Motor Retrocommissioning	Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.145921749	1	
HealthMo1	Healthcare	Turnover	Turnover	Turnover	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$0.8576	15	19759	0.0282	179.2	\$154	0.91%	74.4%	100%	0.91116023	0	
HealthMo2	Healthcare	Turnover	Turnover	Turnover	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$0.9266	15	75700	0.0231	562.2	\$521	0.74%	74.4%	100%	0.78395945	0	
HealthMo3	Healthcare	Turnover	Turnover	Turnover	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$0.8325	15	18830	0.0138	827.3	\$689	0.45%	66.3%	100%	0.78395945	0	
HealthMo4	Healthcare	Turnover	Turnover	Turnover	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.3503	15	373646	0.0121	1458.0	\$511	0.39%	55.8%	100%	2.029265321	1	
HealthMo5	Healthcare	Turnover	Turnover	Turnover	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.2939	15	801855	0.0284	7335.1	\$2,156	0.91%	55.8%	100%	2.411494394	1	
HealthMo6	Healthcare	Turnover	Turnover	Turnover	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.4388	15	125352	3.225	25,070	\$11,000.00	20%	55.0%	100%	1.750208052	0	
HealthMo7	Healthcare	Turnover	Turnover	Turnover	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.3771	15	125352	3.941	34471.8	\$13,000.00	32%	70.0%	100%	2.018295805	1	
HealthMo8	Healthcare	Turnover	Turnover	Turnover	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.3231	15	125352	0.000	40238.0	\$13,000.00	2%	90.0%	80%	2.188260065	1	
HealthMo9	Healthcare	Turnover	Turnover	Turnover	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.4490	15	125352	3.941	28956.3	\$13,000.00	23%	70.0%	100%	1.718437385	1	
HealthMo10	Healthcare	Turnover	Turnover	Turnover	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.3758	15	125352	2.798	34597.2	\$13,000.00	28%	55.0%	100%	1.98345258	1	
HealthMo11	Healthcare	Turnover	Turnover	Turnover	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.4233	15	125352	3.941	30713.3	\$13,000.00	25%	30.0%	100%	1.813785519	1	
HealthMo12	Healthcare	Turnover	Turnover	Turnover	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$0.8576	15	19759	0.0282	179.2	\$154	0.91%	74.4%	100%	0.91116023	0	
HealthMo13	Healthcare	Turnover	Turnover	Turnover	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$0.9266	15	75700	0.0231	562.2	\$521	0.74%	74.4%	100%	0.78395945	0	
HealthMo14	Healthcare	Turnover	Turnover	Turnover	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$0.8325	15	18830	0.0138	827.3	\$689	0.45%	66.3%	100%	0.85868498	0	
HealthMo15	Healthcare	Turnover	Turnover	Turnover	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.3503	15	373646	0.0121	1458.0	\$511	0.39%	55.8%	100%	2.029265321	1	
HealthMo16	Healthcare	Turnover	Turnover	Turnover	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.2939	15	801855	0.0284	7335.1	\$2,156	0.91%	55.8%	100%	2.411494394	1	
HealthMo17	Healthcare	Turnover	Turnover	Turnover	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.4388	15	125352	3.225	25,070	\$11,000.00	20%	55.0%	100%	1.750208052	0	
HealthMo18	Healthcare	Turnover	Turnover	Turnover	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.3771	15	125352	3.941	34471.8	\$13,000.00	32%	90.0%	80%	2.018295805	1	
HealthMo19	Healthcare	Turnover	Turnover	Turnover	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.3231	15	125352	0.000	40238.0	\$13,000.00	2%	90.0%	80%	2.188260065	1	
HealthMo20	Healthcare	Turnover	Turnover	Turnover	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.4490	15	125352	3.941	28956.3	\$13,000.00	23%	90.0%	80%	1.718437385	1	
HealthMo21	Healthcare	Turnover	Turnover	Turnover	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.3758	15	125352	2.798	34597.2	\$13,000.00	28%	80.0%	80%	1.98345258	1	
HealthMo22	Healthcare	Turnover	Turnover	Turnover	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.4233	15	125352	3.941	30713.3	\$13,000.00	25%	55.0%	80%	1.813785519	1	
HealthMo23	Healthcare	Turnover	Turnover	Turnover	Motors Rewind 125-200 HP	(E) Motor	Motor	\$0.3969	15	376156	0.243	1889.7	\$750	0.35%	35.0%	100%	1.367954127	1	
HealthMo24	Healthcare	Turnover	Turnover	Turnover	Motors Rewind 201-500 HP	(E) Motor	Motor	\$0.4885	15	817488	0.527	4094.4	\$2,000	0.5%	50.0%	95%	1.572108991	1	
HealthMo25	Healthcare	Turnover	Turnover	Turnover	Motors Rewind 20-50 HP	(E) Motor	Motor	\$0.3663	15	76864	0.088	682.5	\$250	0.9%	10.0%	95%	2.096499797	1	
HealthMo26	Healthcare	Turnover	Turnover	Turnover	Motors Rewind 500+ HP	(E) Motor	Motor	\$0.4233	15	1880281	1.216	9448.6	\$4,000	0.5%	70.0%	95%	1.813971913	1	
HealthMo27	Healthcare	Turnover	Turnover	Turnover	Motors Rewind 51-100 HP	(E) Motor	Motor	\$0.4548	15	190972	0.141	1099.4	\$500	0.6%	20.0%	95%	1.688470726	1	
HealthMo28	Healthcare	Turnover	Turnover	Turnover	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	2.925124127	1	
HealthMo29	Healthcare	Turnover	Turnover	Turnover	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.427196051	1	
HealthMo30	Healthcare	Turnover	Turnover	Turnover	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.028977005	0	
HealthMo31	Healthcare	Turnover	Turnover	Turnover	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. .35 HP PSC motor operating 2000 hours per year is	Motor	\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.588451679	1	
HealthMo32	Healthcare	Turnover	Turnover	Turnover	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.589344322	0	
HealthMo33	Healthcare	Turnover	Turnover	Turnover	Air Comp Improvements	Air Comp Improvements	Motor	\$0.11	15	56148	1.148	8,928	\$990.00	16%	28%	65%	6.924957253	1	
HealthMo34	Healthcare	Turnover	Turnover	Turnover	Motor Retrocommissioning	Motor Retrocommissioning	Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.145921749	1	
InstMo1	Institutional	Turnover	Turnover	Turnover	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.2757	15	13284	0.0282	120.5	\$154	0.91%	74.4%	100%	0.641022950	0	
InstMo2	Institutional	Turnover	Turnover	Turnover	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.3783	15	50893	0.0231	377.9	\$521	0.74%	74.4%	100%	0.533927904	0	
InstMo3	Institutional	Turnover	Turnover	Turnover	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.2384	15	124933	0.0138	556.2	\$689	0.45%	66.3%	100%	0.580410847	0	
InstMo4	Institutional	Turnover	Turnover	Turnover	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.5211	15	231201	0.0121	980.2	\$511	0.39%	55.8%	100%	1.367954127	1	
InstMo5	Institutional	Turnover	Turnover	Turnover	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.4372	15	539086	0.0284	4931.3	\$2,156	0.91%	55.8%	100%	1.623288835	1	
InstMo6	Institutional	Turnover	Turnover	Turnover	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.6526	15	84274	2.168	16,855	\$11,000.00	20%	55.0%	100%	1.176661278	1	
InstMo7	Institutional	Turnover	Turnover	Turnover	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.5074	15	84274	6.136	25619.3	\$13,000.00	30%	70.0%	100%	1.616900385	1	
InstMo8	Institutional</																		

Penn Power Commercial Measures

ID	Category	New Commercial Segment	New End Use	Vintage	Measure Description	Positive Description	Unit	Total Cost (\$/kWh)		PJM Summer Peak KWh Savings	Summer Peak KWh Savings	Change case kWh Savings	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	IP (Per Cent)	Economic Flag
								Saved	Measure Life									
LodgMoN4	Lodging	Motors	New	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.4540	15	288334	0.021	1125.1	\$511	0.39%	55.8%	100%	1.56850475	1	
LodgMoN5	Lodging	Motors	New	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.3809	15	618773	0.0284	5660.3	\$2,156	0.91%	55.8%	100%	1.862330567	1	
LodgMoN6	Lodging	Motors	New	Variable Speed Drives on Process Equipment (1 hp – 100hp)	Constant speed control	Motor	\$0.5686	15	96731	2.489	19,346	\$11,000.00	20%	55.0%	100%	1.351095693	1	
LodgMoN7	Lodging	Motors	New	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.4477	15	96731	4.693	29035.5	\$13,000.00	30%	70.0%	100%	1.75002288	1	
LodgMoN8	Lodging	Motors	New	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4187	15	96731	0.000	31050.8	\$13,000.00	32%	80.0%	100%	1.688630456	1	
LodgMoN9	Lodging	Motors	New	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5087	15	96731	4.693	25553.2	\$13,000.00	26%	70.0%	100%	1.560683172	1	
LodgMoN10	Lodging	Motors	New	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.4616	15	96731	3.364	28164.9	\$13,000.00	29%	55.0%	100%	1.654296622	1	
LodgMoN11	Lodging	Motors	New	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5043	15	96731	4.693	25778.9	\$13,000.00	27%	30.0%	100%	1.572957744	1	
LodgMo11	Lodging	Motors	Turnover	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.1114	15	15247	0.0282	138.3	\$154	0.91%	74.4%	100%	0.722944826	0	
LodgMo12	Lodging	Motors	Turnover	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.2008	15	58416	0.0231	433.8	\$521	0.74%	74.4%	100%	0.609752741	0	
LodgMo13	Lodging	Motors	Turnover	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.0789	15	143401	0.0138	638.4	\$689	0.45%	66.3%	100%	0.664801628	0	
LodgMo14	Lodging	Motors	Turnover	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.4540	15	288334	0.021	1125.1	\$511	0.39%	55.8%	100%	1.56850475	1	
LodgMo15	Lodging	Motors	Turnover	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.3809	15	618773	0.0284	5660.3	\$2,156	0.91%	55.8%	100%	1.862330567	1	
LodgMo16	Lodging	Motors	Turnover	Variable Speed Drives on Process Equipment (1 hp – 100hp)	Constant speed control	Motor	\$0.5686	15	96731	2.489	19,346	\$11,000.00	20%	55.0%	80%	1.351095693	1	
LodgMo17	Lodging	Motors	Turnover	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.4477	15	96731	4.693	29035.5	\$13,000.00	30%	90.0%	80%	1.75002288	1	
LodgMo18	Lodging	Motors	Turnover	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4187	15	96731	0.000	31050.8	\$13,000.00	32%	90.0%	80%	1.688630456	1	
LodgMo19	Lodging	Motors	Turnover	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5087	15	96731	4.693	25553.2	\$13,000.00	26%	90.0%	80%	1.560683172	1	
LodgMoT10	Lodging	Motors	Turnover	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.4616	15	96731	3.364	28164.9	\$13,000.00	29%	80.0%	80%	1.654296622	1	
LodgMoT11	Lodging	Motors	Turnover	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5043	15	96731	4.693	25778.9	\$13,000.00	27%	55.0%	80%	1.572957744	1	
LodgMoT12	Lodging	Motors	Turnover	Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0.5143	15	290194	0.188	1458.3	\$750	0.5%	35.0%	95%	1.493120867	1	
LodgMoT13	Lodging	Motors	Turnover	Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0.6330	15	628754	0.406	3159.6	\$2,000	0.5%	50.0%	95%	1.213160704	1	
LodgMoT14	Lodging	Motors	Turnover	Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0.4747	15	29314	0.068	526.7	\$250	0.9%	10.0%	95%	1.617821146	1	
LodgMoT15	Lodging	Motors	Turnover	Motors: Rewind 500+ HP	(E) Motor	Motor	\$0.5486	15	1450970	0.938	7291.3	\$4,000	0.5%	70.0%	95%	1.390808113	1	
LodgMoT16	Lodging	Motors	Turnover	Motors: Rewind 51-100 HP	(E) Motor	Motor	\$0.5894	15	146674	0.109	848.4	\$500	0.6%	20.0%	95%	1.302954404	1	
LodgMoT17	Lodging	Motors	Turnover	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	2.925124127	1	
LodgMoT18	Lodging	Motors	New	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.472196051	1	
LodgMoN13	Lodging	Motors	New	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.028977005	0	
LodgMoN14	Lodging	Motors	New	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. .35 HP PSC motor operating 2000 hours per year is	Motor	\$0.21	15	3,194	0.120	935	\$200.09	18.00%	75%	95%	3.588451679	1	
LodgMoN15	Lodging	Motors	New	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.589344322	0	
LodgMoT18	Lodging	Motors	Turnover	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.472196051	1	
LodgMoT19	Lodging	Motors	Turnover	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.028977005	0	
LodgMoT20	Lodging	Motors	Turnover	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. .35 HP PSC motor operating 2000 hours per year is	Motor	\$0.21	15	3,194	0.120	935	\$200.09	18.00%	75%	95%	3.588451679	1	
LodgMoT21	Lodging	Motors	Turnover	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.589344322	0	
LodgMoT22	Lodging	Motors	Turnover	Air Comp Improvements	Motor Retrocommissioning	Motor	\$0.11	15	56148	1.148	8,928	\$990.00	16%	28%	65%	6.924957253	1	
LodgMoT2	Lodging	Motors	Early	Air Compressor Optimization	Motor Retrocommissioning	Motor	\$0.16	15	56148	2.174	16,901	\$2,750.00	30%	38%	65%	4.719423698	1	
InstMoT23	Institutional	Motors	Turnover	Motor Retrocommissioning	Motor Retrocommissioning	Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.145921749	1	
miscMoN1	misc	Motors	New	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.1114	15	15247	0.0282	138.3	\$154	0.91%	74.4%	100%	0.722944826	0	
miscMoN2	misc	Motors	New	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.2008	15	58416	0.0231	433.8	\$521	0.74%	74.4%	100%	0.609752741	0	
miscMoN3	misc	Motors	New	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.0789	15	143401	0.0138	638.4	\$689	0.45%	66.3%	100%	0.664801628	0	
miscMoN4	misc	Motors	New	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.4540	15	288334	0.021	1125.1	\$511	0.39%	55.8%	100%	1.56850475	1	
miscMoN5	misc	Motors	New	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.3809	15	618773	0.0284	5660.3	\$2,156	0.91%	55.8%	100%	1.862330567	1	
miscMoN6	misc	Motors	New	Variable Speed Drives on Process Equipment (1 hp – 100hp)	Constant speed control	Motor	\$0.5686	15	96731	2.489	19,346	\$11,000.00	20%	55.0%	100%	1.351095693	1	
miscMoN7	misc	Motors	New	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.4477	15	96731	4.693	29035.5	\$13,000.00	30%	70.0%	100%	1.75002288	1	
miscMoN8	misc	Motors	New	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4187	15	96731	0.000	31050.8	\$13,000.00	32%	80.0%	100%	1.688630456	1	
miscMoN9	misc	Motors	New	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5087	15	96731	4.693	25553.2	\$13,000.00	26%	70.0%	100%	1.560683172	1	
miscMoN10	misc	Motors	New	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.4616	15	96731	3.364	28164.9	\$13,000.00	29%	55.0%	100%	1.654296622	1	
miscMoN11	misc	Motors	New	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5043	15	96731	4.693	25778.9	\$13,000.00	27%	30.0%	100%	1.572957744	1	
miscMoT1	misc	Motors	Turnover	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.1114	15	15247	0.0282	138.3	\$154	0.91%	74.4%	100%	0.722944826	0	
miscMoT2	misc	Motors	Turnover	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.2008	15	58416	0.0231	433.8	\$521	0.74%	74.4%	100%	0.609752741	0	
miscMoT3	misc	Motors	Turnover	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.0789	15	143401	0.0138	638.4	\$689	0.45%	66.3%	100%	0.664801628	0	
miscMoT4	misc	Motors	Turnover	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.4540	15	288334	0.021	1125.1	\$511	0.39%	55.8%	100%	1.56850475	1	
miscMoT5	misc	Motors	Turnover	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.3809	15	618773	0.0284	5660.3	\$2,156	0.91%	55.8%	100%	1.862330567	1	
miscMoT6	misc	Motors	Turnover	Variable Speed Drives on Process Equipment (1 hp – 100hp)	Constant speed control	Motor	\$0.5686	15	96731	2.489	19,346	\$11,000.00	20%	55.0%	100%	1.351095693	1	
miscMoT7	misc	Motors	Turnover	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.4477	15	96731	4.693	29035.5	\$13,000.00	30%	90.0%	80%	1.75002288	1	
miscMoT8	misc	Motors	Turnover	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4187	15	96731	0.000	31050.8	\$13,000.00	32%	90.0%	80%	1.688630456	1	
miscMoT9	misc	Motors	Turnover	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5087	15	96731	4.693	25553.2	\$13,000.00	26%	90.0%	80%	1.560683172	1	
miscMoT10	misc	Motors	Turnover	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.4616	15	96731	3.364	28164.9	\$13,000.00	29%	80.0%	80%	1.654296622	1	
miscMoT11	misc	Motors	Turnover	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5043	15	96731	4.693	25778.9	\$13,000.00	27%	55.0%	80%	1.572957744	1	
miscMoT12	misc	Motors	Turnover	Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0.5143	15	290194	0.188	1458.3	\$750	0.5%	35.0%	95%	1.493120867	1	
miscMoT13	misc	Motors	Turnover	Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0.6330	15	628754	0.406	3159.6	\$2,000	0.5%	50.0%	95%	1.213160704	1	
miscMoT14	misc	Motors	Turnover	Motors: Rewind 20-5														

Penn Power Commercial Measures

ID	Measure	Commercial Segment	New End Use	Vintage	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh)	Measure Life	Baseline kWh	PJM Summer Peak KWh Savings	Summer Peak Change case kWh Savings	Customer	Savings %	Applicability	Percent	IR (yr)	Economic Flag
RestaMoT14	Motor	Restaurant	Turnover	Turnover	Motors: Rewind 20-50 HP	(E) Motor	\$0.4704	15	59847	0.040	2314	\$2350	50%	20%	95%	1.63249838	1	
RestaMoT15	Motor	Restaurant	Turnover	Turnover	Motors: Rewind 50+ HP	(E) Motor	\$0.5437	15	1463995	0.946	73568	\$4,000	0.57%	70.0%	95%	1.412366402	1	
RestaMoT16	Motor	Restaurant	Turnover	Turnover	Motors: Rewind 51-100 HP	(E) Motor	\$0.5841	15	147991	0.110	856.0	\$500	0.6%	20.0%	95%	1.314630633	1	
RestaMoT17	Motor	Restaurant	Turnover	Turnover	Downsizing motor during retrofit	Larger hp standard motor	\$0.34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	2.925124127	1	
RestaMoN12	Motor	Restaurant	New	Turnover	Demand Control Ventilation (DCV)	Base Standard Ventilation	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.472196051	1	
RestaMoN13	Motor	Restaurant	New	Turnover	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.028977005	0	
RestaMoN14	Motor	Restaurant	New	Turnover	Electrically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. .35 HP PSC motor operating 2000 hours per year is	\$0.21	15	3,194	0.120	935	\$200.09	18.00%	75%	95%	3.588451679	1	
RestaMoN15	Motor	Restaurant	New	Turnover	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.589344322	0	
RestaMoN18	Motor	Restaurant	Turnover	Turnover	Demand Control Ventilation (DCV)	Base Standard Ventilation	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.472196051	1	
RestaMoN19	Motor	Restaurant	Turnover	Turnover	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.028977005	0	
RestaMoT21	Motor	Restaurant	Turnover	Turnover	Electrically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. .35 HP PSC motor operating 2000 hours per year is	\$0.21	15	3,194	0.120	935	\$200.09	18.00%	75%	95%	3.588451679	1	
RestaMoT22	Motor	Restaurant	Turnover	Turnover	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.589344322	0	
RestaMoI22	Motor	Restaurant	Turnover	Turnover	Air Comp Improvements	Assumes 67% eff. .35 HP PSC motor operating 2000 hours per year is	\$0.11	15	56148	1.148	8,928	\$990.00	16%	28%	65%	6.924957253	1	
RestaMoI2	Motor	Restaurant	Early	Turnover	Air Compressor Optimization	Motor Retrocommissioning	\$0.16	15	56148	2.174	16,901	\$2,750.00	30%	38%	65%	4.719423698	1	
LodgMoT23	Motor	Lodging	Turnover	Turnover	Motor Retrocommissioning	Motor Retrocommissioning	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.145921749	1	
RestaMoN1	Motor	Restaurant	New	Turnover	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	\$1.1487	15	14753	0.0282	133.8	\$154	0.91%	74.4%	100%	0.702360615	0	
RestaMoN2	Motor	Restaurant	New	Turnover	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	\$1.2410	15	56520	0.0231	419.7	\$521	0.74%	74.4%	100%	0.590650058	0	
RestaMoN3	Motor	Restaurant	New	Turnover	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	\$1.1151	15	138748	0.0138	617.7	\$689	0.45%	66.3%	100%	0.643540911	0	
RestaMoN4	Motor	Restaurant	New	Turnover	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	\$0.4692	15	278979	0.0121	1088.6	\$511	0.39%	55.8%	100%	1.517979177	1	
RestaMoN5	Motor	Restaurant	New	Turnover	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	\$0.3937	15	598698	0.0284	5476.7	\$2,156	0.91%	55.8%	100%	1.802107644	1	
RestaMoN6	Motor	Restaurant	New	Turnover	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	\$0.3937	15	598698	0.0284	5476.7	\$2,156	0.91%	55.8%	100%	1.802107644	1	
RestaMoN7	Motor	Restaurant	New	Turnover	VFD on Chilled Water Pump (Average 50HP)	Constant power control	\$0.4524	15	93593	3.941	28733.0	\$13,000.00	31%	70.0%	100%	1.706203646	1	
RestaMoN8	Motor	Restaurant	New	Turnover	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	\$0.4327	15	93593	0.000	30043.3	\$13,000.00	32%	80.0%	100%	1.638434356	1	
RestaMoN9	Motor	Restaurant	New	Turnover	VFD on Condenser Water Pump (Average 50HP)	Constant power control	\$0.5107	15	93593	3.941	25457.3	\$13,000.00	27%	70.0%	100%	1.528058723	1	
RestaMoN10	Motor	Restaurant	New	Turnover	VFD on HVAC Fan (Average 50HP)	Constant power control	\$0.4708	15	93593	2.798	27609.9	\$13,000.00	30%	55.0%	100%	1.603461512	1	
RestaMoN11	Motor	Restaurant	New	Turnover	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	\$0.5107	15	93593	3.941	25457.3	\$13,000.00	27%	30.0%	100%	1.528058723	1	
RestaMoT1	Motor	Restaurant	Turnover	Turnover	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	\$1.1487	15	14753	0.0282	133.8	\$154	0.91%	74.4%	100%	0.702360615	0	
RestaMoT2	Motor	Restaurant	Turnover	Turnover	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	\$1.2410	15	56520	0.0231	419.7	\$521	0.74%	74.4%	100%	0.590650058	0	
RestaMoT3	Motor	Restaurant	Turnover	Turnover	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	\$1.1151	15	138748	0.0138	617.7	\$689	0.45%	66.3%	100%	0.643540911	0	
RestaMoT4	Motor	Restaurant	Turnover	Turnover	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	\$0.4692	15	278979	0.0121	1088.6	\$511	0.39%	55.8%	100%	1.517979177	1	
RestaMoT5	Motor	Restaurant	Turnover	Turnover	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	\$0.3937	15	598698	0.0284	5476.7	\$2,156	0.91%	55.8%	100%	1.802107644	1	
RestaMoT6	Motor	Restaurant	Turnover	Turnover	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	\$0.3937	15	598698	0.0284	5476.7	\$2,156	0.91%	55.8%	100%	1.802107644	1	
RestaMoT7	Motor	Restaurant	Turnover	Turnover	VFD on Chilled Water Pump (Average 50HP)	Constant power control	\$0.5877	15	93593	2.408	18,719	\$11,000.00	20%	55.0%	80%	1.306776092	1	
RestaMoT8	Motor	Restaurant	Turnover	Turnover	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	\$0.4524	15	93593	3.941	28733.0	\$13,000.00	31%	90.0%	80%	1.706203646	1	
RestaMoT9	Motor	Restaurant	Turnover	Turnover	VFD on Condenser Water Pump (Average 50HP)	Constant power control	\$0.4327	15	93593	0.000	30043.3	\$13,000.00	32%	90.0%	80%	1.638434356	1	
RestaMoT10	Motor	Restaurant	Turnover	Turnover	VFD on HVAC Fan (Average 50HP)	Constant power control	\$0.5107	15	93593	3.941	25457.3	\$13,000.00	27%	90.0%	80%	1.528058723	1	
RestaMoT11	Motor	Restaurant	Turnover	Turnover	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	\$0.4708	15	93593	2.798	27609.9	\$13,000.00	30%	80.0%	80%	1.603461512	1	
RestaMoT12	Motor	Restaurant	Turnover	Turnover	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	\$0.5107	15	93593	3.941	25457.3	\$13,000.00	27%	55.0%	80%	1.528058723	1	
RestaMoT13	Motor	Restaurant	Turnover	Turnover	Motors: Rewind 125-200 HP	(E) Motor	\$0.5316	15	280779	0.182	1410.9	\$750	0.5%	35.0%	95%	1.44467087	1	
RestaMoT14	Motor	Restaurant	Turnover	Turnover	Motors: Rewind 201-500 HP	(E) Motor	\$0.6542	15	608354	0.393	3057.1	\$2,000	0.5%	50.0%	95%	1.173801333	1	
RestaMoT15	Motor	Restaurant	Turnover	Turnover	Motors: Rewind 20-50 HP	(E) Motor	\$0.4966	15	57390	0.066	509.6	\$250	0.9%	10.0%	95%	1.56353151	1	
RestaMoT16	Motor	Restaurant	Turnover	Turnover	Motors: Rewind 50+ HP	(E) Motor	\$0.5670	15	140394	0.054	705.7	\$4,000.00	0.3%	70.0%	95%	1.355482876	1	
RestaMoT17	Motor	Restaurant	Turnover	Turnover	Motors: Rewind 51-100 HP	(E) Motor	\$0.6091	15	141915	0.106	820.8	\$500	0.6%	20.0%	95%	1.260685059	1	
RestaMoT18	Motor	Restaurant	Turnover	Turnover	Downsizing motor during retrofit	Larger hp standard motor	\$0.34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	2.925124127	1	
RestaMoN12	Motor	Restaurant	New	Turnover	Demand Control Ventilation (DCV)	Base Standard Ventilation	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.472196051	1	
RestaMoN13	Motor	Restaurant	New	Turnover	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.028977005	0	
RestaMoN14	Motor	Restaurant	New	Turnover	Electrically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. .35 HP PSC motor operating 2000 hours per year is	\$0.21	15	3,194	0.120	935	\$200.09	18.00%	75%	95%	3.588451679	1	
RestaMoN15	Motor	Restaurant	New	Turnover	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.589344322	0	
RestaMoN18	Motor	Restaurant	Turnover	Turnover	Demand Control Ventilation (DCV)	Base Standard Ventilation	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.472196051	1	
RestaMoN19	Motor	Restaurant	Turnover	Turnover	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.028977005	0	
RestaMoT21	Motor	Restaurant	Turnover	Turnover	Electrically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. .35 HP PSC motor operating 2000 hours per year is	\$0.21	15	3,194	0.120	935	\$200.09	18.00%	75%	95%	3.588451679	1	
RestaMoT22	Motor	Restaurant	Turnover	Turnover	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.589344322	0	
RestaMoI22	Motor	Restaurant	Early	Turnover	Air Compressor Improvements	Assumes 67% eff. .35 HP PSC motor operating 2000 hours per year is	\$0.11	15	56148	1.148	8,928	\$990.00	16%	28%	65%	6.924957253	1	
miscMoE1	Motor	misc	Early	Turnover	Motor Retrocommissioning	Motor Retrocommissioning	\$0.16	15	56148	2.174	16,901	\$2,750.00	30%	38%	65%	4.719423698	1	
WarehMoN1	Warehouse	Warehouse	New	Turnover	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	\$1.1114	15	15247	0.0282	138.3	\$154	0.91%	74.4%	100%	0.722944826	0	
WarehMoN2	Warehouse	Warehouse	New	Turnover	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	\$1.2008	15	58416	0.0231	433.8	\$521	0.74%	74.4%	100%	0.609752741	0	
WarehMoN3	Warehouse	Warehouse	New	Turnover	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	\$1.0789	15	143401	0.0138	638.4	\$689	0.45%	66.3%	100%	0.664801628	0	
WarehMoN4	Warehouse	Warehouse	New	Turnover	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	\$0.4540	15	288334	0.0121	1125.1	\$511	0.39%	55.8%	100%	1.56805475	1	
WarehMoN5	Warehouse	Warehouse	New	Turnover	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	\$0.3809	15	618773	0.0284	5660.3	\$2,156	0.91%	55.8%	100%	1.862320567	1	
WarehMoN6	Warehouse	Warehouse	New	Turnover	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	\$0.5686	15	96731	2.489	19,346	\$11,000.00	20%	55.0%	100%	1.351595693	1	
WarehMoN7	Warehouse	Warehouse	New	Turnover	VFD on Chilled Water Pump (Average 50HP)	Constant power control	\$0.4187	15	96731	4.693	2935.5	\$13,000.00	30%					

Penn Power Commercial Measures

ID	Measure	Type	Priority	Start Date	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh)	Measure Size	Life (years)	Baseline kWh	PJM Summer Peak KWh Savings	Summer Peak KWh Savings	Change case kWh Savings	Customer Cost (\$)	Savings %	Applicability	Percent	Incomplete	Q1-2017	Economic	Flag
GrocePa15	Grocery	Packaged DX	Early		Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$4.01	22	688	0.004	36	\$22,500	7%	95%	100%	45%	80%	0.30172907			
GrocePa16	Grocery	Packaged DX	Early		Automated control system	Baseline DX	ton	\$0.69	10	727	0.004	36	\$25,000	5%	100%	65%	100%	45%	80%	0.67532692		
GrocePa18	Grocery	Packaged DX	Early		Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	688	0.05	12	\$95,000	2%	45%	80%	45%	80%	0.32748911			
GrocePa19	Grocery	Packaged DX	Early		Hotel Keycard Sensors	No prior controls	Room Controlled	\$0.29	10	617	0.041	342	\$100,000	55%	95%	80%	80%	1.588911636	1			
GrocePa110	Grocery	Packaged DX	Early		DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	748	0.05	64	\$35,000	9%	100%	45%	100%	45%	0.089753801	0		
GrocePa11	Grocery	Packaged DX	Early		7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	688	0.015	125	\$55,000	18%	100%	45%	100%	45%	1.055895558	1		
GrocePa113	Grocery	Packaged DX	Early		Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.50	7	688	0.05	110	\$55,150	16%	95%	75%	100%	45%	0.774091925	0		
GrocePa11	Grocery	Packaged DX	Early		Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	688	0.05	64	\$87,000	9%	100%	95%	100%	95%	0.985247348	0		
GrocePa2	Grocery	Packaged DX	New		Adding reflective roof treatment	Std color roof	ton	\$4.50	20	688	0.05	10	\$45,000	1%	100%	95%	100%	95%	0.80668581	0		
GrocePa3	Grocery	Packaged DX	New		Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$2.73	20	688	0.05	46	\$125,000	7%	100%	95%	100%	95%	0.55291233	0		
GrocePa4	Grocery	Packaged DX	New		Green Roof (New construction or roof replacement)	Std Roof	ton	\$2.78	20	688	0.05	46	\$127,43	7%	45%	95%	100%	95%	0.542327607	0		
GrocePa5	Grocery	Packaged DX	New		Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	688	0.05	12	\$125,000	2%	100%	95%	100%	95%	0.305048568	0		
GrocePa6	Grocery	Packaged DX	New		<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.14	20	593	0.04	42	\$90,400	7%	100%	95%	100%	95%	0.705724004	0		
GrocePa7	Grocery	Packaged DX	New		<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.29	20	593	0.08	79	\$180,81	13%	100%	95%	100%	95%	0.658639308	0		
GrocePa8	Grocery	Packaged DX	New		<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.44	20	593	0.12	111	\$271,21	19%	100%	95%	100%	95%	0.617485735	0		
GrocePa9	Grocery	Packaged DX	New		65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.20	20	688	0.05	46	\$55,000	7%	100%	95%	100%	95%	1.256616438	1		
GrocePa10	Grocery	Packaged DX	New		135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.20	20	700	0.06	58	\$70,000	8%	100%	95%	100%	95%	1.256616438	1		
GrocePa11	Grocery	Packaged DX	New		240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$2.02	20	770	0.06	57	\$115,13	7%	100%	95%	100%	95%	0.747054755	0		
GrocePa12	Grocery	Packaged DX	New		>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$2.53	20	794	0.04	39	\$98,39	5%	100%	95%	100%	95%	0.596378318	0		
GrocePa13	Grocery	Packaged DX	New		Ground Source HP Open - Water	Air Source Heat Pump	ton	\$3.34	15	700	0.23	225	\$ 750.0	32%	20%	95%	100%	95%	0.359568798	0		
GrocePa14	Grocery	Packaged DX	New		Ground Source HP Closed	Air Source Heat Pump	ton	\$5.08	15	700	0.15	125	\$750.00	18%	100%	95%	100%	95%	0.428583639	0		
GrocePa15	Grocery	Packaged DX	New		Air-side Economizer	No Economizer	ton	\$1.65	15	688	0.012	103	\$170,00	15%	75%	45%	100%	45%	0.462273619	0		
GrocePa16	Grocery	Packaged DX	New		Energy Recovery Units	No Energy Recovery	ton	\$1.30	15	688	0.016	138	\$179,00	20%	100%	95%	100%	95%	0.585374416	0		
GrocePa17	Grocery	Packaged DX	New		Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$3.39	15	727	0.004	33	\$110,89	5%	100%	95%	100%	95%	0.224865885	0		
GrocePa21	Grocery	Packaged DX	Turnover		Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	688	0.05	12	\$125,000	2%	100%	95%	100%	95%	0.249089173	0		
GrocePa12	Grocery	Packaged DX	Turnover		<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.14	20	593	0.04	42	\$90,400	7%	100%	95%	100%	95%	0.705724004	0		
GrocePa13	Grocery	Packaged DX	Turnover		<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.29	20	593	0.08	79	\$180,81	13%	100%	95%	100%	95%	0.658639308	0		
GrocePa14	Grocery	Packaged DX	Turnover		<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.44	20	593	0.12	111	\$271,21	19%	100%	95%	100%	95%	0.617485735	0		
GrocePa15	Grocery	Packaged DX	Turnover		65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.20	20	688	0.05	46	\$55,000	7%	100%	95%	100%	95%	1.256616438	1		
GrocePa16	Grocery	Packaged DX	Turnover		135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.20	20	700	0.06	58	\$70,000	8%	100%	95%	100%	95%	1.256616438	1		
GrocePa18	Grocery	Packaged DX	Turnover		240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$2.02	20	770	0.06	57	\$115,13	7%	100%	95%	100%	95%	0.747054755	0		
GrocePa19	Grocery	Packaged DX	Turnover		>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$2.53	20	794	0.04	39	\$98,39	5%	100%	95%	100%	95%	0.596378318	0		
GrocePa10	Grocery	Packaged DX	Turnover		Ground Source HP Open - Water	Air Source Heat Pump	ton	\$3.34	15	700	0.23	225	\$ 750.0	32%	5%	95%	100%	95%	0.359568798	0		
GrocePa11	Grocery	Packaged DX	Turnover		Ground Source HP Closed	Air Source Heat Pump	ton	\$5.08	15	700	0.15	125	\$750.00	18%	100%	95%	100%	95%	0.428583639	0		
GrocePa12	Grocery	Packaged DX	Turnover		Air-side Economizer	No Economizer	ton	\$1.65	15	688	0.012	103	\$170,00	15%	75%	45%	100%	45%	0.462273619	0		
GrocePa13	Grocery	Packaged DX	Turnover		Energy Recovery Units	No Energy Recovery	ton	\$1.30	15	688	0.016	138	\$179,00	20%	100%	95%	100%	95%	0.585374416	0		
GrocePa13	Grocery	Packaged DX	Turnover		Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$3.39	15	727	0.004	33	\$110,89	5%	100%	95%	100%	95%	0.224865885	0		
GrocePa18	Grocery	Packaged DX	New		Automated control system	Baseline DX	ton	\$0.69	10	727	0.004	36	\$25,000	5%	100%	65%	100%	65%	0.675326892	0		
GrocePa19	Grocery	Packaged DX	New		PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.28	10	467	0.004	34	\$43,000	5%	100%	95%	100%	95%	0.363802298	0		
GrocePa15	Grocery	Packaged DX	Turnover		PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.28	10	467	0.004	34	\$43,000	5%	100%	95%	100%	95%	0.363802298	0		
InstPa12	Institutional	Packaged DX	Early		Wall Insulation Going to R-19	Existing insulation level = R2375	sq ft	\$31.3	20	612	0.05	64	\$200,000	12%	15%	9%	100%	95%	0.166171006	0		
InstPa2	Institutional	Packaged DX	Early		Adding window shade film	No shade film	sq ft window area	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	100%	95%	0.030776812	0		
InstPa3	Institutional	Packaged DX	Early		Adding window shade screen	No shade screen	sq ft window area	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	100%	95%	0.195291286	0		
InstPa4	Institutional	Packaged DX	Early		Windows U<0.40, 55 SHGC	Existing window specifications	sq ft window area	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	100%	95%	0.906343104	0		
InstPa5	Institutional	Packaged DX	Early		Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$6.59	20	512	0.05	34	\$225,000	7%	95%	95%	100%	95%	0.25929357	0		
InstPa7	Institutional	Packaged DX	Early		Automated control system	Baseline DX	ton	\$0.92	10	541	0.003	27	\$25,000	5%	100%	65%	100%	65%	0.50281348	0		
InstPa8	Institutional	Packaged DX	Early		Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	512	0.05	12	\$95,000	2%	45%	80%	45%	80%	0.32748911	0		
InstPa9	Institutional	Packaged DX	Early		Hotel Keycard Sensors	No prior controls	Room Controlled	\$0.29	10	460	0.041	342	\$100,000	74%	95%	80%	1.588911636	1				
InstPa10	Institutional	Packaged DX	Early		DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	557	0.05	64	\$35,000	11%	100%	45%	100%	45%	0.089753801	0		
InstPa11	Institutional	Packaged DX	Early		7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	512	0.015	125	\$55,000	24%	100%	45%	100%	45%	1.055895558	1		
InstPa13	Institutional	Packaged DX	Early		Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.67	7	512	0.05	82	\$55,150	16%	95%	75%	100%	45%	0.632312433	0		
InstPa1	Institutional	Packaged DX	New		Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	512	0.05	64	\$87,000	12%	100%	95%	100%	95%	0.985247348	0		
InstPa2	Institutional	Packaged DX	New		Adding reflective roof treatment	Std color roof	ton	\$4.50	20	512	0.05	10	\$45,000	2%	100%	95%	100%	95%	0.80668581	0		
InstPa3	Institutional	Packaged DX	New		Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$3.66	20	512	0.05	34	\$125,000	7%	100%	95%	100%	95%	0.467152842	0		
InstPa4	Institutional	Packaged DX	New		Green Roof (New construction or roof replacement)	Std Roof	ton	\$3.73	20	512	0.05	34	\$127,43	7%	45%	95%	100%	95%	0.458244568	0		
InstPa5	Institutional	Packaged DX	New		Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	512	0.05	12	\$125,000	2%	100%	95%	100%	95%	0.305048568	0		
InstPa6	Institutional	Packaged DX	New		<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)																

Penn Power Commercial Measures

ID	Measure	New Commercial Segment	New End Use	Vintage	Measure ID	Baseline Description	Unit	Total Cost (\$/kWh)		Measure Life	Baseline kWh	PJM Summer Peak KWh Savings	Summer Peak KWh Savings	Change case kWh Savings	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC (\$/kWh)	Economic Flag
								Fixed	Variable											
AlIRcT18	All	Refrigeration	Turnover	Turnover	Reach-in Freezer: Shaded Pole ECM: 1-14 Watt	sq ft	\$0.49	15	832	0.01	622	\$30.25	62%	0	75%	49%	1.0071706	1		
AlIRcT19	All	Refrigeration	Turnover	Turnover	Reach-in Shaded Pole to PSC: Evaporator Fan Motor	sq ft	\$0.55	15	832	0.051	386	\$212.50	46%	75%	49%	1.3922977	1			
AlIRcT18	All	Refrigeration	Turnover	Turnover	Reach-in PSC to ECM Evaporator Fan Motor	sq ft	\$0.49	15	832	0.025	185	\$91.25	40%	75%	49%	1.553936676	1			
AlIRcT20	All	Refrigeration	Turnover	Turnover	Reach-in Shaded Pole to ECM Evaporator Fan Motor	sq ft	\$0.54	15	837	0.076	571	\$306.25	69%	75%	49%	1.420973193	1			
AlIRcT21	All	Refrigeration	Turnover	Turnover	Walk-in Cooler: PSC to ECM: 16-49 Watt	sq ft	\$0.35	15	711	0.034	258	\$91.25	36%	75%	49%	2.167111689	1			
AlIRcT22	All	Refrigeration	Turnover	Turnover	Walk-in Freezer: PSC to ECM: 16-49 Watt	sq ft	\$0.30	15	711	0.041	309	\$91.25	43%	75%	49%	2.595494252	1			
AlIRcT23	All	Refrigeration	Turnover	Turnover	Walk-in Cooler: Shaded Pole to ECM: 16-49 Watt	sq ft	\$0.44	15	1,175	0.093	704	\$306.25	60%	75%	49%	1.761939629	1			
AlIRcT24	All	Refrigeration	Turnover	Turnover	Walk-in Freezer: Shaded Pole to ECM: 16-49 Watt	sq ft	\$0.36	15	1,175	0.112	842	\$306.25	72%	75%	49%	2.10731984	1			
AlIRcT25	All	Refrigeration	Turnover	Turnover	Walk-in PSC to ECM	sq ft	\$0.32	15	711	0.038	283	\$91.25	40%	75%	49%	2.377103132	1			
AlIRcT26	All	Refrigeration	Turnover	Turnover	Walk-in Shaded Pole to ECM	sq ft	\$0.40	15	1,175	0.103	773	\$306.25	66%	75%	49%	1.934629734	1			
GrocceRcN1	All	Refrigeration	New	New	Demand Defrost Electric	ton	\$0.91	15	4	0.000	0	\$0.05	1%	95%	92%	0.84388211	0			
GrocceRcN1	All	Refrigeration	Turnover	Turnover	Demand Defrost Electric	ton	\$0.91	15	4	0.000	0	\$0.05	1%	95%	92%	0.84388211	0			
GrocceRcN3	All	Refrigeration	New	New	Demand Hot Gas Defrost	ton	\$0.35	15	4	0.000	0	\$0.05	3%	95%	92%	2.1635691	0			
GrocceRcN3	All	Refrigeration	Turnover	Turnover	Demand Hot Gas Defrost	ton	\$0.35	15	4	0.000	0	\$0.05	3%	95%	92%	2.1635691	0			
GrocceRcN4	All	Refrigeration	New	New	Efficient compressor motor - scroll	ton	\$0.09	15	15,825	0.084	633	\$60.00	4%	95%	92%	8.086245481	1			
GrocceRcN4	All	Refrigeration	Turnover	Turnover	Efficient compressor motor - scroll	ton	\$0.09	15	15,825	0.084	633	\$60.00	4%	95%	92%	8.086245481	1			
GrocceRcN6	All	Refrigeration	New	New	High R-Value Glass Doors	Door	\$0.67	10	3,986	0.106	797	\$57.50	20.00%	95%	92%	0.6939468	0			
GrocceRcN6	All	Refrigeration	Turnover	Turnover	High R-Value Glass Doors	Door	\$0.67	10	3,986	0.106	797	\$57.50	20.00%	95%	92%	0.6939468	0			
GrocceRcN7	All	Refrigeration	New	New	Refrigeration Commissioning	Per refrigerator	\$0.31	7	8,800	0.187	1,408	\$440.00	16%	95%	92%	0.993726003	0			
GrocceRcN7	All	Refrigeration	Turnover	Turnover	Refrigeration Commissioning	Per refrigerator	\$0.31	7	8,800	0.187	1,408	\$440.00	16%	95%	92%	0.993726003	0			
RestaPa1	Restaurant	Packaged DX	Early	Early	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3.13	20	737	0.05	64	\$20.00	9%	15%	9%	0.428582596	0		
RestaPa2	Restaurant	Packaged DX	Early	Early	Adding window shade film	No shade film	sq ft window area	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.030776812	0		
RestaPa3	Restaurant	Packaged DX	Early	Early	Adding window shade screen	No shade screen	sq ft window area	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.195291286	0		
RestaPa4	Restaurant	Packaged DX	Early	Early	Windows U<0.40, 55 SHGC	Existing window specifications	sq ft window area	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	0.906343104	0		
RestaPa5	Restaurant	Packaged DX	Early	Early	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$4.58	20	737	0.05	49	\$225.00	7%	95%	95%	0.320536342	0		
RestaPa7	Restaurant	Packaged DX	Early	Early	Automated control system	Baseline DX	ton	\$0.64	10	779	0.005	39	\$25.00	5%	100%	65%	0.7237148	0		
RestaPa8	Restaurant	Packaged DX	Early	Early	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	737	0.05	12	\$95.00	2%	45%	80%	0.327748911	0		
RestaPa9	Restaurant	Packaged DX	Early	Early	Hotel Keycard Sensors	No prior controls	Room Controlled	\$0.29	10	662	0.041	342	\$100.00	52%	95%	80%	1.588911636	1		
RestaPa10	Restaurant	Packaged DX	Early	Early	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	802	0.05	64	\$35.00	8%	100%	45%	0.089753801	0		
RestaPa11	Restaurant	Packaged DX	Early	Early	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	737	0.015	125	\$55.00	17%	100%	45%	1.05895558	1		
RestaPa13	Restaurant	Packaged DX	Early	Early	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.47	7	737	0.05	118	\$55.15	16%	95%	75%	0.813859343	0		
RestaPa13	Restaurant	Packaged DX	Early	Early	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	737	0.05	64	\$87.00	9%	100%	95%	0.985247348	0		
RestaPa2	Restaurant	Packaged DX	New	New	Adding reflective roof treatment	Sid color roof	ton	\$4.50	20	737	0.05	10	\$45.00	1%	100%	95%	0.80668581	0		
RestaPa3	Restaurant	Packaged DX	New	New	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$2.54	20	737	0.05	49	\$125.00	7%	100%	95%	0.576965415	0		
RestaPa4	Restaurant	Packaged DX	New	New	Green Roof (New construction or roof replacement)	Sid Roof	ton	\$2.59	20	737	0.05	49	\$127.43	7%	45%	95%	0.565963093	0		
RestaPa5	Restaurant	Packaged DX	New	New	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	737	0.05	12	\$125.00	2%	100%	95%	0.305048568	0		
RestaPa6	Restaurant	Packaged DX	New	New	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.99	20	635	0.04	45	\$90.40	7%	100%	95%	0.736426245	0		
RestaPa7	Restaurant	Packaged DX	New	New	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.14	20	635	0.08	85	\$180.81	13%	100%	95%	0.687293148	0		
RestaPa8	Restaurant	Packaged DX	New	New	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.28	20	635	0.12	119	\$271.21	19%	100%	95%	0.644349205	0		
RestaPa9	Restaurant	Packaged DX	New	New	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.12	20	737	0.05	49	\$55.00	7%	100%	95%	1.311285035	1		
RestaPa10	Restaurant	Packaged DX	New	New	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.12	20	737	0.06	63	\$70.00	8%	100%	95%	1.311285035	1		
RestaPa11	Restaurant	Packaged DX	New	New	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.88	20	826	0.06	61	\$115.13	7%	100%	95%	0.779555075	0		
RestaPa12	Restaurant	Packaged DX	New	New	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$3.16	20	737	0.05	42	\$98.39	5%	100%	95%	0.380961929	0		
RestaPa13	Restaurant	Packaged DX	New	New	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$3.11	15	751	0.23	241	\$ 750.00	32%	20%	95%	0.374712709	0		
RestaPa14	Restaurant	Packaged DX	New	New	Ground Source HP Closed	Air Source Heat Pump	ton	\$5.58	15	751	0.016	134	\$750.00	18%	100%	95%	0.136515103	0		
RestaPa15	Restaurant	Packaged DX	New	New	Air-side Economizer	No Economizer	ton	\$1.54	15	737	0.013	111	\$170.00	15%	75%	45%	0.495396028	0		
RestaPa16	Restaurant	Packaged DX	New	New	Energy Recovery Units	No Energy Recovery	ton	\$1.21	15	737	0.018	147	\$179.00	20%	100%	95%	0.627317131	0		
RestaPa17	Restaurant	Packaged DX	New	New	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$3.16	15	779	0.004	35	\$110.89	5%	100%	95%	0.240977771	0		
RestaPaT1	Restaurant	Packaged DX	Turnover	Turnover	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	737	0.05	12	\$125.00	2%	100%	95%	0.240989173	0		
RestaPaT2	Restaurant	Packaged DX	Turnover	Turnover	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.99	20	635	0.04	45	\$90.40	7%	100%	95%	0.736426245	0		
RestaPaT3	Restaurant	Packaged DX	Turnover	Turnover	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.14	20	635	0.08	85	\$180.81	13%	100%	95%	0.687293148	0		
RestaPaT4	Restaurant	Packaged DX	Turnover	Turnover	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.28	20	635	0.12	119	\$271.21	19%	100%	95%	0.644349205	0		
RestaPaT5	Restaurant	Packaged DX	Turnover	Turnover	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.12	20	737	0.05	49	\$55.00	7%	100%	95%	1.311285035	1		
RestaPaT6	Restaurant	Packaged DX	Turnover	Turnover	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.12	20	737	0.06	63	\$70.00	8%	100%	95%	1.311285035	1		
RestaPaT7	Restaurant	Packaged DX	Turnover	Turnover	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.88	20	826	0.06	61	\$115.13	7%	100%	95%	0.779555075	0		
RestaPaT8	Restaurant	Packaged DX	Turnover	Turnover	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$2.36	20	851	0.04	42	\$98.39	5%	100%	95%	0.622323518	0		
RestaPaT9	Restaurant	Packaged DX	Turnover	Turnover	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$3.11	15	751	0.23	241	\$ 750.00	32%	5%	95%	0.374712709	0		
RestaPaT10	Restaurant	Packaged DX	Turnover	Turnover	Ground Source HP Closed	Air Source Heat Pump	ton	\$5.58	15	751	0.016	134	\$750.00	18%	100%	95%	0.136515103	0		
RestaPaT11	Restaurant	Packaged DX	Turnover	Turnover	Air-side Economizer	No Economizer	ton	\$1.54	15	737	0.013	111	\$170.00	15%	75%	45%	0.495396028	0		
RestaPaT12	Restaurant	Packaged DX	Turnover	Turnover	Energy Recovery Units	No Energy Recovery	ton	\$1.21	15	737	0.018	147	\$179.00	20%	100%	95%	0.627317131	0		
RestaPaT13	Restaurant	Packaged DX	Turnover	Turnover	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$3.16	15	779	0.004	35	\$110.89	5%	100%	95%	0.240977771	0		
RestaPaN8	Restaurant	Packaged DX	New	New	Automated control system	Baseline DX	ton	\$0.64	10	779	0.005	39	\$25.00	5%	100%	65%	0.7237148	0		
RestaPaN9	Restaurant	Packaged DX	New	New	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$3.19	10	662	0.004	36	\$43.00	3%	100%	95%	0.380961929	0		
RestaPa15	Restaurant	Packaged DX	Early	Early	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$3.19	10	662	0.004	36	\$43.00	3%	100%	95%	0.380961929	0		
RestaPa1	Retail	Packaged DX	Early	Early</																

Penn Power Commercial Measures

Measure ID	New Commercial	Segment	Packaged	DX	Turnover	Early	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh)	Measure Life	Baseline kWh	PJM Summer Peak KWh Savings	Summer Peak KWh Savings	Change case kWh Savings	Customer Cost (\$)	Savings %	Applicability	Percent	Incomplete	TRC (\$)	Economic	Flag
RetaiPaT10			Packaged	DX	Turnover	Early	Ground Source HP Closed	Ground Source HP Closed	ton	\$5,700	15	735	0.013	132	\$750.00	18%	100%	95%	0	0.1371719	0		
RetaiPaT11		Retail	Packaged	DX	Turnover	Early	Air-side Economizer	Air Source Heat Pump	ton	\$1,57	15	722	0.013	108	\$170.00	15%	75%	45%	0	0.48531529	0		
RetaiPaT12		Retail	Packaged	DX	Turnover	Early	Energy Recovery Units	No Energy Recovery	ton	\$1,24	15	722	0.017	144	\$179.00	20%	100%	95%	0	0.61455195	0		
RetaiPaT13		Retail	Packaged	DX	Turnover	Early	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$3,23	15	763	0.004	34	\$110.89	5%	100%	95%	0	0.236074153	0		
RetaiPaN18		Retail	Packaged	DX	New	Early	Automated control system	Baseline DX	ton	\$0,66	10	763	0.005	38	\$25.00	5%	100%	65%	0	0.70898046	0		
RetaiPaN19		Retail	Packaged	DX	New	Early	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1,22	10	648	0.004	35	\$43.00	5%	100%	95%	0	0.381935746	0		
RetaiPaT15		Retail	Packaged	DX	Turnover	Early	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1,22	10	648	0.004	35	\$43.00	5%	100%	95%	0	0.381935746	0		
WarehPa15		Warehouse	Packaged	DX	Early	Early	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3,13	20	571	0.05	64	\$200.00	11%	15%	9%	0	0.428582596	0		
WarehPa12		Warehouse	Packaged	DX	Early	Early	Adding window shade film	No shade film	sq ft window area	\$7,05	5	7,58	0.000	0,38	\$2,67	5%	50%	95%	0	0.030776812	0		
WarehPa13		Warehouse	Packaged	DX	Early	Early	Adding window shade screen	No shade screen	sq ft window area	\$3,90	15	1,54	0.000	0,38	\$1,50	25%	70%	95%	0	0.195291286	0		
WarehPa14		Warehouse	Packaged	DX	Early	Early	Windows 1.0:0.40, 55 SHGC	Existing window specifications	sq ft window area	\$1,40	30	2	0.000	0	\$0,28	15%	50%	95%	0	0.906343104	0		
WarehPa15		Warehouse	Packaged	DX	Early	Early	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$5,91	20	571	0.05	38	\$225.00	7%	95%	95%	0	0.27550377	0		
WarehPa17		Warehouse	Packaged	DX	Early	Early	Automated control system	Baseline DX	ton	\$0,83	10	603	0.004	30	\$25.00	5%	100%	65%	0	0.560668588	0		
WarehPa18		Warehouse	Packaged	DX	Early	Early	Duct Sealing, down to 15%	Leakage of 20%	ton	\$7,02	15	571	0.05	12	\$95.00	2%	45%	80%	0	0.327748911	0		
WarehPa19		Warehouse	Packaged	DX	Early	Early	Hotel Keycard Sensors	No prior controls	Room Controlled	\$0,29	10	513	0.041	342	\$100.00	67%	95%	80%	0	1.588911636	1		
WarehPa10		Warehouse	Packaged	DX	Early	Early	DX Coil Cleaning	DX Coil Cleaning	ton	\$0,55	1	621	0.05	64	\$35.00	10%	100%	45%	0	0.089753801	0		
WarehPaE11		Warehouse	Packaged	DX	Early	Early	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0,44	10	571	0.015	125	\$55.00	22%	100%	45%	0	1.05895558	1		
WarehPa13		Warehouse	Packaged	DX	Early	Early	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0,60	7	571	0.05	91	\$55.15	16%	95%	75%	0	0.679860434	0		
WarehPaN1		Warehouse	Packaged	DX	New	Early	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1,36	20	571	0.05	64	\$87.00	11%	100%	95%	0	0.985247348	0		
WarehPaN2		Warehouse	Packaged	DX	New	Early	Adding reflective roof treatment	Sd color roof	ton	\$4,50	20	571	0.05	10	\$45.00	2%	100%	95%	0	0.86665581	0		
WarehPaN3		Warehouse	Packaged	DX	New	Early	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$3,28	20	571	0.05	38	\$120.00	7%	100%	95%	0	0.495913278	0		
WarehPaN4		Warehouse	Packaged	DX	New	Early	Green Roof (New construction or roof replacement)	Sd Roof	ton	\$3,35	20	571	0.05	38	\$127.43	7%	45%	95%	0	0.484545651	0		
WarehPaN5		Warehouse	Packaged	DX	New	Early	Duct Insulation, Add R8	No Insulation	ton	\$10,42	20	571	0.05	12	\$125.00	2%	100%	95%	0	0.305408568	0		
WarehPaN6		Warehouse	Packaged	DX	New	Early	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$2,57	20	492	0.04	35	\$90.40	7%	100%	95%	0	0.632973041	0		
WarehPaN7		Warehouse	Packaged	DX	New	Early	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$2,76	20	492	0.08	66	\$180.81	13%	100%	95%	0	0.590742164	0		
WarehPaN8		Warehouse	Packaged	DX	New	Early	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$2,94	20	492	0.12	92	\$271.21	19%	100%	95%	0	0.553830989	0		
WarehPaN9		Warehouse	Packaged	DX	New	Early	65-135k, AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1,44	20	571	0.05	38	\$55.00	7%	100%	95%	0	1.127075632	1		
WarehPa10		Warehouse	Packaged	DX	New	Early	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1,44	20	581	0.06	48	\$70.00	8%	100%	95%	0	1.127075632	1		
WarehPaN11		Warehouse	Packaged	DX	New	Early	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$2,43	20	640	0.06	47	\$115.13	7%	100%	95%	0	0.67004313	0		
WarehPaN12		Warehouse	Packaged	DX	New	Early	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$3,04	20	659	0.04	32	\$98.39	5%	100%	95%	0	0.534899472	0		
WarehPaN13		Warehouse	Packaged	DX	New	Early	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$4,02	15	581	0.23	187	\$ 750.00	32%	20%	95%	0	0.323684313	0		
WarehPaN14		Warehouse	Packaged	DX	Turnover	Early	Ground Source HP Closed	Air Source Heat Pump	ton	\$7,20	15	581	0.012	104	\$750.00	18%	100%	95%	0	0.10575952	0		
WarehPaN15		Warehouse	Packaged	DX	New	Early	Air-side Economizer	No Economizer	ton	\$1,98	15	571	0.010	86	\$170.00	15%	75%	45%	0	0.383787911	0		
WarehPaN16		Warehouse	Packaged	DX	New	Early	Energy Recovery Units	No Energy Recovery	ton	\$1,57	15	571	0.014	114	\$179.00	20%	100%	95%	0	0.485988417	0		
WarehPaN17		Warehouse	Packaged	DX	New	Early	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$4,08	15	603	0.003	27	\$110.89	5%	100%	95%	0	0.186687721	0		
WarehPaT1		Warehouse	Packaged	DX	Turnover	Early	Duct Insulation, Add R8	No Insulation	ton	\$10,42	15	571	0.05	12	\$125.00	2%	100%	95%	0	0.249089173	0		
WarehPaT2		Warehouse	Packaged	DX	Turnover	Early	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$2,57	20	492	0.04	35	\$90.40	7%	100%	95%	0	0.632973041	0		
WarehPaT3		Warehouse	Packaged	DX	Turnover	Early	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$2,76	20	492	0.08	66	\$180.81	13%	100%	95%	0	0.590742164	0		
WarehPaT4		Warehouse	Packaged	DX	Turnover	Early	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$2,94	20	492	0.12	92	\$271.21	19%	100%	95%	0	0.553830989	0		
WarehPaT5		Warehouse	Packaged	DX	Turnover	Early	65-135k, AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1,44	20	571	0.05	38	\$55.00	7%	100%	95%	0	1.127075632	1		
WarehPaT6		Warehouse	Packaged	DX	Turnover	Early	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1,44	20	581	0.06	48	\$70.00	8%	100%	95%	0	1.127075632	1		
WarehPaT7		Warehouse	Packaged	DX	Turnover	Early	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$2,43	20	640	0.06	47	\$115.13	7%	100%	95%	0	0.67004313	0		
WarehPaT8		Warehouse	Packaged	DX	Turnover	Early	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$3,04	20	659	0.04	32	\$98.39	5%	100%	95%	0	0.534899472	0		
WarehPaT9		Warehouse	Packaged	DX	Turnover	Early	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$4,02	15	581	0.23	187	\$ 750.00	32%	5%	95%	0	0.323684313	0		
WarehPaT10		Warehouse	Packaged	DX	Turnover	Early	Ground Source HP Closed	Air Source Heat Pump	ton	\$7,20	15	581	0.012	104	\$750.00	18%	100%	95%	0	0.10575952	0		
WarehPaT11		Warehouse	Packaged	DX	Turnover	Early	Air-side Economizer	No Economizer	ton	\$1,98	15	571	0.010	86	\$170.00	15%	75%	45%	0	0.383787911	0		
WarehPaT12		Warehouse	Packaged	DX	Turnover	Early	Energy Recovery Units	No Energy Recovery	ton	\$1,57	15	571	0.014	114	\$179.00	20%	100%	95%	0	0.485988417	0		
WarehPaT13		Warehouse	Packaged	DX	Turnover	Early	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$4,08	15	603	0.003	27	\$110.89	5%	100%	95%	0	0.186687721	0		
WarehPaN18		Warehouse	Packaged	DX	New	Early	Automated control system	Baseline DX	ton	\$0,83	10	603	0.004	30	\$25.00	5%	100%	65%	0	0.560668588	0		
WarehPaN19		Warehouse	Packaged	DX	New	Early	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1,54	10	513	0.003	28	\$43.00	5%	100%	95%	0	0.30235241	0		
WarehPaT14		Warehouse	Packaged	DX	Turnover	Early	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1,54	10	513	0.003	28	\$43.00	5%	100%	95%	0	0.30235241	0		
HealthE14		Healthcare	Heating	Turnover	Early	Early	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$5,82	15	314	0.000	19	\$110.89	6%	100%	95%	0	0.12260469	0		
HealthE11		Healthcare	Heating	Turnover	Early	Early	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$5,82	15	314	0.000	19	\$110.89	6%	100%	95%	0	0.12260469	0		
GroceHe11		Grocery	Heating	Early	Early	Early	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0,2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	0	1.034942818	1		
GroceHe12		Grocery	Heating	Early	Early	Early	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$4,44	20	1,353	0.05	45	\$200.00	3%	10%	95%	0	0.342229633	0		

Penn Power Commercial Measures

ID	New Commercial Segment	New End Use	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh)	Measure Life	Baseline kWh	PJM Summer Peak KWh Savings	Change case kWh Savings	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	Economic Flag	
																(\$/kWh)
AIS121	All	Signage	LED exit sign - 1 sided	Incandescent exit sign	Exit Sign	\$0.145	15	175	0.024	158	\$21.50	30%	65%	70%	1	
AIS123	All	Signage	LED exit sign - 2 sided	Incandescent exit sign	Exit Sign	\$0.16	15	350	0.048	228	\$37.50	65%	70%	481174055	1	
AIS124	All	Signage	Photoluminescent Exit Sign	Incandescent exit sign	Exit Sign	\$0.17	15	175	0.011	175	\$30.00	100%	50%	70%	421642742	1
AIS125	All	Signage	LED or equivalent sign lighting - 1 sided	Replace fluorescent sign lighting	Exit Sign	\$0.28	15	79	0.009	61	\$17.36	78%	48%	7%	2691320344	1
Resta1E1	Restaurant	Heating	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0.2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1,034942818	1
Resta1E2	Restaurant	Heating	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$4.44	20	1,317	0.05	45	\$200.00	3%	10%	95%	0.342229633	0
Resta1E3	Restaurant	Heating	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.67	20	1,317	0.05	75	\$125.00	6%	10%	95%	0.767813348	0
Resta1E4	Restaurant	Heating	Green Roof (New construction or roof replacement)	Sid Roof	sq ft	\$3.75	20	1,317	0.05	34	\$127.43	3%	10%	95%	0.457908822	0
Resta1E5	Restaurant	Heating	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0.1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	2.26466625	1
Resta1E1	Restaurant	Heating	New Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	1,317	0.05	45	\$87.00	3%	10%	95%	0.786734788	0
Resta1E2	Restaurant	Heating	Ground Source HP Open - Water	Ground Source HP Open - Water	ton	\$9.40	15	1,317	0.23	80	\$ 750.0	0%	20%	95%	0.223445545	0
Resta1E3	Restaurant	Heating	Ground Source HP Closed	Air Source Heat Pump	ton	\$9.40	15	1,317	0.001	80	\$750.00	6%	100%	95%	0.07597849	0
Resta1E4	Restaurant	Heating	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.39	15	1,317	0.001	80	\$110.89	6%	100%	95%	0.513877421	0
Resta1E5	Restaurant	Heating	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.39	15	1,317	0.001	80	\$110.89	6%	100%	95%	0.513877421	0
Resta1E1	Retail	Heating	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0.2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1,034942818	1
Resta1E2	Retail	Heating	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$4.44	20	1,353	0.05	45	\$200.00	3%	10%	95%	0.342229633	0
Resta1E3	Retail	Heating	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.67	20	1,353	0.05	75	\$125.00	6%	10%	95%	0.767813348	0
Resta1E4	Retail	Heating	Green Roof (New construction or roof replacement)	Sid Roof	sq ft	\$3.75	20	1,353	0.05	34	\$127.43	3%	10%	95%	0.457908822	0
Resta1E5	Retail	Heating	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0.1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	2.26466625	1
Resta1E1	Retail	Heating	New Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	1,353	0.05	45	\$87.00	3%	10%	95%	0.786734788	0
Resta1E2	Retail	Heating	Ground Source HP Open - Water	Ground Source HP Open - Water	ton	\$9.14	15	1,353	0.23	82	\$ 750.0	0%	20%	95%	0.223519162	0
Resta1E3	Retail	Heating	Ground Source HP Closed	Air Source Heat Pump	ton	\$9.14	15	1,353	0.001	82	\$750.00	6%	100%	95%	0.078072443	0
Resta1E4	Retail	Heating	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.35	15	1,353	0.001	82	\$110.89	6%	100%	95%	0.528041139	0
Resta1E5	Retail	Heating	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.35	15	1,353	0.001	82	\$110.89	6%	100%	95%	0.528041139	0
Wareh1E1	Warehouse	Heating	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0.2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1,034942818	1
Wareh1E2	Warehouse	Heating	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$4.44	20	1,163	0.05	45	\$200.00	4%	10%	95%	0.342229633	0
Wareh1E3	Warehouse	Heating	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.67	20	1,163	0.05	75	\$125.00	6%	10%	95%	0.767813348	0
Wareh1E4	Warehouse	Heating	Green Roof (New construction or roof replacement)	Sid Roof	sq ft	\$3.75	20	1,163	0.05	34	\$127.43	3%	10%	95%	0.457908822	0
Wareh1E5	Warehouse	Heating	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0.1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	2.26466625	1
Wareh1E1	Warehouse	Heating	New Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	1,163	0.05	45	\$87.00	4%	10%	95%	0.786734788	0
Wareh1E2	Warehouse	Heating	Ground Source HP Open - Water	Ground Source HP Open - Water	ton	\$10.64	15	1,163	0.23	70	\$ 750.0	0%	20%	95%	0.214632713	0
Wareh1E3	Warehouse	Heating	Ground Source HP Closed	Air Source Heat Pump	ton	\$10.64	15	1,163	0.001	70	\$750.00	6%	100%	95%	0.067708339	0
Wareh1E4	Warehouse	Heating	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.57	15	1,163	0.001	70	\$110.89	6%	100%	95%	0.453681616	0
Wareh1E5	Warehouse	Heating	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.57	15	1,163	0.001	70	\$110.89	6%	100%	95%	0.453681616	0
Groce1Ch1	Grocery	Chiller	Duct Sealing, down to 15%	Leakage of 29%	ton	\$2.0251	15	4,691	0.009	46,9104	\$95.00	1%	40%	\$0.90	3,9094423	0
Groce1Ch2	Grocery	Chiller	Duct Insulation, Add R8	No Insulation	ton	\$2.6647	15	4,691	0.009	46,9104	\$125.00	1%	50%	95%	0.297117615	0
Groce1Ch3	Grocery	Chiller	Base Centrifugal Chiller, 0.58 kW/ton	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0.5329	15	4,691	0.046	234.5520	\$125.00	5%	75%	75%	1.485588076	1
Groce1Ch4	Grocery	Chiller	Energy Recovery Units	No Energy Recovery	ton	\$0.4796	15	4,691	0.185	938.2	\$450.00	20%	75%	75%	1.650653417	1
Groce1Ch5	Grocery	Chiller	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.4859	7	4,691	0.148	751	\$364.67	16%	75%	75%	0.667710989	0
Groce1Ch6	Grocery	Chiller	New Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	4,691	0.05	245	\$200.00	3%	15%	95%	0.966658422	0
Groce1Ch7	Grocery	Chiller	Adding window shade film	No shade screen	sq ft window area	\$7.0453	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.032529568	0
Groce1Ch8	Grocery	Chiller	Adding window shade screen	No shade screen	sq ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.202998871	0
Groce1Ch9	Grocery	Chiller	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.60	20	4,691	0.05	141	\$225.00	3%	75%	95%	0.680894387	0
Groce1Ch1	Grocery	Chiller	New Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.53	20	4,691	0.05	164	\$87.00	4%	15%	95%	0.204135718	1
Groce1Ch2	Grocery	Chiller	Adding window shade screen	No shade screen	sq ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.202998871	0
Groce1Ch3	Grocery	Chiller	Adding reflective roof treatment	Sid color roof	sq ft roof area	\$4.50	20	4,691	0.05	10	\$45.00	0%	100%	95%	0.804929318	0
Groce1Ch4	Grocery	Chiller	Green Roof (New construction or roof replacement)	Sid Roof	sq ft	\$2.78	20	4,691	0.05	46	\$127.43	1%	45%	95%	0.53925184	0
Groce1Ch5	Grocery	Chiller	High Efficiency Chiller, 0.51 kW/ton	Sid Chiller, 0.58 kW/Ton	ton	\$0.4504	15	4,691	0.76	566	\$255.00	12%	95%	95%	2.954825519	1
Groce1Ch6	Grocery	Chiller	New VFD Centrifugal Chiller, 4 kW/ton	Sid Chiller, 0.58 kW/Ton	ton	\$0.2490	15	4,691	1.944	1,456	\$362.50	31%	95%	95%	5.344863358	1
Groce1Ch7	Grocery	Chiller	New Air-Cooled Chillers (1.23 kW/ton)	Sid Chiller, 1.39 kW/Ton	ton	\$0.1290	15	11,242	1.728	1,294	\$167.00	12%	95%	95%	10.31282132	1
Groce1Ch8	Grocery	Chiller	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.4903	15	4,691	0.046	234.5520	\$115.00	5%	95%	75%	1.614760647	1
Groce1Ch9	Grocery	Chiller	Energy Recovery Units	No Energy Recovery	ton	\$0.2665	15	4,691	0.185	938.2	\$250.00	20%	95%	75%	2.971176151	1
Groce1Ch10	Grocery	Chiller	Duct Insulation, Add R8	No Insulation	ton	\$2.6647	15	4,691	0.009	46,9104	\$125.00	1%	100%	95%	0.297117615	0
Groce1Ch11	Grocery	Chiller	High Efficiency Chiller, 0.51 kW/ton	Sid Chiller, 0.58 kW/Ton	ton	\$0.5211	15	4,691	0.76	566	\$295.00	12%	95%	95%	2.554171212	1
Groce1Ch12	Grocery	Chiller	New VFD Centrifugal Chiller, 4 kW/ton	Sid Chiller, 1.39 kW/Ton	ton	\$0.3177	15	4,691	1.944	1,456	\$462.50	31%	95%	95%	4.189235254	1
Groce1Ch13	Grocery	Chiller	Water-side Economizer	Sid Chiller, 0.58 kW/Ton	ton	\$0.5067	15	4,691	1.944	821	\$416.00	18%	95%	95%	3.591907934	1
Groce1Ch14	Grocery	Chiller	New Water-side Economizer	Sid Chiller, 0.58 kW/Ton	ton	\$0.5067	15	4,691	1.944	821	\$416.00	18%	95%	95%	3.591907934	1
Groce1Ch15	Grocery	Chiller	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.5415	15	4,691	0.046	234.5520	\$127.00	5%	95%	75%	1.462192988	1
Groce1Ch16	Grocery	Chiller	New Air-Cooled Chillers (1.23 kW/ton)	Sid Chiller, 1.39 kW/Ton	ton	\$0.1600	15	11,242	1.728	1,294	\$207.00	12%	95%	95%	8.320005603	1
Instn1Ch1	Institutional	Chiller	Duct Sealing, down to 15%	Leakage of 29%	ton	\$2.8555	15	3,327	0.007	33,2688	\$95.00	1%	40%	\$0.90	0.27257184	0
Instn1Ch2	Institutional	Chiller	Duct Insulation, Add R8	No Insulation	ton	\$3.7373	15	3,327	0.007	33,2688	\$125.00	1%	50%	95%	0.21071546	0
Instn1Ch3	Institutional	Chiller	Base Centrifugal Chiller, 0.58 kW/ton	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0.7515	15	3,327	0.033	166.3440	\$125.00	5%	75%	75%	1.05337731	1
Instn1Ch4	Institutional	Chiller	Energy Recovery Units	No Energy Recovery	ton	\$0.6763	15	3,327	0.131	665.4	\$450.00	20%	75%	75%	1.170641444	1
Instn1Ch5	Institutional	Chiller	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.6851	7	3,327	0.105	532	\$364.67	16%	75%	75%	0.33539841	0
Instn1Ch6	Institutional	Chiller	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	3,327	0.05	245	\$200.00	7%	15%	95%	0.966658422	0
Instn1Ch7	Institutional	Chiller	Adding window shade film	No shade film	sq ft window area	\$7.0453	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.032529568	0
Instn1Ch8	Institutional	Chiller	Adding window shade screen	No shade screen	sq ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.202998871	0
Instn1Ch9	Institutional	Chiller	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$2.25	20	3,3								

Penn Power Commercial Measures

Measure ID	New Commercial Segment	New End Use	Vintage	Measure Description	Baseline Description	Unit	Total Cost (\$/kW)	Measure Life	Baseline kWh	PJM Summer Peak KWh Savings	Summer Peak Change case kWh Savings	Customer Cost (\$)	Savings %	Applicability	Percent	IR of Cost	Economic Flag
LodgeChN7	Lodging	Chiller	New	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.1523	15	9,524	1,096	1,096	\$16,000	12%	95%	95%	9.48020387	1
LodgeChN8	Lodging	Chiller	New	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.5787	15	3,974	0.039	198,7080	\$11,500	5%	95%	75%	1.368002179	1
LodgeChN9	Lodging	Chiller	New	Energy Recovery Units	No Energy Recovery	ton	\$0.3145	15	3,974	0.157	794.8	\$250.00	20%	95%	75%	2.517124009	1
LodgeChN10	Lodging	Chiller	New	Duct Insulation, Add R8	No Insulation	ton	\$3.1453	15	3,974	0.008	39,7416	\$125.00	1%	100%	95%	0.251712401	0
LodgeChT1	Lodging	Chiller	Turnover	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.6150	15	3,974	0.76	480	\$295.00	12%	95%	95%	2.34939982	1
LodgeChT2	Lodging	Chiller	Turnover	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.3750	15	3,974	1.944	1,233	\$462.50	31%	95%	95%	3.853378546	1
LodgeChT3	Lodging	Chiller	Turnover	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.5981	15	3,974	1.944	695	\$416.00	18%	95%	95%	3.381352735	1
LodgeChN11	Lodging	Chiller	New	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.5981	15	3,974	1.944	695	\$416.00	18%	95%	95%	3.381352735	1
LodgeChT5	Lodging	Chiller	Turnover	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.6391	15	3,974	0.039	198,7080	\$127.00	5%	95%	75%	1.28472131	1
LodgeChT4	Lodging	Chiller	Turnover	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.1888	15	9,524	1.728	1,096	\$207.00	12%	95%	95%	7.65297399	1
MiscChE1	Misc	Chiller	Early	Duct Sealing, down to 15%	Leakage of 29%	ton	\$2.0536	15	4,621	0.009	46,2144	\$95.00	1%	40%	90.00	0.385143871	0
MiscChE2	Misc	Chiller	Early	Duct Insulation, Add R8	No Insulation	ton	\$2.7048	15	4,621	0.009	46,2144	\$125.00	1%	40%	95%	0.292709342	0
MiscChE3	Misc	Chiller	Early	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0.5410	15	4,621	0.046	231,0720	\$125.00	5%	75%	75%	1.46354671	1
MiscChE4	Misc	Chiller	Early	Energy Recovery Units	No Energy Recovery	ton	\$0.4860	15	4,621	0.182	924.3	\$450.00	20%	75%	75%	1.626163011	1
MiscChE5	Misc	Chiller	Early	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.4932	7	4,621	0.146	739	\$364.67	16%	75%	75%	0.657804298	0
MiscChE6	Misc	Chiller	Early	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft window area	\$0.82	15	4,621	0.05	245	\$200.00	5%	15%	95%	0.966858422	0
MiscChE7	Misc	Chiller	Early	Adding window shade film	No shade film	sq ft window area	\$7.0453	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.032529568	0
MiscChE8	Misc	Chiller	Early	Adding window shade screen	No shade screen	sq ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.202998871	0
MiscChE9	Misc	Chiller	Early	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.62	20	4,621	0.05	139	\$225.00	3%	75%	95%	0.679675565	0
MiscChN1	Misc	Chiller	New	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.54	20	4,621	0.05	162	\$87.00	4%	15%	95%	1.998734103	1
MiscChN2	Misc	Chiller	New	Adding window shade screen	No shade screen	sq ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.202998871	0
MiscChN3	Misc	Chiller	New	Adding reflective roof treatment	Std color roof	sq ft roof area	\$4.50	20	4,621	0.05	10	\$45.00	0%	100%	95%	0.804929318	0
MiscChN4	Misc	Chiller	New	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$2.70	20	4,621	0.05	47	\$127.43	1%	45%	95%	0.54867445	0
MiscChN5	Misc	Chiller	New	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.4572	15	4,621	0.76	578	\$255.00	12%	95%	95%	2.931826258	1
MiscChN6	Misc	Chiller	New	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.2527	15	4,621	1.944	1,434	\$362.50	31%	95%	95%	5.303283753	1
MiscChN7	Misc	Chiller	New	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.1310	15	11,076	1.728	1,275	\$167.00	12%	95%	95%	10.23255016	1
MiscChN8	Misc	Chiller	New	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.4977	15	4,621	0.046	231,0720	\$115.00	5%	95%	75%	1.590811641	1
MiscChN9	Misc	Chiller	New	Energy Recovery Units	No Energy Recovery	ton	\$0.2705	15	4,621	0.182	924.3	\$250.00	20%	95%	75%	2.927093419	1
MiscChN10	Misc	Chiller	New	Duct Insulation, Add R8	No Insulation	ton	\$2.7048	15	4,621	0.009	46,2144	\$125.00	1%	100%	95%	0.292709342	0
MiscChT1	Misc	Chiller	Turnover	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.5289	15	4,621	0.76	578	\$259.00	12%	95%	95%	2.53429494	1
MiscChT2	Misc	Chiller	Turnover	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.3223	15	4,621	1.944	1,434	\$462.50	31%	95%	95%	4.15627806	1
MiscChT3	Misc	Chiller	Turnover	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.5144	15	4,621	1.944	809	\$416.00	18%	95%	95%	3.571465682	1
MiscChN11	Misc	Chiller	New	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.5144	15	4,621	1.944	809	\$416.00	18%	95%	95%	3.571465682	1
MiscChT5	Misc	Chiller	Turnover	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.5496	15	4,621	0.046	231,0720	\$127.00	5%	95%	75%	1.44049873	1
MiscChT4	Misc	Chiller	Turnover	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.1624	15	11,076	1.728	1,275	\$207.00	12%	95%	95%	8.255245778	1
AlIS16	All	Signage	Turnover	LED or equivalent sign lighting -2 sided	Replace fluorescent sign lighting	Exit Sign	\$0.12	15	1.75	0.002	140	\$17.36	80%	48%	7%	5.647456401	1
AlIS17	All	Signage	Turnover	LED Street Lighting	Std H1D Street Lighting	Pole	\$0.63	15	2.762	0.047	756	\$475.00	27%	95%	95%	1.148586023	1
AlIS18	All	Signage	Turnover	Red LED Traffic Light	Red Traffic Light	Signal	\$0.37	10	3.32	0.019	299	\$112.00	90%	95%	75%	1.153448325	1
AlIS19	All	Signage	Turnover	Yellow Standard Traffic Light	Yellow Standard Traffic Light	Lamp	\$12.10	10	12	0.001	10	\$121.00	83%	95%	75%	0.035707513	0
AlIS110	All	Signage	Turnover	Green LED Traffic Light	Green Standard Traffic Light	Lamp	\$0.77	10	260	0.014	226	\$174.00	87%	95%	75%	0.561182563	1
AlIS111	All	Signage	Turnover	Hand LED	Hand LED	Lamp	\$0.19	10	1.016	0.019	946	\$186.00	93%	95%	75%	2.243761753	1
AlISN1	All	Signage	New	Induction Street Lighting	Base H1D Streetlighting	Fixture	\$0.54	15	2.762	0.101	1,619	\$87.00	50%	95%	95%	1.336110272	1
AlISN2	All	Signage	New	LED or equivalent sign lighting	Replace fluorescent sign lighting	Exit Sign	\$0.58	15	2.762	0.002	30	\$17.36	28%	95%	7%	1.241954314	1
AlISN3	All	Signage	New	LED Street Lighting	Std H1D Street Lighting	Pole	\$0.56	15	3.023	0.047	756	\$425.00	55%	95%	95%	1.28371379	1
AlISE1	All	Signage	Early	Dusk to Dawn	Time Clock Control	Pole	\$0.17	15	3.023	0.076	1,209	\$200.00	40%	95%	50%	4.364626887	1
AlIWAT1	All	Water Heating	Turnover	Ultrasone Faucet Control	Manual Faucet Control	unit	\$1.000	10	11,750	0.010	125	\$125	7%	75%	75%	0.445511906	0
AlIWAT2	All	Water Heating	Turnover	Faucet Aerators	Std Flow faucet	unit	\$0.246	12	4.122	0.006	61	\$15	6%	75%	75%	2.35347272	1
AlIWAT3	All	Water Heating	Turnover	No insulation present	Hot Water (DHW) Pipe Insulation	10 in ft	\$0.292	14	4.122	0.011	124.00	\$36.23	3%	75%	75%	2.370601845	1
AlIWAT4	All	Water Heating	Turnover	Low-Flow Showerheads	Std Flow showerhead	unit	\$0.108	9	4.122	0.042	461	\$50	11%	75%	75%	3.515791862	1
AlIWAT5	All	Water Heating	Turnover	Water Heater Thermostat Setback	Constant setback	unit	\$0.029	2	4.122	0.053	577.09	\$17	14%	75%	75%	2.854238349	1
AlIWAN1	All	Water Heating	New	Ultrasone Faucet Control	Manual Faucet Control	unit	\$0.400	10	4.122	0.011	125	\$50	3%	75%	75%	1.127413302	1
AlIWAN2	All	Water Heating	New	Faucet Aerators	Std Flow faucet	unit	\$0.082	12	4.122	0.006	61	\$5	6%	75%	75%	7.060041817	1
AlIWAN3	All	Water Heating	New	Hot Water (DHW) Pipe Insulation	No insulation present	10 in ft	\$0.292	14	4.122	0.011	124.00	\$36.23	3%	75%	75%	2.370601845	1
AlIWAN4	All	Water Heating	New	Low-Flow Showerheads	Std Flow showerhead	unit	\$0.108	9	4.122	0.042	461	\$50	11%	75%	75%	3.515791862	1
AlIWAN5	All	Water Heating	New	Water Heater Thermostat Setback	Constant setback	unit	\$0.029	2	4.122	0.053	577.09	\$17	14%	75%	75%	2.854238349	1
AlIWAN6	All	Water Heating	New	High Efficiency Water Heater (Electric) EF: 93, 28-50 Gal	Std Efficiency water heater	unit	\$0.541	14	4.122	0.012	133	\$72	3%	75%	100%	1.279453219	1
AlIWAN7	All	Water Heating	New	Heat Pump Water Heater (air source)	Base Water Heating	unit	\$0.516	14	4.122	0.176	1,914.00	\$988	46%	75%	100%	1.341807626	1
AlIWAN8	All	Water Heating	New	Heat Recovery Unit	Base Water Heating	unit	\$0.362	14	4.122	0.190	2,073	\$750	50.3%	50%	95%	1.914822303	1
AlIWAN9	All	Water Heating	New	Solar Water Heater	Solar Water Heating	unit	\$1.206	14	4.122	0.193	2,106	\$2,540	82.0%	65%	95%	0.574288232	0
AlIWAT6	All	Water Heating	Turnover	High Efficiency Water Heater (Electric) EF: 93, 28-50 Gal	Std Efficiency water heater	unit	\$0.541	14	4.122	0.012	133	\$72	3%	75%	100%	1.279453219	1
RestaChE1	Restaurant	Chiller	Early	Duct Sealing, down to 15%	Leakage of 29%	ton	\$1.9839	15	4,788	0.009	47,8848	\$95.00	40%	95%	90.00	0.39044734	0
RestaChE2	Restaurant	Chiller	Early	Duct Insulation, Add R8	No Insulation	ton	\$2.6104	15	4,788	0.009	47,8848	\$125.00	1%	50%	95%	0.303291918	0
RestaChE3	Restaurant	Chiller	Early	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0.5221	15	4,788	0.047	239,4240	\$125.00	5%	75%	75%	1.514445988	1
RestaChE4	Restaurant	Chiller	Early	Energy Recovery Units	No Energy Recovery	ton	\$0.4699	15	4,788	0.189	957.7	\$450.00	20%	75%	75%	1.684939987	1
RestaChE5	Restaurant	Chiller	Early	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.4760	7	4,788	0.151	766	\$364.67	16%	75%	75%	0.681580357	0
RestaChE6	Restaurant	Chiller	Early	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	4,788	0.05	245	\$200.00	5%	15%	95%	0.966858422	0
RestaChE7	Restaurant</																

PPL Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak kW Savings (%)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag	
HeatChE1	Healthcare	Chiller	Early	1	Duct Sealing, down to 15%	ton	\$1,3760	15	6,904	0.014	69,0432	\$95,000	1%	40%	90%	0.745	0	
HeatChE2	Healthcare	Chiller	Early	2	Duct Insulation, Add R8	ton	\$1,8105	15	6,904	0.014	69,0432	\$125,000	1%	50%	75%	0.856	0	
HeatChE3	Healthcare	Chiller	Early	3	FMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0,3621	15	6,904	0.068	345,2160	\$125,000	5%	75%	75%	2.829	1
HeatChE4	Healthcare	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0,3259	15	6,904	0.273	1,380.9	\$450,000	20%	75%	75%	3.144	1
HeatChE5	Healthcare	Chiller	Early	5	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0,3301	7	6,904	0.218	1,105	\$364.67	16%	75%	75%	1.528	1
HeatChE6	Healthcare	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	6,904	0.05	245	\$200,000	4%	15%	95%	1.253	1
HeatChE7	Healthcare	Chiller	Early	7	Adding window shade film	No shade film	sq ft window area	\$7,0453	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.050	0
HeatChE8	Healthcare	Chiller	Early	8	Adding window shade screen	No shade screen	sq ft window area	\$3,9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.263	0
HeatChE9	Healthcare	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.09	20	6,904	0.05	207	\$225,000	3%	75%	95%	1.213	1
HeatChN1	Healthcare	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.36	20	6,904	0.05	242	\$87,000	4%	15%	95%	0.387	1
HeatChN2	Healthcare	Chiller	New	2	Adding window shade screen	No shade screen	sq ft window area	\$3,9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.263	0
HeatChN3	Healthcare	Chiller	New	3	Adding reflective roof treatment	Std color roof	sq ft roof area	\$4.50	20	6,904	0.05	10	\$45,000	0%	100%	95%	1.099	1
HeatChN4	Healthcare	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft area	\$1.80	20	6,904	0.05	71	\$127.43	1%	45%	95%	0.929	0
HeatChN5	Healthcare	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0,3060	15	6,904	0.76	833	\$255,000	12%	95%	95%	4.832	1
HeatChN6	Healthcare	Chiller	New	6	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0,1692	15	6,904	1.944	2,143	\$362.50	31%	95%	95%	8.741	1
HeatChN7	Healthcare	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/ton	ton	\$0,0877	15	16,547	1.728	1,905	\$167,000	12%	95%	95%	16.866	1
HeatChN8	Healthcare	Chiller	New	8	FMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0,3331	15	6,904	0.068	345,2160	\$115,000	5%	95%	75%	3.075	1
HeatChN9	Healthcare	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0,1810	15	6,904	0.273	1,380.9	\$250,000	20%	95%	75%	5.659	1
HeatChN10	Healthcare	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$1,8105	15	6,904	0.014	69,0432	\$125,000	1%	100%	95%	0.566	0
HeatChT1	Healthcare	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0,3540	15	6,904	0.76	833	\$295,000	12%	95%	95%	4.177	1
HeatChT2	Healthcare	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0,2158	15	6,904	1.944	2,143	\$462.50	31%	95%	95%	6.851	1
HeatChT3	Healthcare	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW/ton	ton	\$0,3443	15	6,904	1.944	1,208	\$416,000	18%	95%	95%	5.600	1
HeatChN11	Healthcare	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW/ton	ton	\$0,3443	15	6,904	1.944	1,208	\$416,000	18%	95%	95%	5.600	1
HeatChT5	Healthcare	Chiller	Turnover	5	FMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0,3679	15	6,904	0.068	345,2160	\$127,000	5%	95%	75%	2.785	1
HeatChT4	Healthcare	Chiller	Turnover	4	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/ton	ton	\$0,1087	15	16,547	1.728	1,905	\$207,000	12%	95%	95%	13.607	1
OfficeH1	Office	Fluorescent	Early	1	Premium Efficiency T8 Lighting Replacement (32W lamps with low	Replace (E) T12 Lamp - Bundle	Fixture	\$0,5712	14	394	0.011	97	\$55.38	25%	95%	41%	1.441	1
OfficeH10	Office	Fluorescent	Early	10	LED Retrofit Tube T8 Lamp	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1,0146	6	163	0.007	64	\$65.00	39%	40%	84%	0.412	0
OfficeH12	Office	Fluorescent	Early	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0,2641	14	1,578	0.054	473	\$125,000	30%	95%	80%	3.549	1
OfficeH13	Office	Fluorescent	Early	3	Phocell dimming control	No prior dimming control	Phocell	\$0,2852	9	1,578	0.091	789	\$225,000	50%	95%	95%	2.217	1
LodgInF6	Lodging	Incandescent	Early	6	Hotel Occupancy Sensors	No prior control	Per Room	\$0,7447	10	240	0.019	168	\$125,000	70%	90%	95%	0.936	0
OfficeIn1	Office	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0,1781	15	20,340	0.234	2,034	\$362.18	10%	95%	100%	5.577	1
OfficeIn2	Office	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0,3561	15	20,340	0.584	5,085	\$1,810,900	25%	75%	100%	2.789	1
HealthH1	Healthcare	Heating	Early	1	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0,2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.723	1
HealthH2	Healthcare	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$4.44	20	318	0.05	45	\$200,000	14%	10%	95%	0.455	0
HealthH3	Healthcare	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.67	20	318	0.05	75	\$125,000	24%	10%	95%	1.010	1
HealthH4	Healthcare	Heating	Early	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$3.75	20	318	0.05	34	\$127.43	11%	10%	95%	0.612	0
HealthH5	Healthcare	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0,1893	10	2,794	0.039	2,641	\$50,000	95%	10%	95%	3.512	1
HealthH11	Healthcare	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	318	0.05	45	\$87,000	14%	10%	95%	1.045	1
WareH1E1	Warehouse	HID	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPF	Replace HID fixture drawing 250W	Fixture	\$0,5670	10	1,268	0.043	378	\$321.50	30%	85%	80%	1.220	1
WareH1E2	Warehouse	HID	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPF	Replace HID fixture drawing 400 W	Fixture	\$0,4472	10	1,856	0.077	671	\$300,000	36%	85%	80%	1.558	1
WareH1E3	Warehouse	HID	Early	3	4' T15 HO fixture - 54 W - 4 lamp	Replace HID fixture drawing 250 W	Fixture	\$0,5150	10	1,268	0.052	456	\$325,000	36%	85%	80%	1.353	1
WareH1E4	Warehouse	HID	Early	4	4' T15 HO fixture - 54 W - 6 lamp	Replace HID fixture drawing 400 W	Fixture	\$0,5081	10	1,856	0.074	640	\$325,000	34%	85%	80%	1.371	1
WareH1E5	Warehouse	HID	Turnover	5	Ceramic Metal Halide lamp	Replace non-ceramic lamp 400 W	Lamp	\$0,1282	4	1,560	0.031	273	\$35,000	18%	85%	55%	2.099	1
WareH1E8	Warehouse	HID	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0,2465	10	5,070	0.175	1,521	\$375,000	30%	85%	85%	2.826	1
WareH1E9	Warehouse	HID	Early	9	Phocell dimming control	No prior dimming control	Phocell	\$0,2170	10	5,070	0.291	2,535	\$550,000	50%	85%	85%	3.212	1
WareH1E10	Warehouse	HID	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0,1972	10	5,070	0.958	507	\$100,000	10%	85%	45%	3.533	1
WareH1E7	Warehouse	HID	Early	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$1,2166	15	1,268	0.065	566	\$688,000	45%	85%	80%	0.816	0
WareH1F1	Warehouse	HID	Turnover	1	4' T8 High Bay fixture - 32 W - 6 lamps HPF	Replace HID fixture drawing 250W	Fixture	\$0,2921	10	1,268	0.043	378	\$110,500	30%	85%	80%	2.386	1
WareH1F2	Warehouse	HID	Turnover	2	4' T8 High Bay fixture - 32 W - 8 lamps HPF	Replace HID fixture drawing 400 W	Fixture	\$0,3354	10	1,856	0.077	671	\$225,000	36%	85%	80%	2.078	1
WareH1F3	Warehouse	HID	Turnover	3	4' T15 HO fixture - 54 W - 4 lamp	Replace HID fixture drawing 250 W	Fixture	\$0,3178	10	1,268	0.052	456	\$145,000	36%	85%	80%	2.193	1
WareH1F4	Warehouse	HID	Turnover	4	4' T15 HO fixture - 54 W - 6 lamp	Replace HID fixture drawing 400 W	Fixture	\$0,4065	10	1,856	0.074	640	\$260,000	34%	85%	80%	1.714	1
WareH1F6	Warehouse	HID	Turnover	6	Male Lamp Head Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0,5140	10	1,856	0.095	827	\$425,000	45%	85%	80%	1.356	1
WareH1F7	Warehouse	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0,6631	15	1,268	0.065	566	\$375,000	45%	85%	80%	1.498	1
OfficeIn2	Office	Incandescent	Early	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0,1159	14	3,594	0.124	1,078	\$125,000	30%	95%	80%	8.084	1
OfficeIn3	Office	Incandescent	Early	3	Phocell dimming control	No prior dimming control	Phocell	\$0,1252	9	3,594	0.207	1,797	\$225,000	50%	95%	95%	5.051	1
GroceIn1	Grocery	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0,0572	15	9,629	0.411	963	\$55.11	10%	95%	100%	17.351	1
HealthN1	Healthcare	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0,0842	15	49,948	0.574	4,995	\$420,44	10%	95%	100%	11.798	1
AllaA1	All	Large Appliances	New	1	EnergyStar vending machine	Standard vending machine	machine	\$0,2672	15	3,619	0.140	1,310	\$350,000	36%	100%	50%	3.688	1
AllaA2	All	Large Appliances	New	2	Beverage machine control	Vending machine with no sensor	machine	\$0,1021	5	3,619	0.178	1,665	\$170,000	46%	100%	50%	3.330	1
AllaA3	All	Large Appliances	New	3	Other cold product control	Vending machine with no sensor	machine	\$0,1111	5	3,504	0.172	1,612	\$179,000	46%	100%	50%	3.061	1
AllaA4	All	Large Appliances	New	4	Non-cooled snack control	Vending machine with no sensor	machine	\$0,4671	5	745	0.037	343	\$160,000	46%	100%	50%	0.728	0
AllaA5	All	Large Appliances	New	5	EnergyStar dishwasher	Std Dishwasher	dishwasher	\$0,4015	12	250	0.015	137	\$55,000	55%	100%	50%	2.027	1
AllaA6	All	Large Appliances	New	6	EnergyStar refrigerator	Std Refrigerator	refrigerator	\$0,3000	12	750	0.011	100	\$30,000	13%	100%	50%	2.712	1
AllaA7	All	Large Appliances	New	7	Low-temperature dish machine	High temp dish machine with booster heater	removed kW	\$0,0634	15	17,451	0.894	8,362	\$530,000	48%	100%	50%	15.548	1
AllaA8	All	Large Appliances	New	8	High-efficiency coin-op washer w/ Electric Water Heat	Standard washer, electric hot water	washer	\$1,7872	10	1,180	0.025	235	\$420,000	20%	100			

PPL Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Summer Peak KW Savings (%)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRG Test	Economic Fla
OfficMo17	Office	Motors	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.5624	15	81970	13.596	23115.5	\$13,000.00	28%	90.0%	80%	2.308	1
OfficMo18	Office	Motors	Turnover	7	VFD on Heater Flow Water Pump (Average 50HP)	Constant power control	Motor	\$0.5376	15	81970	0.000	2254.7	\$13,000.00	28%	90.0%	80%	1.397	1
OfficMo19	Office	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.6473	15	81970	13.596	20082.6	\$13,000.00	25%	90.0%	80%	2.093	1
OfficMo110	Office	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.5746	15	81970	10.318	22623.7	\$13,000.00	28%	80.0%	80%	2.111	1
OfficMo111	Office	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.6473	15	81970	13.596	20082.6	\$13,000.00	25%	55.0%	80%	2.093	1
OfficMo112	Office	Motors	Turnover	12	Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0.6069	15	245090	0.159	1235.7	\$750	0.5%	35.0%	95%	1.654	1
OfficMo113	Office	Motors	Turnover	13	Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0.7470	15	532803	0.344	2677.4	\$2,000	0.5%	50.0%	95%	1.344	1
OfficMo114	Office	Motors	Turnover	14	Motors: Rewind 200-50 HP	(E) Motor	Motor	\$0.5601	15	50263	0.057	446.3	\$250	0.9%	10.0%	95%	1.792	1
OfficMo115	Office	Motors	Turnover	15	Motors: Rewind 500+ HP	(E) Motor	Motor	\$0.6474	15	1229546	0.795	6178.6	\$4,000	0.5%	70.0%	95%	1.350	1
OfficMo116	Office	Motors	Turnover	16	Motors: Rewind 51-100 HP	(E) Motor	Motor	\$0.6955	15	124291	0.092	718.9	\$500	0.6%	20.0%	95%	1.443	1
OfficMo117	Office	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	3.727	1
OfficMo118	Office	Motors	New	12	Hood Demand Control Ventilation (DCV)	Base Standard Ventilation		\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	3.710	1
OfficMo119	Office	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood		\$16.21	10	5,013	0.052	401	\$6,590.21	8%	75%	95%	0.043	0
OfficMo120	Office	Motors	New	14	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is		\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	4.690	1
OfficMo121	Office	Motors	Turnover	15	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%		\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.884	0
OfficMo122	Office	Motors	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation		\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	3.710	1
OfficMo123	Office	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood		\$16.21	10	5,013	0.052	401	\$6,590.21	8%	75%	95%	0.043	0
OfficMo124	Office	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is		\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	4.690	1
OfficMo125	Office	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%		\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.884	0
AIOR01	All	Office Equipment	Early	1	PC network power management	No central control	PC	\$0.14	5	410	0.023	215	\$30.00	52.44%	75%	80%	2.436	1
AIOR02	All	Office Equipment	Early	2	Occupancy sensor controls/Smart Strip	Computers, other plug loads	sensor	\$0.60	5	413	0.010	124	\$75.00	30.02%	55%	95%	0.552	0
AIOR03	All	Office Equipment	New	1	ENERGY STAR® Office Equipment	Std Office Equipment	PC	\$1.09	5	4,000	0.021	200	\$218.00	5.00%	90%	80%	0.312	0
AIOR04	All	Office Equipment	New	2	Energy Star - Water Cooler	Std Water Cooler	unit	\$1.06	5	453	0.022	204	\$215.67	45.08%	35%	80%	0.322	0
AIOR05	All	Office Equipment	New	3	80 Plus® PC-desktop	Standard personal computer, desktop	PC	\$0.19	5	410	0.014	130	\$25.00	31.71%	100%	55%	1.768	1
AIOR06	All	Office Equipment	New	6	Data Center - Server/Storage Virtualization	No Virtualization	unit	\$1.76	5	4,818	0.452	4,227	\$7,434	87.73%	70%	80%	0.193	0
AIOR07	All	Office Equipment	Turnover	1	ENERGY STAR® Office Equipment	Std Office Equipment	PC	\$1.09	5	4,000	0.021	200	\$218.00	5.00%	90%	80%	0.312	0
AIOR08	All	Office Equipment	Turnover	2	Energy Star - Water Cooler	Std Water Cooler	unit	\$1.06	5	453	0.022	204	\$215.67	45.08%	35%	80%	0.322	0
AIOR09	All	Office Equipment	Turnover	3	80 Plus® PC-desktop	Standard personal computer, desktop	PC	\$0.19	5	410	0.014	130	\$25.00	31.71%	100%	55%	1.768	1
AIOR10	All	Office Equipment	Turnover	6	Data Center - Server/Storage Virtualization	No Virtualization	unit	\$1.76	5	4,818	0.452	4,227	\$7,434	87.73%	70%	80%	0.193	0
HealPa01	Healthcare	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3.13	20	1,063	0.05	64	\$200.00	6%	15%	95%	0.561	0
HealPa02	Healthcare	Packaged DX	Early	2	Adding window shade film	No shade film	sq ft window area	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.049	0
HealPa03	Healthcare	Packaged DX	Early	3	Adding window shade screen	No shade screen	sq ft window area	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.255	0
HealPa04	Healthcare	Packaged DX	Early	4	Windows U<0.40, 55 SHGC	Existing window specifications	sq ft window area	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	1.179	1
HealPa05	Healthcare	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$3.18	20	1,063	0.05	71	\$225.00	7%	95%	95%	0.534	0
HealPa06	Healthcare	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$0.45	10	1,123	0.007	56	\$25.00	5%	100%	65%	1.571	1
HealPa07	Healthcare	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	1,063	0.05	12	\$95.00	1%	45%	80%	0.439	0
HealPa08	Healthcare	Packaged DX	Early	9	No prior controls	Hotel Keycard Sensors	room Control	\$0.29	10	954	0.041	342	\$100.00	36%	95%	80%	2.392	1
HealPa09	Healthcare	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	1,156	0.05	64	\$35.00	6%	100%	45%	0.181	0
HealPa10	Healthcare	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	1,063	0.015	125	\$55.00	12%	100%	45%	1.389	1
HealPa11	Healthcare	Packaged DX	Early	13	Re-commissioning	Current controls not working properly, setpoints not optimized,	ton	\$0.32	7	1,063	0.023	170	\$35.15	16%	95%	75%	1.632	1
HealPa12	Healthcare	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	1,063	0.05	64	\$87.00	6%	100%	95%	1.289	1
HealPa13	Healthcare	Packaged DX	New	1	Adding reflective roof treatment	Std color roof	ton	\$4.50	20	1,063	0.05	10	\$45.00	1%	100%	95%	1.104	1
HealPa14	Healthcare	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$1.76	20	1,063	0.05	71	\$125.00	7%	100%	95%	0.961	0
HealPa15	Healthcare	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Std Roof	ton	\$1.80	20	1,063	0.05	71	\$127.43	7%	45%	95%	0.943	0
HealPa16	Healthcare	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	1,063	0.05	12	\$125.00	1%	100%	95%	0.416	0
HealPa17	Healthcare	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.38	20	916	0.04	65	\$90.40	7%	100%	95%	1.227	1
HealPa18	Healthcare	Packaged DX	New	7	<65k, 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.48	20	916	0.08	122	\$180.81	13%	100%	95%	1.145	1
HealPa19	Healthcare	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.58	20	916	0.12	172	\$271.21	19%	100%	95%	1.073	1
HealPa20	Healthcare	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.78	20	1,063	0.05	71	\$55.00	7%	100%	95%	2.184	1
HealPa21	Healthcare	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.78	20	1,082	0.06	90	\$70.00	8%	100%	95%	2.184	1
HealPa22	Healthcare	Packaged DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.31	20	1,190	0.06	88	\$115.13	7%	100%	95%	1.298	1
HealPa23	Healthcare	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$1.64	20	1,227	0.04	60	\$96.39	5%	100%	95%	1.036	1
HealPa24	Healthcare	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$2.16	15	1,082	0.23	347	\$750.00	32%	20%	95%	0.626	0
HealPa25	Healthcare	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$3.87	15	1,082	0.023	194	\$750.00	18%	100%	95%	0.257	0
HealPa26	Healthcare	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$1.07	15	1,063	0.019	159	\$170.00	15%	75%	45%	0.934	0
HealPa27	Healthcare	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$0.84	15	1,063	0.025	213	\$179.00	20%	100%	95%	1.183	1
HealPa28	Healthcare	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2.19	15	1,123	0.006	51	\$110.89	5%	100%	95%	0.454	0
HealPa29	Healthcare	Packaged DX	Turnover	1	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	1,063	0.05	12	\$125.00	1%	100%	95%	0.333	0
HealPa30	Healthcare	Packaged DX	Turnover	2	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.38	20	916	0.04	65	\$90.40	7%	100%	95%	1.227	1
HealPa31	Healthcare	Packaged DX	Turnover	3	<65k, 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.48	20	916	0.08	122	\$180.81	13%	100%	95%	1.145	1
HealPa32	Healthcare	Packaged DX	Turnover	4	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$1.58	20	916	0.12	172	\$271.21	19%	100%	95%	1.073	1
HealPa33	Healthcare	Packaged DX	Turnover	5	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$0.78	20	1,063	0.05	71	\$55.00	7%	100%	95%	2.184	1
HealPa34	Healthcare	Packaged DX	Turnover	6	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$0.78	20	1,082	0.06	90	\$70.00	8%	100%	95%	2.184	1
HealPa35	Healthcare	Packaged DX	Turnover	7	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1.31	20	1,190	0.06	88	\$115.13	7%	100%	95%	1.298	1
HealPa36																		

PPL Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Summer Peak KW Savings (%)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Fla
AIIRcN19	All	Refrigeration	New	19	High Efficiency Ice Machine Self Contained	Standard Ice Machine Self Contained	unit	\$0.31	10	4,341	0.042	318	\$100.00	7%	85%	85%	2,234	1
AIIRcT7	All	Refrigeration	Turnover	7	Fluorescent walk-in light fixture	Incandescent walk-in light fixture	Fixture	\$0.42	15	792	0.065	491	\$206.00	62.00%	85%	85%	2,386	1
AIIRcT8	All	Refrigeration	Turnover	8	LED Case Lighting	T12 or T10 fluorescent lighting	Light Bar	\$0.43	15	677	0.070	526	\$225.00	77.78%	95%	75%	2,343	1
AIIRcT9	All	Refrigeration	Turnover	9	LED Case Lighting - Occupancy Sensor	No Occupancy Sensor	Light Bar	\$0.15	8	667	0.003	20	\$3.00	3.00%	15%	95%	3,779	1
AIIRcT10	All	Refrigeration	Turnover	10	Efficient, low-temp reach-in	Standard low-temp reach-in	unit	\$0.07	12	5,431	0.222	1,671	\$123.33	30.77%	85%	85%	11,209	1
AIIRcT11	All	Refrigeration	Turnover	11	High R-Value Glass Doors		door	\$0.67	10	3,986	0.106	797	\$537.50	20.00%	85%	85%	1,042	1
AIIRcT12	All	Refrigeration	Turnover	12	Compressor VSD retrofit	Base Refrigeration System - Grocery		\$0.35	13	5,436	0.101	761	\$267.00	14%	75%	86%	2,528	1
AIIRcT13	All	Refrigeration	Turnover	13	Quick acting freezer doors			\$0.62	10	38,544	4.461	33,637	\$20,966.00	87%	75%	86%	1,127	1
AIIRcT14	All	Refrigeration	Turnover	14	VFD on cooling tower fans	Base single-speed fan		\$0.29	15	7,158	0.681	5,132	\$1,507.40	72%	35%	85%	3,410	1
AIIRcT15	All	Refrigeration	Turnover	15	Reach-in Cooler: Shaded Pole to PSC: 1-37 Watt			\$0.60	15	832	0.047	352	\$212.50	42%	75%	49%	1,659	1
AIIRcT16	All	Refrigeration	Turnover	16	Reach-in Cooler: PSC to ECM: 1-37 Watt			\$0.54	15	467	0.022	169	\$91.25	36%	75%	49%	1,855	1
AIIRcT17	All	Refrigeration	Turnover	17	Reach-in Cooler: Shaded Pole to ECM: 1-37 Watt			\$0.59	15	832	0.069	521	\$306.25	63%	75%	49%	1,704	1
AIIRcT18	All	Refrigeration	Turnover	18	Reach-in Freezer: Shaded Pole to ECM: 1-14 Watt			\$0.49	15	832	0.082	622	\$306.25	75%	75%	49%	2,034	1
AIIRcT19	All	Refrigeration	Turnover	19	Reach-in Shaded Pole to PSC: Evaporator Fan Motor			\$0.55	15	832	0.051	386	\$212.50	46%	75%	49%	1,820	1
AIIRcT20	All	Refrigeration	Turnover	20	Reach-in PSC to ECM Evaporator Fan Motor			\$0.49	15	467	0.025	185	\$91.25	40%	75%	49%	2,031	1
AIIRcT21	All	Refrigeration	Turnover	21	Reach-in Shaded Pole to ECM Evaporator Fan Motor			\$0.54	15	832	0.076	571	\$306.25	69%	75%	49%	1,868	1
AIIRcT22	All	Refrigeration	Turnover	22	Walk-in Cooler: PSC to ECM: 16-49 Watt			\$0.35	15	711	0.034	258	\$91.25	36%	75%	49%	2,832	1
AIIRcT23	All	Refrigeration	Turnover	23	Walk-in Freezer: PSC to ECM: 16-49 Watt			\$0.30	15	711	0.041	309	\$91.25	43%	75%	49%	3,392	1
AIIRcT24	All	Refrigeration	Turnover	24	Walk-in Cooler: Shaded Pole to ECM: 16-49 Watt			\$0.44	15	1,175	0.093	704	\$306.25	60%	75%	49%	2,303	1
AIIRcT25	All	Refrigeration	Turnover	25	Walk-in Freezer: Shaded Pole to ECM: 16-49 Watt			\$0.36	15	1,175	0.112	842	\$306.25	72%	75%	49%	2,754	1
AIIRcT26	All	Refrigeration	Turnover	26	Walk-in PSC to ECM			\$0.32	15	711	0.038	283	\$91.25	40%	75%	49%	3,107	1
AIIRcT26	All	Refrigeration	Turnover	26	Walk-in Shaded Pole to ECM			\$0.40	15	1,175	0.103	773	\$306.25	66%	75%	49%	2,528	1
AIIS11	All	Signage	Turnover	1	Induction Street Lighting	Base HHD Streetlighting	Fixture	\$0.57	15	2,762	0.101	1,619	\$925.00	59%	95%	95%	1,661	1
AIIS12	All	Signage	Turnover	2	LED exit sign - 1 sided	Incandescent exit sign	Exit Sign	\$0.15	15	175	0.024	158	\$23.50	90%	65%	70%	6,752	1
AIIS13	All	Signage	Turnover	3	LED exit sign -2 sided	Incandescent exit sign	Exit Sign	\$0.16	15	350	0.048	228	\$37.50	65%	65%	70%	6,339	1
AIIS14	All	Signage	Turnover	4	Photoluminescent Exit Sign	Incandescent exit sign	Exit Sign	\$0.17	15	175	0.011	175	\$30.00	100%	50%	70%	5,541	1
AIIS15	All	Signage	Turnover	5	LED or equivalent sign lighting - 1 sided	Replace fluorescent sign lighting	Exit Sign	\$0.28	15	79	0.009	61	\$17.50	78%	48%	7%	3,542	1
AIIS16	All	Signage	Turnover	6	LED or equivalent sign lighting -2 sided	Replace fluorescent sign lighting	Exit Sign	\$0.12	15	175	0.002	140	\$17.50	80%	48%	7%	7,415	1
AIIS17	All	Signage	Turnover	7	LED Street Lighting	Std HHD Street Lighting	Pole	\$0.63	15	2,762	0.047	756	\$475.00	27%	95%	95%	1,509	1
AIIS18	All	Signage	Turnover	8	Red LED Traffic Light	Red Traffic Light	Signal	\$0.37	10	332	0.019	299	\$112.00	90%	95%	75%	1,769	1
AIIS19	All	Signage	Turnover	9	Yellow LED Traffic Light	Yellow Standard Traffic Light	Lamp	\$12.10	10	12	0.001	10	\$121.00	83%	95%	75%	0.055	0
AIIS110	All	Signage	Turnover	10	Green LED Traffic Light	Green Standard Traffic Light	Lamp	\$0.77	10	260	0.014	226	\$174.00	87%	95%	75%	0.860	0
AIIS111	All	Signage	Turnover	11	Hand/Man LED	Pedestrian Standard	Lamp	\$0.19	10	1,016	0.059	946	\$182.00	93%	95%	75%	3,443	1
AIW11	All	Water Heating	Turnover	1	Ultrasonic Faucet Control	Manual Faucet Control	unit	\$1.000	10	1,750	0.010	125	\$125	7%	75%	75%	0.678	0
AIW12	All	Water Heating	Turnover	2	Faucet Aerators	Std Flow faucet	unit	\$0.246	12	4,122	0.006	61	\$15	6%	75%	75%	3,280	1
AIW13	All	Water Heating	Turnover	3	Hot Water (DHW) Pipe Insulation	No insulation present	10 in ft	\$0.292	14	4,122	0.011	124.00	\$36.23	3%	75%	75%	3,155	1
AIW14	All	Water Heating	Turnover	4	Low-Flow Showerheads	Std Flow showerhead	unit	\$0.108	9	4,122	0.042	461	\$50	11%	75%	75%	5,728	1
AIW15	All	Water Heating	Turnover	5	Water Heater Thermostat Setback	Constant setback	unit	\$0.029	2	4,122	0.053	577.09	\$17	14%	75%	75%	4,475	1
AIW16	All	Water Heating	New	1	Ultrasonic Faucet Control	Manual Faucet Control	unit	\$0.400	10	4,122	0.011	125	\$50	3%	75%	75%	1,712	1
AIW17	All	Water Heating	New	2	Faucet Aerators	Std Flow faucet	unit	\$0.082	12	4,122	0.006	61	\$5	6%	75%	75%	9,841	1
AIW18	All	Water Heating	New	3	Hot Water (DHW) Pipe Insulation	No insulation present	10 in ft	\$0.292	14	4,122	0.011	124.00	\$36.23	3%	75%	75%	3,155	1
AIW19	All	Water Heating	New	4	Low-Flow Showerhead	Std Flow showerhead	unit	\$0.108	9	4,122	0.042	461	\$50	11%	75%	75%	5,728	1
AIW20	All	Water Heating	New	5	Water Heater Thermostat Setback	Constant setback	unit	\$0.029	2	4,122	0.053	577.09	\$17	14%	75%	75%	4,475	1
AIW21	All	Water Heating	New	6	High Efficiency Water Heater (Electric) EF: .93, 28-50 Gal	Std Efficiency water heater	unit	\$0.541	14	4,122	0.012	133	\$72	3%	75%	100%	1,703	1
AIW22	All	Water Heating	New	7	Heat Pump Water Heater (air source)	Base Water Heating	unit	\$0.516	14	4,122	0.176	1,914.00	\$988	46%	75%	100%	1,786	1
AIW23	All	Water Heating	New	8	Heat Recovery Unit	Base Water Heating	unit	\$0.362	14	4,122	0.190	2,073	\$750	50.3%	50%	95%	2,548	1
AIW24	All	Water Heating	New	9	Solar Water Heater	Base Water Heating	unit	\$1,206	14	4,122	0.193	2,106	\$2,540	82.0%	65%	95%	0.764	0
AIW25	All	Water Heating	Turnover	6	High Efficiency Water Heater (Electric) EF: .93, 28-50 Gal	Std Efficiency water heater	unit	\$0.541	14	4,122	0.012	133	\$72	3%	75%	100%	1,703	1
AIW26	All	Water Heating	Turnover	7	Heat Pump Water Heater (air source)	Base Water Heating	unit	\$0.516	14	4,122	0.176	1,914.00	\$988	46%	75%	100%	1,786	1
AIW27	All	Water Heating	Turnover	8	Heat Recovery Unit	Base Water Heating	unit	\$0.458	14	4,122	0.190	2,073	\$950	50.3%	50%	95%	2,012	1
AIW28	All	Water Heating	Turnover	9	Solar Water Heater	Base Water Heating	unit	\$1,401	14	4,122	0.193	2,106	\$2,950	82.0%	65%	95%	0.658	0
GrocReN1	All	Refrigeration	New	20	Demand Defrost Electric	Base Refrigeration System - Grocery		\$0.91	15	4	0.000	0	\$0.05	1%	95%	92%	1,103	1
GrocReN2	All	Refrigeration	Turnover	27	Demand Defrost Electric	Base Refrigeration System - Grocery		\$0.91	15	4	0.000	0	\$0.05	1%	95%	92%	1,103	1
GrocReN3	All	Refrigeration	New	21	Demand Hot Gas Defrost	Base Refrigeration System - Grocery		\$0.35	15	4	0.000	0	\$0.05	3%	95%	92%	2,830	1
GrocReN4	All	Refrigeration	Turnover	28	Demand Hot Gas Defrost	Base Refrigeration System - Grocery		\$0.35	15	4	0.000	0	\$0.05	3%	95%	92%	2,830	1
GrocReN5	All	Refrigeration	New	22	Efficient compressor motor - scroll	Base Refrigeration System - Grocery		\$0.09	15	15,825	0.084	633	\$60.00	4%	95%	92%	10,568	1
GrocReN6	All	Refrigeration	Turnover	29	Efficient compressor motor - scroll	Base Refrigeration System - Grocery		\$0.09	15	15,825	0.084	633	\$60.00	4%	95%	92%	10,568	1
GrocReN7	All	Refrigeration	New	23	High R-Value Glass Doors	Base Refrigeration System - Grocery	Door	\$0.67	10	3,986	0.106	797	\$537.50	20.00%	95%	92%	1,042	1
GrocReN8	All	Refrigeration	New	24	Refrigeration Commissioning	Base Refrigeration System - Grocery	Per refrigerator	\$0.31	7	8,800	0.187	1,408	\$440.00	16%	95%	92%	1,584	1
GrocReN9	All	Refrigeration	Early	1	Refrigeration Commissioning	Base Refrigeration System - Grocery	Per refrigerator	\$0.25	7	8,800	0.117	880	\$220.00	10%	95%	92%	1,980	1
GrocReN10	All	Refrigeration	New	25	Strip curtains for walk-ins	Base Refrigeration System - Grocery		\$0.50	15	29,900	0.079	598	\$300.00	2%	45%	78%	1,997	1
AIIRcT30	All	Refrigeration	Turnover	30	Strip curtains for walk-ins	Base Refrigeration System - Grocery		\$0.50	15	29,900	0.079	598	\$300.00	2%	45%	78%	1,997	1
HealthN18	Healthcare	Packaged DX	New	18	Automated control system	Baseline DX	ton	\$0.45	10	1,123	0.007	56	\$25.00	5%	100%	65%	1,571	1
HealthN19	Healthcare	Packaged DX	New	19	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$0.83	10	954	0.006	52	\$43.00	3%	100%	95%	0.846	0
HealthN20	Healthcare	Packaged DX	Turnover	15	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$0.83	10	954	0.006	52	\$43.00	3%	100%	95%	0.846	0
AIICoN1	All	Cooking	New	1	Commercial Hot Food Holding Cabinets (Energy Star)	Standard Cabinet	Each	\$0.94	12	23,411	0.187	1,592	\$1,500.00	7%	40%	95%	0.872	0
AIICoN2	All	Cooking	New	2	High Efficiency Fryers (Energy Star)	Standard Fryer	Each	\$5.45	12	18,196	0.027	233	\$1,271.00	1%	40%	95%	0.151	0
AIICoN3	All	Cooking	New	3	High Efficiency Griddle	Standard Griddle	Each	\$0.66	12	17,056</								

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Summer Peak KW Savings	Change case (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic kWh
RetailE1	Retail	Fluorescent	Early	1	Premium Efficiency T8 Lighting Replacement (32W lamps with low	Replace (L) T12 Lamp - Bundle	Fixture	\$0.3810	11	591	0.017	145	\$55.38	25%	95%	55%	1,993	1
RetailE2	Retail	Fluorescent	Early	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1641	14	2,365	0.082	710	\$125.00	30%	95%	80%	5,320	1
RetailE3	Retail	Fluorescent	Early	3	Photozell dimming control	No prior dimming control	Photozell	\$0.1902	9	2,365	0.136	1,183	\$225.00	50%	95%	95%	3,324	1
WarehouseF1	Warehouse	Fluorescent	Early	1	Premium Efficiency T8 Lighting Replacement (32W lamps with low	Replace (E) T12 Lamp - Bundle	Fixture	\$0.4113	12	548	0.015	135	\$55.38	25%	95%	35%	1,995	1
WarehouseF2	Warehouse	Fluorescent	Early	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1901	14	2,191	0.076	657	\$125.00	30%	95%	80%	4,929	1
WarehouseF3	Warehouse	Fluorescent	Early	3	Photozell dimming control	No prior dimming control	Photozell	\$0.2054	9	2,191	0.126	1,096	\$225.00	50%	95%	95%	3,079	1
MiscF1	Misc	Fluorescent	Early	1	Premium Efficiency T8 Lighting Replacement (32W lamps with low	Replace (E) T12 Lamp - Bundle	Fixture	\$0.3764	11	599	0.017	147	\$55.38	25%	95%	44%	2,018	1
OfficeHN1	Office	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1781	15	621	0.007	62	\$11.06	10%	95%	100%	5,577	1
OfficeHN2	Office	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3561	15	621	0.018	155	\$55.32	25%	85%	100%	2,789	1
OfficeN1	Office	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1781	15	2,727	0.031	273	\$48.56	10%	95%	100%	5,577	1
OfficeN2	Office	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3561	15	2,727	0.078	682	\$242.78	25%	75%	100%	2,789	1
InstiFN1	Institutional	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1722	15	62,741	0.721	6,274	\$1,080.26	10%	95%	100%	5,768	1
InstiFN2	Institutional	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3444	15	62,741	1.803	15,685	\$5,401.30	25%	75%	100%	2,884	1
HealthFN1	Healthcare	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1045	15	441,728	5.077	44,173	\$3,718.25	10%	95%	100%	11,798	1
HealthFN2	Healthcare	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1684	15	441,728	12.691	110,432	\$18,591.24	25%	75%	100%	5,898	1
GroceFN1	Grocery	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0572	15	60,020	0.690	6,002	\$343.52	10%	95%	100%	17,351	1
GroceFN2	Grocery	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1145	15	60,020	1.724	15,005	\$1,717.60	25%	75%	100%	8,675	1
LodgFN1	Lodging	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1012	15	303,563	3.489	30,356	\$3,071.87	10%	95%	100%	9,813	1
LodgFN2	Lodging	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.2024	15	303,563	8.722	75,891	\$15,359.37	25%	75%	100%	4,907	1
RestaFN1	Restaurant	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0763	15	13,140	0.151	1,314	\$100.27	10%	95%	100%	13,013	1
RestaFN2	Restaurant	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1526	15	13,140	0.378	3,285	\$501.37	25%	75%	100%	6,507	1
RetailFN1	Retail	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0792	15	60,011	0.690	6,001	\$475.15	10%	95%	100%	12,542	1
RetailFN2	Retail	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1584	15	60,011	1.724	15,003	\$2,375.74	25%	75%	100%	6,271	1
WarehouseN1	Warehouse	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1603	15	44,747	0.514	4,475	\$711.71	10%	95%	100%	6,197	1
WarehouseN2	Warehouse	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3205	15	44,747	1.286	11,187	\$3,585.53	25%	75%	100%	3,098	1
GroceHN1	Grocery	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0572	15	3,937	0.045	394	\$22.53	10%	95%	100%	17,351	1
GroceHN2	Grocery	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1145	15	3,937	0.113	984	\$112.66	25%	85%	100%	8,675	1
InstiHN1	Institutional	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1722	15	2,159	0.025	216	\$37.18	10%	95%	100%	5,768	1
InstiHN2	Institutional	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3444	15	2,159	0.062	540	\$185.89	25%	85%	100%	2,884	1
HealthHN1	Healthcare	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0842	15	15,203	0.175	1,520	\$127.97	10%	95%	100%	11,798	1
HealthHN2	Healthcare	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1684	15	15,203	0.437	3,801	\$639.84	25%	85%	100%	5,899	1
LodgHN1	Lodging	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1012	15	10,539	0.121	1,054	\$106.65	10%	95%	100%	9,813	1
LodgHN2	Lodging	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.2024	15	10,539	0.303	2,635	\$533.27	25%	85%	100%	4,907	1
RestaHN1	Restaurant	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0763	15	459	0.005	46	\$3.51	10%	95%	100%	13,013	1
RestaHN2	Restaurant	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1526	15	459	0.013	115	\$17.53	25%	85%	100%	6,507	1
RetailHN1	Retail	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0792	15	10,313	0.119	1,031	\$81.65	10%	95%	100%	12,542	1
RetailHN2	Retail	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1584	15	10,313	0.296	2,578	\$408.25	25%	85%	100%	6,271	1
WarehouseHN1	Warehouse	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1603	15	7,843	0.090	784	\$125.69	10%	95%	100%	6,197	1
WarehouseHN2	Warehouse	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3205	15	7,843	0.225	1,961	\$628.45	25%	85%	100%	3,098	1
MiscHN1	Misc	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0988	15	4,211	0.048	421	\$41.61	10%	95%	100%	10,051	1
MiscHN2	Misc	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1976	15	4,211	0.121	1,053	\$208.03	25%	85%	100%	5,025	1
InstiFN1	Institutional	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0988	15	121,285	1.394	12,128	\$1,198.38	10%	95%	100%	10,051	1
InstiFN2	Institutional	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1976	15	121,285	3.485	30,321	\$5,091.88	25%	75%	100%	5,025	1
InstiHN1	Institutional	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1722	15	7,094	0.082	709	\$122.15	10%	95%	100%	5,768	1
InstiHN2	Institutional	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3444	15	7,094	0.204	1,774	\$610.75	25%	75%	100%	2,884	1
GroceTN1	Grocery	Incandescent	Turnover	1	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0161	5	309	0.021	186	\$3.00	60%	75%	50%	21,376	1
HealthTN1	Healthcare	Incandescent	Turnover	1	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0174	5	286	0.020	173	\$3.00	60%	75%	50%	19,820	1
GroceTN2	Grocery	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1145	15	9,629	0.277	2,407	\$275.57	25%	75%	100%	8,675	1
HealthTN2	Healthcare	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1684	15	49,948	1.435	12,487	\$2,102.19	25%	75%	100%	5,899	1
LodgFN1	Lodging	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1012	15	72,424	0.832	7,242	\$732.89	10%	95%	100%	9,813	1
LodgFN2	Lodging	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.2024	15	72,424	2.081	18,106	\$3,664.46	25%	75%	100%	4,907	1
RestaFN1	Restaurant	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0763	15	8,649	0.099	865	\$64.01	10%	95%	100%	13,013	1
RestaFN2	Restaurant	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1526	15	8,649	0.249	2,162	\$330.03	25%	75%	100%	6,507	1
RetailFN1	Retail	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0792	15	9,628	0.111	963	\$76.23	10%	95%	100%	12,542	1
RetailFN2	Retail	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1584	15	9,628	0.277	2,407	\$381.16	25%	75%	100%	6,271	1
WarehouseN1	Warehouse	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1603	15	5,975	0.069	598	\$93.76	10%	95%	100%	6,197	1
WarehouseN2	Warehouse	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3205	15	5,975	0.172	1,494	\$478.78	25%	75%	100%	3,098	1
MiscN1	Misc	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0988	15	28,936	0.333	2,894	\$285.91	10%	95%	100%	10,051	1
MiscN2	Misc	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1976	15	28,936	0.831	7,234	\$1,429.55	25%	75%	100%	5,025	1
MiscF1E2	Misc	Fluorescent	Early	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1740	14	2,394	0.083	718	\$125.00	30%	95%	80%	5,385	1
MiscF1E3	Misc	Fluorescent	Early	3	Photozell dimming control	No prior dimming control	Photozell	\$0.1879	9	2,394	0.138	1,197	\$225.00	50%	95%	95%	3,365	1
MiscFN4	Misc	Fluorescent	New	4	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0696	14	2,394	0.083	718	\$50.00	30%	95%	15%	13,463	1
MiscFN3	Misc	Fluorescent	New	3	Photozell dimming control	No prior dimming control	Photozell	\$0.1253	9	2,394	0.138	1,197	\$150.00	50%	95%	75%	5,047	1
InstiFN4	Institutional	Fluorescent	New	4	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1124	14	1,483	0.051	445	\$50.00	30%	95%	15%	8,341	1
InstiFN3	Institutional	Fluorescent	New															

PPL Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Summer Peak KW Savings	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Fla
RetalT13	Retail	Fluorescent	Turnover	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1268	9	2,365	0.136	1,183	\$150.00	50%	95%	95%	4,986	1
WarchT16	Warehouse	Fluorescent	Turnover	2	Occupancy sensor, wall or ceiling, mounted	Manual Wall Switch	Manual Wall Switch	\$0.0761	14	2,191	0.076	657	\$30.00	30%	95%	95%	12,322	1
WarchT13	Warehouse	Fluorescent	Turnover	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1369	9	2,191	0.126	1,096	\$150.00	50%	95%	95%	4,619	1
GroceT11	Grocery	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.0650	6	163	0.004	36	\$2.32	22%	90%	95%	6,434	1
GroceT14	Grocery	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.0990	6	163	0.002	20	\$2.02	13%	60%	95%	4,223	1
GroceT15	Grocery	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0307	11	582	0.010	83	\$2.55	14%	75%	95%	24,736	1
Health4	Grocery	Fluorescent	Early	4	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.7257	11	582	0.010	83	\$60.38	14%	75%	95%	1,046	1
HealthT6	Healthcare	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1.0943	7	151	0.007	59	\$65.00	39%	40%	95%	0,449	0
HealthT1	Healthcare	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.0701	7	151	0.004	33	\$2.32	22%	90%	95%	7,004	1
HealthT4	Healthcare	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.1068	7	151	0.002	19	\$2.02	13%	60%	95%	4,598	1
HealthT5	Healthcare	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0331	11	540	0.009	77	\$2.55	14%	75%	95%	22,935	1
HealthH4	Healthcare	Fluorescent	Early	4	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.7769	11	540	0.009	77	\$59.93	14%	75%	95%	0,978	0
InstH16	Institutional	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$2.2383	15	74	0.003	29	\$65.00	39%	40%	95%	0,444	0
InstH11	Institutional	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.1433	15	74	0.002	16	\$2.32	22%	90%	95%	6,928	1
InstH14	Institutional	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.2184	15	74	0.001	9	\$2.02	13%	60%	95%	4,547	1
InstH15	Institutional	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0677	11	264	0.004	38	\$2.55	14%	75%	95%	11,213	1
InstH14	Institutional	Fluorescent	Early	4	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.9281	11	264	0.004	38	\$35.00	14%	75%	95%	0,818	0
LodgH16	Lodging	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1.1959	8	138	0.006	54	\$65.00	39%	40%	95%	0,470	0
LodgH11	Lodging	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.0766	8	138	0.003	30	\$2.32	22%	90%	95%	7,342	1
LodgH14	Lodging	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.1167	8	138	0.002	17	\$2.02	13%	60%	95%	4,819	1
LodgH15	Lodging	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0362	11	494	0.008	71	\$2.55	14%	75%	95%	20,986	1
LodgH14	Lodging	Fluorescent	Early	4	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.4959	11	494	0.008	71	\$35.00	14%	75%	95%	1,532	1
MiscH16	Misc	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1.3867	9	119	0.005	47	\$65.00	39%	40%	95%	0,456	0
MiscH11	Misc	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.0888	9	119	0.003	26	\$2.32	22%	90%	95%	7,121	1
MiscH14	Misc	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.1353	9	119	0.002	15	\$2.02	13%	60%	95%	4,674	1
MiscH15	Misc	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0420	11	426	0.007	61	\$2.55	14%	75%	95%	18,099	1
MiscH16	Misc	Fluorescent	Turnover	6	LED Retrofit Tube	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.5730	11	426	0.007	61	\$35.00	14%	75%	95%	4,631	1
OffH16	Office	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$2.1044	14	79	0.004	31	\$65.00	39%	40%	95%	0,445	0
OffH11	Office	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.1348	14	79	0.002	17	\$2.32	22%	90%	95%	6,954	1
OffH14	Office	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.2053	14	79	0.001	10	\$2.02	13%	60%	95%	4,565	1
OffH15	Office	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0637	11	281	0.005	40	\$2.55	14%	75%	95%	11,926	1
OffH16	Office	Fluorescent	Early	4	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.8726	11	281	0.005	40	\$35.00	14%	75%	95%	0,870	0
RestaT16	Restaurant	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1.3528	9	122	0.006	48	\$65.00	39%	40%	95%	0,467	0
RestaT1	Restaurant	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.0866	9	122	0.003	27	\$2.32	22%	90%	95%	7,300	1
RestaT4	Restaurant	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.1320	9	122	0.002	15	\$2.02	13%	60%	95%	4,791	1
RestaT5	Restaurant	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0409	11	437	0.007	62	\$2.55	14%	75%	95%	18,552	1
RestaH4	Restaurant	Fluorescent	Early	4	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.5610	11	437	0.007	62	\$35.00	14%	75%	95%	1,354	1
RetalT16	Retail	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1.4036	9	118	0.005	46	\$65.00	39%	40%	95%	0,451	0
RetalT11	Retail	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.0899	9	118	0.003	26	\$2.32	22%	90%	95%	7,035	1
RetalT4	Retail	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.1369	9	118	0.002	15	\$2.02	13%	60%	95%	4,611	1
RetalT5	Retail	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0425	11	421	0.007	60	\$2.55	14%	75%	95%	17,881	1
RetalH4	Retail	Fluorescent	Early	4	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.5820	11	421	0.007	60	\$35.00	14%	75%	95%	1,305	1
WarchH16	Warehouse	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1.5152	10	109	0.005	43	\$65.00	39%	40%	95%	0,460	0
WarchT11	Warehouse	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.0970	10	109	0.003	24	\$2.32	22%	90%	95%	7,182	1
WarchT4	Warehouse	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.1478	10	109	0.002	14	\$2.02	13%	60%	95%	4,714	1
WarchT5	Warehouse	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0459	11	390	0.006	56	\$2.55	14%	75%	95%	16,565	1
WarchH4	Warehouse	Fluorescent	Early	4	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.6283	11	390	0.006	56	\$35.00	14%	75%	95%	1,209	1
GroceH1E1	Grocery	HID	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPI	Replace HID fixture drawing 250W	Fixture	\$0.3797	10	1,893	0.065	565	\$214.50	30%	85%	80%	1,835	1
GroceH1E2	Grocery	HID	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPI	Replace HID fixture drawing 400 W	Fixture	\$0.2995	10	2,772	0.115	1,002	\$300.00	36%	85%	80%	2,327	1
GroceH1E3	Grocery	HID	Early	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.3449	10	1,893	0.078	681	\$235.00	36%	85%	80%	2,021	1
GroceH1E4	Grocery	HID	Early	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.3403	10	2,772	0.110	955	\$325.00	34%	85%	80%	2,048	1
GroceH1E5	Grocery	HID	Turnover	5	Ceramic Metal Halide lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0.0859	3	2,330	0.047	408	\$35.00	18%	85%	80%	2,364	1
GroceH1E6	Grocery	HID	Early	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0.8147	15	1,893	0.097	844	\$688.00	45%	85%	80%	1,219	1
GroceH1T1	Grocery	HID	Turnover	1	4' T8 High Bay fixture - 32 W - 6 lamps HPI	Replace HID fixture drawing 250W	Fixture	\$0.1956	10	1,893	0.065	565	\$110.50	30%	85%	80%	3,563	1
GroceH1T2	Grocery	HID	Turnover	2	4' T8 High Bay fixture - 32 W - 8 lamps HPI	Replace HID fixture drawing 400 W	Fixture	\$0.2246	10	2,772	0.115	1,002	\$225.00	36%	85%	80%	3,102	1
GroceH1T3	Grocery	HID	Turnover	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.2128	10	1,893	0.078	681	\$145.00	36%	85%	80%	3,275	1
GroceH1T4	Grocery	HID	Turnover	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.2722	10	2,772	0.110	955	\$260.00	34%	85%	80%	2,560	1
GroceH1T6	Grocery	HID	Turnover	6	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0.3442	10	2,772	0.142	1,235	\$425.00	45%	85%	55%	2,024	1
GroceH1T7	Grocery	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0.4441	15	1,893	0.097	844	\$375.00	45%	85%	80%	2,236	1
HealthH1E1	Healthcare	HID	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPI	Replace HID fixture drawing 250W	Fixture	\$0.4095	10	1,755	0.060	524	\$214.50	30%	85%	80%	1,702	1
HealthH1E2	Healthcare	HID	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPI	Replace HID fixture drawing 400 W	Fixture	\$0.3230	10	2,570	0.107	929	\$300.00	36%	85%	80%	2,157	1
HealthH1E3	Healthcare	HID	Early	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.3720	10	1,755	0.073	632	\$235.00	36%	85%	80%	1,873	1
HealthH1E4	Healthcare	HID	Early	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.3670	10	2,570	0.102	886	\$325.00	34%	85%	80%	1,899	1
HealthH1E5	Healthcare	HID	Turnover	5	Ceramic Metal Halide lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0.0926	3									

PPL Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Summer Peak KW Savings	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
LodgHH17	Lodging	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0.5234	15	1,606	0.082	716	\$375.00	45%	85%	80%	1.897	1
OfficHH1	Office	HID	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPI	Replace HID fixture drawing 250W	Fixture	\$0.7875	10	913	0.031	272	\$214.50	30%	85%	80%	0.885	0
OfficHH2	Office	HID	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPI	Replace HID fixture drawing 400 W	Fixture	\$0.6211	10	1,337	0.056	483	\$300.00	36%	85%	80%	1.122	0
OfficHH3	Office	HID	Early	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.7153	10	913	0.038	329	\$235.00	36%	85%	80%	0.974	0
OfficHH4	Office	HID	Early	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.7057	10	1,337	0.053	461	\$325.00	34%	85%	80%	0.987	0
OfficHH5	Office	HID	Turnover	5	Ceramic Metal Halide Lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0.1781	5	1,123	0.023	197	\$35.00	18%	85%	55%	1.932	1
OfficHH7	Office	HID	Early	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$1.6898	15	913	0.047	407	\$688.00	45%	85%	80%	0.588	0
OfficHT1	Office	HID	Turnover	1	4' T8 High Bay fixture - 32 W - 6 lamps HPI	Replace HID fixture drawing 250W	Fixture	\$0.4057	10	913	0.031	272	\$110.50	30%	85%	80%	1.718	1
OfficHT2	Office	HID	Turnover	2	4' T8 High Bay fixture - 32 W - 8 lamps HPI	Replace HID fixture drawing 400 W	Fixture	\$0.4659	10	1,337	0.056	483	\$225.00	36%	85%	80%	1.496	1
OfficHT3	Office	HID	Turnover	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.4414	10	913	0.038	329	\$145.00	36%	85%	80%	1.579	1
OfficHT4	Office	HID	Turnover	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.5646	10	1,337	0.053	461	\$260.00	34%	85%	80%	1.234	1
OfficHT6	Office	HID	Turnover	6	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0.7139	10	1,337	0.068	595	\$425.00	45%	85%	55%	0.976	0
OfficHT7	Office	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0.9210	15	913	0.047	407	\$375.00	45%	85%	80%	1.078	1
RestaHH1	Restaurant	HID	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPI	Replace HID fixture drawing 250W	Fixture	\$0.5063	10	1,420	0.049	424	\$214.50	30%	85%	80%	1.376	1
RestaHH2	Restaurant	HID	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPI	Replace HID fixture drawing 400 W	Fixture	\$0.3993	10	2,079	0.086	751	\$300.00	36%	85%	80%	1.745	1
RestaHH3	Restaurant	HID	Early	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.4598	10	1,420	0.059	511	\$235.00	36%	85%	80%	1.515	1
RestaHH4	Restaurant	HID	Early	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.4537	10	2,079	0.082	716	\$325.00	34%	85%	80%	1.536	1
RestaHT5	Restaurant	HID	Turnover	5	Ceramic Metal Halide Lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0.1145	3	1,747	0.035	306	\$35.00	18%	85%	55%	1.773	1
RestaHT7	Restaurant	HID	Early	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$1.0863	15	1,420	0.073	633	\$688.00	45%	85%	80%	0.914	0
RestaHT1	Restaurant	HID	Turnover	1	4' T8 High Bay fixture - 32 W - 6 lamps HPI	Replace HID fixture drawing 250W	Fixture	\$0.2608	10	1,420	0.049	424	\$110.50	30%	85%	80%	2.672	1
RestaHT2	Restaurant	HID	Turnover	2	4' T8 High Bay fixture - 32 W - 8 lamps HPI	Replace HID fixture drawing 400 W	Fixture	\$0.2995	10	2,079	0.086	751	\$225.00	36%	85%	80%	2.327	1
RestaHT3	Restaurant	HID	Turnover	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.2837	10	1,420	0.059	511	\$145.00	36%	85%	80%	2.456	1
RestaHT4	Restaurant	HID	Turnover	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.3630	10	2,079	0.082	716	\$260.00	34%	85%	80%	1.920	1
RestaHT6	Restaurant	HID	Turnover	6	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0.4590	10	2,079	0.106	926	\$425.00	45%	85%	55%	1.518	1
RestaHT7	Restaurant	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0.5921	15	1,420	0.073	633	\$375.00	45%	85%	80%	1.677	1
RetalHH1	Retail	HID	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPI	Replace HID fixture drawing 250W	Fixture	\$0.5253	10	1,368	0.047	408	\$214.50	30%	85%	80%	1.327	1
RetalHH2	Retail	HID	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPI	Replace HID fixture drawing 400 W	Fixture	\$0.4143	10	2,004	0.083	724	\$300.00	36%	85%	80%	1.682	1
RetalHH3	Retail	HID	Early	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.4771	10	1,368	0.057	493	\$235.00	36%	85%	80%	1.461	1
RetalHH4	Retail	HID	Early	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.4707	10	2,004	0.079	690	\$325.00	34%	85%	80%	1.480	1
RetalHT5	Retail	HID	Turnover	5	Ceramic Metal Halide Lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0.1188	4	1,684	0.034	295	\$35.00	18%	85%	55%	2.266	1
RetalHT7	Retail	HID	Early	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$1.1270	15	1,368	0.070	610	\$688.00	45%	85%	80%	0.881	0
RetalHT1	Retail	HID	Turnover	1	4' T8 High Bay fixture - 32 W - 6 lamps HPI	Replace HID fixture drawing 250W	Fixture	\$0.2706	10	1,368	0.047	408	\$110.50	30%	85%	80%	2.575	1
RetalHT2	Retail	HID	Turnover	2	4' T8 High Bay fixture - 32 W - 8 lamps HPI	Replace HID fixture drawing 400 W	Fixture	\$0.3107	10	2,004	0.083	724	\$225.00	36%	85%	80%	2.243	1
RetalHT3	Retail	HID	Turnover	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.2944	10	1,368	0.057	493	\$145.00	36%	85%	80%	2.367	1
RetalHT4	Retail	HID	Turnover	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.3766	10	2,004	0.079	690	\$260.00	34%	85%	80%	1.850	1
RetalHT6	Retail	HID	Turnover	6	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0.4762	10	2,004	0.103	893	\$425.00	45%	85%	55%	1.463	1
RetalHT7	Retail	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0.6143	15	1,368	0.070	610	\$375.00	45%	85%	80%	1.617	1
MiscHH1	Misc	HID	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPI	Replace HID fixture drawing 250W	Fixture	\$0.5189	10	1,385	0.048	413	\$214.50	30%	85%	80%	1.343	1
MiscHH2	Misc	HID	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPI	Replace HID fixture drawing 400 W	Fixture	\$0.4093	10	2,028	0.084	733	\$300.00	36%	85%	80%	1.703	1
MiscHH3	Misc	HID	Early	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.4713	10	1,385	0.057	499	\$235.00	36%	85%	80%	1.478	1
MiscHH4	Misc	HID	Early	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.4650	10	2,028	0.080	699	\$325.00	34%	85%	80%	1.498	1
MiscHT5	Misc	HID	Turnover	5	Ceramic Metal Halide Lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0.1173	4	1,705	0.034	298	\$35.00	18%	85%	55%	2.294	1
MiscHT7	Misc	HID	Early	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$1.1134	15	1,385	0.071	618	\$688.00	45%	85%	80%	0.892	0
MiscHT1	Misc	HID	Turnover	1	4' T8 High Bay fixture - 32 W - 6 lamps HPI	Replace HID fixture drawing 250W	Fixture	\$0.2673	10	1,385	0.048	413	\$110.50	30%	85%	80%	2.607	1
MiscHT2	Misc	HID	Turnover	2	4' T8 High Bay fixture - 32 W - 8 lamps HPI	Replace HID fixture drawing 400 W	Fixture	\$0.3070	10	2,028	0.084	733	\$225.00	36%	85%	80%	2.290	1
MiscHT3	Misc	HID	Turnover	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.2908	10	1,385	0.057	499	\$145.00	36%	85%	80%	2.376	1
MiscHT4	Misc	HID	Turnover	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.3720	10	2,028	0.080	699	\$260.00	34%	85%	80%	1.873	1
MiscHT6	Misc	HID	Turnover	6	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0.4704	10	2,028	0.104	903	\$425.00	45%	85%	55%	1.481	1
MiscHT7	Misc	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0.6069	15	1,385	0.071	618	\$375.00	45%	85%	80%	1.636	1
GroceHH8	Grocery	HID	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1651	10	7,571	0.261	2,271	\$375.00	30%	85%	85%	4.221	1
GroceHH9	Grocery	HID	Early	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1453	10	7,571	0.435	3,786	\$550.00	50%	85%	85%	4.796	1
GroceHH10	Grocery	HID	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1321	10	7,571	0.087	757	\$100.00	10%	85%	85%	5.276	1
HealthH8	Healthcare	HID	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1781	10	7,020	0.242	2,106	\$375.00	30%	85%	85%	3.371	1
HealthH9	Healthcare	HID	Early	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1567	10	7,020	0.403	3,510	\$550.00	50%	85%	85%	4.447	1
HealthH10	Healthcare	HID	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1425	10	7,020	0.081	702	\$100.00	10%	85%	85%	4.892	1
InstiH8	Institutional	HID	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.3642	10	3,432	0.118	1,030	\$375.00	30%	85%	85%	1.913	1
InstiH9	Institutional	HID	Early	9	Photocell dimming control	No prior dimming control	Photocell	\$0.3205	10	3,432	0.197	1,716	\$550.00	50%	85%	85%	2.174	1
InstiH10	Institutional	HID	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.2914	10	3,432	0.039	343	\$100.00	10%	85%	85%	2.392	1
OfficHH8	Office	HID	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.3424	10	3,650	0.126	1,095	\$375.00	30%	85%	85%	2.035	1
OfficHH9	Office	HID	Early	9	Photocell dimming control	No prior dimming control	Photocell	\$0.3013	10	3,650	0.210	1,825	\$550.00	50%	85%	85%	2.313	1
OfficHH10	Office	HID	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.2739	10	3,650	0.042	365	\$100.00	10%	85%	85%	2.544	1
RestaHH8	Restaurant	HID	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2201	10	5,678	0.196	1,704	\$375.00	30%	85%	85%	3.166	1
RestaHH9	Restaurant	HID	Early	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1937	10	5,678	0.326	2,839	\$550.00	50%	85%	85%	3.597	1
RestaHH10	Restaurant	HID	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1761	10	5,678	0.065	568	\$100.00	10%	85%	85%	3.957	1
RetalHH8	Retail	HID	Early	8	Occupancy sensor, wall or ceiling mounted</													

PPL Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Summer Peak KW Savings	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Fla
RetailH8	Retail	LED	Turnover	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1675	10	5,473	0.189	1,642	\$275.00	30%	85%	85%	4.161	1
RetailH9	Retail	LED	Turnover	9	Photoce ll dimming control	No prior dimming control	Photoce ll	\$0.2010	10	5,473	0.314	2,737	\$550.00	50%	85%	85%	3.467	1
RetailH10	Retail	LED	Turnover	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1370	10	5,473	0.063	547	\$75.00	10%	85%	45%	5.085	1
WarehH8	Warehouse	LED	Turnover	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1808	10	5,070	0.175	1,521	\$275.00	30%	85%	85%	3.854	1
WarehH9	Warehouse	LED	Turnover	9	Photoce ll dimming control	No prior dimming control	Photoce ll	\$0.2170	10	5,070	0.291	2,535	\$550.00	50%	85%	85%	3.212	1
WarehH10	Warehouse	LED	Turnover	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1479	10	5,070	0.058	507	\$75.00	10%	85%	45%	4.711	1
WarehH8	Warehouse	LED	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1781	10	4,680	0.161	1,404	\$250.00	30%	85%	85%	3.913	1
WarehH9	Warehouse	LED	New	9	Photoce ll dimming control	No prior dimming control	Photoce ll	\$0.1923	10	4,680	0.269	2,340	\$450.00	50%	85%	85%	3.624	1
WarehH10	Warehouse	LED	New	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1389	10	4,680	0.054	468	\$65.00	10%	25%	45%	5.017	1
GroceH8	Grocery	LED	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1192	10	6,989	0.241	2,097	\$250.00	30%	85%	85%	5.844	1
GroceH9	Grocery	LED	New	9	Photoce ll dimming control	No prior dimming control	Photoce ll	\$0.1288	10	6,989	0.402	3,494	\$450.00	50%	85%	85%	5.411	1
GroceH10	Grocery	LED	New	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.0930	10	6,989	0.080	699	\$65.00	10%	25%	45%	7.492	1
HealthH8	Healthcare	LED	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1286	10	6,480	0.223	1,944	\$250.00	30%	85%	85%	5.419	1
HealthH9	Healthcare	LED	New	9	Photoce ll dimming control	No prior dimming control	Photoce ll	\$0.1389	10	6,480	0.372	3,240	\$450.00	50%	85%	85%	5.017	1
HealthH10	Healthcare	LED	New	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1003	10	6,480	0.074	648	\$65.00	10%	25%	45%	6.947	1
InstH8	Institutional	LED	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2630	10	3,168	0.109	950	\$250.00	30%	85%	85%	2.649	1
InstH9	Institutional	LED	New	9	Photoce ll dimming control	No prior dimming control	Photoce ll	\$0.2841	10	3,168	0.182	1,584	\$450.00	50%	85%	85%	2.453	1
InstH10	Institutional	LED	New	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.2052	10	3,168	0.036	317	\$65.00	10%	25%	45%	3.396	1
LodgH8	Lodging	LED	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1405	10	5,929	0.204	1,779	\$250.00	30%	85%	85%	4.958	1
LodgH9	Lodging	LED	New	9	Photoce ll dimming control	No prior dimming control	Photoce ll	\$0.1518	10	5,929	0.341	2,965	\$450.00	50%	85%	85%	4.591	1
LodgH10	Lodging	LED	New	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1096	10	5,929	0.068	593	\$65.00	10%	25%	45%	6.357	1
OfficH8	Office	LED	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2473	10	3,370	0.116	1,011	\$250.00	30%	85%	85%	2.818	1
OfficH9	Office	LED	New	9	Photoce ll dimming control	No prior dimming control	Photoce ll	\$0.2671	10	3,370	0.194	1,685	\$450.00	50%	85%	85%	2.609	1
OfficH10	Office	LED	New	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1929	10	3,370	0.039	337	\$65.00	10%	25%	45%	3.612	1
RestH8	Restaurant	LED	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1590	10	5,242	0.181	1,572	\$250.00	30%	85%	85%	4.383	1
RestH9	Restaurant	LED	New	9	Photoce ll dimming control	No prior dimming control	Photoce ll	\$0.1717	10	5,242	0.301	2,621	\$450.00	50%	85%	85%	4.058	1
RestH10	Restaurant	LED	New	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1240	10	5,242	0.060	524	\$65.00	10%	25%	45%	5.610	1
RetailH8	Retail	LED	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1650	10	5,052	0.174	1,516	\$250.00	30%	85%	85%	4.232	1
RetailH9	Retail	LED	New	9	Photoce ll dimming control	No prior dimming control	Photoce ll	\$0.1781	10	5,052	0.290	2,526	\$450.00	50%	85%	85%	3.912	1
RetailH10	Retail	LED	New	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1287	10	5,052	0.058	505	\$65.00	10%	25%	45%	5.416	1
miscH8	Misc	LED	New	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1630	10	5,114	0.176	1,534	\$250.00	30%	85%	85%	4.276	1
MiscH9	Misc	LED	New	9	Photoce ll dimming control	No prior dimming control	Photoce ll	\$0.1760	10	5,114	0.294	2,557	\$450.00	50%	85%	85%	3.959	1
MiscH10	Misc	LED	New	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1271	10	5,114	0.059	511	\$65.00	10%	25%	45%	5.482	1
OfficN3	Office	Incandescent	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0464	14	3,594	0.124	1,078	\$50.00	30%	95%	15%	20.211	1
OfficN4	Office	Incandescent	New	4	Photoce ll dimming control	No prior dimming control	Photoce ll	\$0.0835	9	3,594	0.207	1,797	\$150.00	50%	95%	95%	7.577	1
OfficI2	Office	Incandescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1159	14	3,594	0.124	1,078	\$125.00	30%	95%	80%	8.084	1
OfficI3	Office	Incandescent	Turnover	3	Photoce ll dimming control	No prior dimming control	Photoce ll	\$0.1252	9	3,594	0.207	1,797	\$225.00	50%	95%	95%	5.051	1
GroceN3	Grocery	Incandescent	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0224	14	7,455	0.257	2,236	\$50.00	30%	95%	15%	49.198	1
GroceI2	Grocery	Incandescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0559	14	7,455	0.257	2,236	\$125.00	30%	95%	80%	16.767	1
HealthI2	Healthcare	Incandescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0603	14	6,912	0.238	2,074	\$125.00	30%	95%	80%	15.547	1
GroceN4	Grocery	Incandescent	New	4	Photoce ll dimming control	No prior dimming control	Photoce ll	\$0.0402	9	7,455	0.428	3,727	\$150.00	50%	95%	95%	15.714	1
HealthN3	Healthcare	Incandescent	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0241	14	6,912	0.238	2,074	\$50.00	30%	95%	15%	38.867	1
GroceI3	Grocery	Incandescent	Turnover	3	Photoce ll dimming control	No prior dimming control	Photoce ll	\$0.0604	9	7,455	0.428	3,727	\$225.00	50%	95%	95%	10.476	1
HealthI3	Healthcare	Incandescent	Turnover	3	Photoce ll dimming control	No prior dimming control	Photoce ll	\$0.0651	9	6,912	0.397	3,456	\$225.00	50%	95%	95%	9.714	1
HealthN4	Healthcare	Incandescent	New	4	Photoce ll dimming control	No prior dimming control	Photoce ll	\$0.0434	9	6,912	0.397	3,456	\$150.00	50%	95%	95%	14.570	1
InstN3	Institutional	Incandescent	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0493	14	3,379	0.117	1,014	\$50.00	30%	95%	15%	19.001	1
InstN4	Institutional	Incandescent	New	4	Photoce ll dimming control	No prior dimming control	Photoce ll	\$0.0888	9	3,379	0.194	1,690	\$150.00	50%	95%	95%	7.123	1
InstN12	Institutional	Incandescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1233	14	3,379	0.117	1,014	\$125.00	30%	95%	80%	7.601	1
InstN13	Institutional	Incandescent	Turnover	3	Photoce ll dimming control	No prior dimming control	Photoce ll	\$0.1332	9	3,379	0.194	1,690	\$225.00	50%	95%	95%	4.749	1
LodgN3	Lodging	Incandescent	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0264	14	6,324	0.218	1,897	\$50.00	30%	95%	15%	35.363	1
LodgN4	Lodging	Incandescent	New	4	Photoce ll dimming control	No prior dimming control	Photoce ll	\$0.0474	9	6,324	0.363	3,162	\$150.00	50%	95%	95%	13.322	1
LodgI2	Lodging	Incandescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0650	14	6,324	0.218	1,897	\$125.00	30%	95%	80%	14.225	1
LodgI3	Lodging	Incandescent	Turnover	3	Photoce ll dimming control	No prior dimming control	Photoce ll	\$0.0712	9	6,324	0.363	3,162	\$225.00	50%	95%	95%	8.888	1
RestN3	Restaurant	Incandescent	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0298	14	5,591	0.193	1,677	\$50.00	30%	95%	15%	31.439	1
RestN4	Restaurant	Incandescent	New	4	Photoce ll dimming control	No prior dimming control	Photoce ll	\$0.0537	9	5,591	0.321	2,796	\$150.00	50%	95%	95%	11.786	1
RestI2	Restaurant	Incandescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0745	14	5,591	0.193	1,677	\$125.00	30%	95%	80%	12.576	1
RestI3	Restaurant	Incandescent	Turnover	3	Photoce ll dimming control	No prior dimming control	Photoce ll	\$0.0805	9	5,591	0.321	2,796	\$225.00	50%	95%	95%	7.857	1
RetailN3	Retail	Incandescent	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0309	14	5,389	0.186	1,617	\$50.00	30%	95%	15%	30.302	1
RetailN4	Retail	Incandescent	New	4	Photoce ll dimming control	No prior dimming control	Photoce ll	\$0.0557	9	5,389	0.310	2,694	\$150.00	50%	95%	95%	11.360	1
RetailI2	Retail	Incandescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0773	14	5,389	0.186	1,617	\$125.00	30%	95%	80%	12.121	1
RetailI3	Retail	Incandescent	Turnover	3	Photoce ll dimming control	No prior dimming control	Photoce ll	\$0.0835	9	5,389	0.310	2,694	\$225.00	50%	95%	95%	7.573	1
WarehN3	Warehouse	Incandescent	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0334	14	4,992	0.172	1,498	\$50.00	30%	95%	15%	28.070	1
WarehN4	Warehouse	Incandescent	New	4	Photoce ll dimming control	No prior dimming control	Photoce ll	\$0.0601	9	4,992	0.287	2,496	\$150.00	50%	95%	95%	10.523	1
WarehI2	Warehouse	Incandescent	Turnover	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0835	14	4,992	0.172	1,498	\$125.00	30%	95%	80%	11.228	1
WarehI3	Warehouse	Incandescent	Turnover	3	Photoce ll dimming control	No prior dimming control	Photoce ll	\$0.0901	9	4,992	0.287	2,496	\$225.00	50%	95%	95%	7.015	1
MiscN3	Misc	Incandescent	New	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0306	14	5,455	0.188	1,636	\$50.00	30%	95%	15%	30.671	1
MiscN4	Misc	Incandescent	New	4	Photoce ll dimming control	No prior dimming control												

PPL Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
LodgIn6	Lodging	Incandescent	New	6	Hotel Occupancy Sensors	No prior control	Per Room	\$0.4468	10	240	0.019	168	\$75.00	70%	90%	95%	1,560	1
LodgIn6	Lodging	Incandescent	Turnover	1	Hotel Occupancy Sensors	No prior control	Per Room	\$0.4557	10	240	0.019	168	\$75.00	70%	90%	95%	1,570	1
AlSIn1	All	Signage	New	1	Induction Street Lighting	Base HID Streetlighting	Fixture	\$0.54	15	2,762	0.101	1,619	\$875.00	50%	95%	95%	1,756	1
AlSIn2	All	Signage	New	2	LED or equivalent sign lighting	Replace fluorescent sign lighting	Exit Sign	\$0.58	15	5.2	0.002	30	\$17.36	58%	95%	7%	1,632	1
AlSIn3	All	Signage	New	3	LED Street Lighting	Std HID Street Lighting	Pole	\$0.56	15	3,023	0.047	756	\$425.00	25%	95%	95%	1,687	1
AlSIE1	All	Signage	Early	1	Dusk to Dawn	Time Clock Control	Pole	\$0.17	15	3,023	0.076	1,209	\$200.00	40%	95%	50%	5,736	1
OfficMo122	Office	Motors	Turnover	22	Air Comp Improvements	Air Comp Improvements		\$0.11	15	56,148	1.148	8,928	\$990.00	16%	28%	65%	9,050	1
OfficMoE2	Office	Motors	Early	2	Air Compressor Optimization	Air Compressor Optimization		\$0.16	15	56,148	2.174	16,901	\$2,750.00	30%	38%	65%	6,168	1
GroceMo1	Grocery	Motors	Early	1	Motor Retrocommissioning	Motor Retrocommissioning	Motor	\$0.27	7	56,148	1.156	8,984	\$2,450.00	16%	95%	75%	1,824	1
AlOCT1	All	Other	Turnover	1	Motor Improvements Bundle - Industrial Model	No Motor Improvements	Motor	\$0.48	14	10,000	0.128	1,092	\$522.00	11%	90%	95%	1,963	1
AlOCT2	All	Other	Turnover	2	EE Transformer - CSL 3	NEMA Transformer - 75W	Motor	\$0.60	15	4,197	0.187	1,595	\$950.00	23%	90%	95%	1,670	1
AlOOn1	All	Other	New	1	EE Transformer - CSL 3	NEMA Transformer - 75W	Motor	\$0.60	15	4,197	0.187	1,595	\$950.00	23%	90%	95%	1,670	1
AlIRN26	All	Refrigeration	New	26	Anti-sweat heat (ASH) controls - Freezer	ASH without controls	Per Door	\$0.16	12	2,185	0.029	1,882	\$300.00	63%	95%	85%	4,799	1
AlIRN27	All	Refrigeration	New	27	Anti-sweat heat (ASH) controls - Cooler	ASH without controls	Per Door	\$0.29	12	1,621	0.028	1,023	\$300.00	63%	95%	85%	2,830	1
GroceMoN1	Grocery	Motors	New	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.1015	15	15,884	0.0282	139.5	\$154	0.91%	74.4%	100%	0,954	0
GroceMoN2	Grocery	Motors	New	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.1901	15	5,890	0.0231	437.7	\$521	0.74%	74.4%	100%	0,802	0
GroceMoN3	Grocery	Motors	New	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.0693	15	14,668	0.0138	644.1	\$689	0.45%	66.3%	100%	0,874	0
GroceMoN4	Grocery	Motors	New	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.4499	15	29,922	0.0121	1,135.2	\$511	0.39%	55.8%	100%	2,063	1
GroceMoN5	Grocery	Motors	New	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.3775	15	62,438	0.0284	5,711.1	\$2,156	0.91%	55.8%	100%	2,449	1
GroceMoN6	Grocery	Motors	New	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.5635	15	9,760	2.511	19,520	\$11,000.00	20%	55.0%	100%	1,781	1
GroceMoN7	Grocery	Motors	New	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.5573	15	9,760	12.213	23,326.3	\$13,000.00	24%	70.0%	100%	2,254	1
GroceMoN8	Grocery	Motors	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4844	15	9,760	0.000	26,839.9	\$13,000.00	28%	80.0%	100%	1,902	1
GroceMoN9	Grocery	Motors	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5573	15	9,760	12.213	23,326.3	\$13,000.00	24%	70.0%	100%	2,254	1
GroceMoN10	Grocery	Motors	New	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.4826	15	9,760	9.205	20,937.5	\$13,000.00	28%	55.0%	100%	2,362	1
GroceMoN11	Grocery	Motors	New	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5573	15	9,760	12.213	23,326.3	\$13,000.00	24%	30.0%	100%	2,254	1
GroceMoT1	Grocery	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.1015	15	15,884	0.0282	139.5	\$154	0.91%	74.4%	100%	0,954	0
GroceMoT2	Grocery	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.1901	15	5,890	0.0231	437.7	\$521	0.74%	74.4%	100%	0,802	0
GroceMoT3	Grocery	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.0693	15	14,668	0.0138	644.1	\$689	0.45%	66.3%	100%	0,874	0
GroceMoT4	Grocery	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.4499	15	29,922	0.0121	1,135.2	\$511	0.39%	55.8%	100%	2,063	1
GroceMoT5	Grocery	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.3775	15	62,438	0.0284	5,711.1	\$2,156	0.91%	55.8%	100%	2,449	1
GroceMoT6	Grocery	Motors	Turnover	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.5635	15	9,760	2.511	19,520	\$11,000.00	20%	55.0%	100%	1,781	1
GroceMoT7	Grocery	Motors	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.5573	15	9,760	12.213	23,326.3	\$13,000.00	24%	90.0%	80%	2,254	1
GroceMoT8	Grocery	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4844	15	9,760	0.000	26,839.9	\$13,000.00	28%	90.0%	80%	1,902	1
GroceMoT9	Grocery	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5573	15	9,760	12.213	23,326.3	\$13,000.00	24%	90.0%	80%	2,254	1
GroceMoT10	Grocery	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.4826	15	9,760	9.205	20,937.5	\$13,000.00	28%	80.0%	80%	2,362	1
GroceMoT11	Grocery	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5573	15	9,760	12.213	23,326.3	\$13,000.00	24%	55.0%	80%	2,254	1
GroceMoT12	Grocery	Motors	Turnover	12	Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0.5097	15	29,279	0.189	1,471.4	\$750	0.5%	35.0%	95%	1,969	1
GroceMoT13	Grocery	Motors	Turnover	13	Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0.6274	15	63,458	0.040	317.9	\$2,000	0.5%	50.0%	95%	1,600	1
GroceMoT14	Grocery	Motors	Turnover	14	Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0.4704	15	5,987	0.068	538.7	\$250	0.9%	100%	2,133	1	
GroceMoT15	Grocery	Motors	Turnover	15	Motors: Rewind 500+ HP	(E) Motor	Motor	\$0.5437	15	146,395	0.946	7,356.8	\$4,000	0.5%	70.0%	95%	1,846	1
GroceMoT16	Grocery	Motors	Turnover	16	Motors: Rewind 51-100 HP	(E) Motor	Motor	\$0.5841	15	14,799	0.110	856.0	\$500	0.6%	20.0%	95%	1,718	1
GroceMoT17	Grocery	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	3,727	1
GroceMoN12	Grocery	Motors	New	12	Demand Control Ventilation (DCV)	Base Standard Ventilation		\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	3,710	1
GroceMoN13	Grocery	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood		\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0,043	0
GroceMoN14	Grocery	Motors	New	14	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is		\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	4,690	1
GroceMoN15	Grocery	Motors	New	15	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%		\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0,884	0
GroceMoT18	Grocery	Motors	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation		\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	3,710	1
GroceMoT19	Grocery	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood		\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0,043	0
GroceMoT20	Grocery	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is		\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	4,690	1
GroceMoT21	Grocery	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%		\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0,884	0
GroceMoT22	Grocery	Motors	Turnover	22	Air Comp Improvements	Air Comp Improvements		\$0.11	15	56,148	1.148	8,928	\$990.00	16%	28%	65%	9,050	1
GroceMoE2	Grocery	Motors	Early	2	Air Compressor Optimization	Air Compressor Optimization		\$0.16	15	56,148	2.174	16,901	\$2,750.00	30%	38%	65%	6,168	1
GroceMoT23	Grocery	Motors	Turnover	23	Motor Retrocommissioning	Motor Retrocommissioning	Motor	\$0.27	7	56,148	1.156	8,984	\$2,450.00	16%	95%	75%	1,824	1
HealthMoN1	Healthcare	Motors	New	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$0.8576	15	19,759	0.0282	179.2	\$154	0.91%	74.4%	100%	1,191	1
HealthMoN2	Healthcare	Motors	New	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$0.9266	15	7,570	0.0231	562.2	\$521	0.74%	74.4%	100%	1,023	1
HealthMoN3	Healthcare	Motors	New	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$0.8325	15	18,830	0.0138	827.3	\$689	0.45%	66.3%	100%	1,119	1
HealthMoN4	Healthcare	Motors	New	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.3503	15	37,366	0.0121	1,458.0	\$511	0.39%	55.8%	100%	2,645	1
HealthMoN5	Healthcare	Motors	New	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.2939	15	80,185	0.0284	7,335.1	\$2,156	0.91%	55.8%	100%	3,143	1
HealthMoN6	Healthcare	Motors	New	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.4388	15	12,532	3.225	25,070	\$11,000.00	20%	55.0%	100%	2,287	1
HealthMoN7	Healthcare	Motors	New	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.4035	15	12,532	12.213	32,215.5	\$13,000.00	26%	70.0%	100%	2,884	1
HealthMoN8	Healthcare	Motors	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.3771	15	12,532	0.000	34,471.8	\$13,000.00	28%	80.0%	100%	2,443	1
HealthMoN9	Healthcare	Motors	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5034	15</									

PPL Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Summer Peak KW Savings (%)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Fla
InstMoN3	Institutional	Motors	New	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1,2384	15	124933	0.0138	556.2	\$689	0.45%	66.3%	100%	0.757	0
InstMoN4	Institutional	Motors	New	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$9,3111	15	251201	0.0121	980.2	\$511	0.39%	55.8%	100%	1.783	0
InstMoN5	Institutional	Motors	New	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$9,4372	15	539086	0.0284	4931.3	\$2,156	0.91%	55.8%	100%	2.116	1
InstMoN6	Institutional	Motors	New	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$9,6526	15	84274	2.168	16,855	\$11,000.00	20%	55.0%	100%	1.538	1
InstMoN7	Institutional	Motors	New	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$9,5509	15	84274	13.596	23596.7	\$13,000.00	28%	70.0%	100%	2.342	1
InstMoN8	Institutional	Motors	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$9,5609	15	84274	0.000	23175.3	\$13,000.00	28%	80.0%	100%	1.642	1
InstMoN9	Institutional	Motors	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$9,6348	15	84274	13.596	20478.6	\$13,000.00	24%	70.0%	100%	2.121	1
InstMoN10	Institutional	Motors	New	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$9,5609	15	84274	10.318	23175.3	\$13,000.00	28%	55.0%	100%	2.150	1
InstMoN11	Institutional	Motors	New	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$9,6348	15	84274	13.596	20478.6	\$13,000.00	24%	30.0%	100%	2.121	1
InstMoT1	Institutional	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1,2757	15	13284	0.0282	120.5	\$154	0.91%	74.4%	100%	0.839	0
InstMoT10	Institutional	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$9,5609	15	84274	10.318	23175.3	\$13,000.00	28%	80.0%	80%	2.150	1
InstMoT11	Institutional	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$9,6348	15	84274	13.596	20478.6	\$13,000.00	24%	55.0%	80%	2.121	1
InstMoT12	Institutional	Motors	Turnover	12	Motors: Rewind 125-200 HP	(E) Motor	Motor	\$9,5903	15	252822	0.163	1270.5	\$750	0.5%	35.0%	95%	1.700	1
InstMoT13	Institutional	Motors	Turnover	13	Motors: Rewind 200-500 HP	(E) Motor	Motor	\$9,7266	15	547781	0.049	2752.7	\$2,000	0.5%	50.0%	95%	1.381	1
InstMoT14	Institutional	Motors	Turnover	14	Motors: Rewind 200-500 HP	(E) Motor	Motor	\$9,5448	15	51676	0.059	458.9	\$250	0.9%	10.0%	95%	1.842	1
InstMoT15	Institutional	Motors	Turnover	15	Motors: Rewind 500+ HP	(E) Motor	Motor	\$9,6297	15	124109	0.817	6352.3	\$4,000	0.5%	70.0%	95%	1.594	1
InstMoT16	Institutional	Motors	Turnover	16	Motors: Rewind 51-100 HP	(E) Motor	Motor	\$9,6765	15	127785	0.095	739.1	\$500	0.6%	20.0%	95%	1.484	1
InstMoT17	Institutional	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$9,34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	3.727	1
InstMoT2	Institutional	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1,3783	15	50993	0.0231	377.9	\$521	0.74%	74.4%	100%	0.697	0
InstMoT23	Healthcare	Motors	Turnover	23	Motor Retrocommissioning	Motor Retrocommissioning	Motor	\$9,27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.824	1
InstMoT3	Institutional	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1,2384	15	124933	0.0138	556.2	\$689	0.45%	66.3%	100%	0.757	0
InstMoT4	Institutional	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$9,5211	15	251201	0.0121	980.2	\$511	0.39%	55.8%	100%	1.783	1
InstMoT5	Institutional	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$9,4372	15	539086	0.0284	4931.3	\$2,156	0.91%	55.8%	100%	2.116	1
InstMoT6	Institutional	Motors	Turnover	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$9,6526	15	84274	2.168	16,855	\$11,000.00	20%	55.0%	80%	1.538	1
InstMoT7	Institutional	Motors	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$9,5509	15	84274	13.596	23596.7	\$13,000.00	28%	90.0%	80%	2.342	1
InstMoT8	Institutional	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$9,5609	15	84274	0.000	23175.3	\$13,000.00	28%	90.0%	80%	1.642	1
InstMoT9	Institutional	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$9,6348	15	84274	13.596	20478.6	\$13,000.00	24%	70.0%	95%	2.121	1
InstMoN13	Institutional	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$9,1621	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.043	0
InstMoN14	Institutional	Motors	New	14	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is	Motor	\$9,2021	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	4.690	1
InstMoN15	Institutional	Motors	New	15	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$9,80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.884	0
InstMoT18	Institutional	Motors	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$9,019	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	3.710	1
InstMoT19	Institutional	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$9,1621	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.043	0
InstMoT20	Institutional	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is	Motor	\$9,2021	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	4.690	1
InstMoT21	Institutional	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$9,80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.884	0
InstMoT22	Institutional	Motors	Turnover	22	Air Comp Improvements	Air Comp Improvements	Motor	\$9,011	15	56148	1.148	8,928	\$990.00	16%	28%	65%	9.050	1
InstMoT2	Institutional	Motors	Early	2	Air Compressor Optimization	Air Compressor Optimization	Motor	\$9,016	15	56148	2.174	16,901	\$2,750.00	30%	38%	65%	6.168	1
InstMoT1	Institutional	Motors	Early	1	Motor Retrocommissioning	Motor Retrocommissioning	Motor	\$9,27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.824	1
LodgMoN1	Lodging	Motors	New	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1,1114	15	15247	0.0282	138.3	\$154	0.91%	74.4%	100%	0.946	0
LodgMoN2	Lodging	Motors	New	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1,2008	15	58416	0.0231	433.8	\$521	0.74%	74.4%	100%	0.796	0
LodgMoN3	Lodging	Motors	New	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1,0789	15	143401	0.0138	638.4	\$689	0.45%	66.3%	100%	0.867	0
LodgMoN4	Lodging	Motors	New	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$9,4540	15	288334	0.0121	1125.1	\$511	0.39%	55.8%	100%	2.044	1
LodgMoN5	Lodging	Motors	New	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$9,3809	15	618773	0.0284	5660.3	\$2,156	0.91%	55.8%	100%	2.427	1
LodgMoN6	Lodging	Motors	New	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$9,5686	15	96731	2.489	19,346	\$11,000.00	20%	55.0%	100%	1.765	1
LodgMoN7	Lodging	Motors	New	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$9,5116	15	96731	12.674	25408.1	\$13,000.00	26%	70.0%	100%	2.425	1
LodgMoN8	Lodging	Motors	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$9,4887	15	96731	0.000	26601.1	\$13,000.00	28%	80.0%	100%	1.885	1
LodgMoN9	Lodging	Motors	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$9,5707	15	96731	12.674	22780.2	\$13,000.00	24%	70.0%	100%	2.238	1
LodgMoN10	Lodging	Motors	New	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$9,4917	15	96731	9.576	26439.9	\$13,000.00	27%	55.0%	100%	2.345	1
LodgMoN11	Lodging	Motors	New	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$9,5663	15	96731	12.674	22957.6	\$13,000.00	24%	30.0%	100%	2.251	1
LodgMoT1	Lodging	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1,1114	15	15247	0.0282	138.3	\$154	0.91%	74.4%	100%	0.946	0
LodgMoT2	Lodging	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1,2008	15	58416	0.0231	433.8	\$521	0.74%	74.4%	100%	0.796	0
LodgMoT3	Lodging	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1,0789	15	143401	0.0138	638.4	\$689	0.45%	66.3%	100%	0.867	0
LodgMoT4	Lodging	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$9,4540	15	288334	0.0121	1125.1	\$511	0.39%	55.8%	100%	2.044	1
LodgMoT5	Lodging	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$9,3809	15	618773	0.0284	5660.3	\$2,156	0.91%	55.8%	100%	2.427	1
LodgMoT6	Lodging	Motors	Turnover	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$9,5686	15	96731	2.489	19,346	\$11,000.00	20%	55.0%	80%	1.765	1
LodgMoT7	Lodging	Motors	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$9,5116	15	96731	12.674	25408.1	\$13,000.00	26%	90.0%	80%	2.342	1
LodgMoT8	Lodging	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$9,4887	15	96731	0.000	26601.1	\$13,000.00	28%	90.0%	80%	1.885	1
LodgMoT9	Lodging	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$9,5707	15	96731	12.674	22780.2	\$13,000.00	24%	90.0%	80%	2.238	1
LodgMoT10	Lodging	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$9,4917	15	96731	9.576	26439.9	\$13,000.00	27%	80.0%	80%	2.345	1
LodgMoT11	Lodging	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$9,5663	15	96731	12.674	22957.6	\$13,000.00	24%	55.0%	80%	2.251	1
LodgMoT12	Lodging	Motors	Turnover	12	Motors: Rewind 125-200 HP	(E) Motor	Motor	\$9,5143	15	291094	0.188	1458.3	\$750	0.5%	35.0%	95%		

PPL Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
miscMo18	misc	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4887	15	96731	0.000	26601.1	\$13,000.00	28%	90.0%	80%	1.885	1
miscMo19	misc	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5307	15	96731	12.674	22780.2	\$13,000.00	24%	90.0%	80%	2.238	1
miscMo10	misc	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.4917	15	96731	9.576	26430.9	\$13,000.00	27%	80.0%	80%	2.345	1
miscMo11	misc	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5663	15	96731	12.674	22957.6	\$13,000.00	24%	55.0%	80%	2.251	1
miscMo12	misc	Motors	Turnover	12	Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0.5143	15	290194	0.188	1458.3	\$7.50	0.5%	35.0%	95%	1.951	1
miscMo13	misc	Motors	Turnover	13	Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0.6330	15	628754	0.406	3159.6	\$2,000	0.5%	50.0%	95%	1.585	1
miscMo14	misc	Motors	Turnover	14	Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0.4747	15	59314	0.068	526.7	\$2.50	0.9%	10.0%	95%	2.114	1
miscMo15	misc	Motors	Turnover	15	Motors: Rewind 500+ HP	(E) Motor	Motor	\$0.5486	15	1450970	0.938	7291.3	\$4,000	0.5%	70.0%	95%	1.829	1
miscMo16	misc	Motors	Turnover	16	Motors: Rewind 1-100 HP	(E) Motor	Motor	\$0.5894	15	146674	0.109	848.4	\$500	0.6%	20.0%	95%	1.703	1
miscMo17	misc	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	3.727	1
miscMoN12	misc	Motors	New	12	Demand Control Ventilation (DCV)	Base Standard Ventilation		\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	3.710	1
miscMoN13	misc	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood		\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.043	0
miscMoN14	misc	Motors	New	14	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is		\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	4.690	1
miscMoN15	misc	Motors	New	15	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%		\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.884	0
miscMo19	misc	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Standard Ventilation		\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	3.710	1
miscMo120	misc	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is		\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	4.690	1
miscMo121	misc	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%		\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.884	0
miscMo122	misc	Motors	Turnover	22	Air Comp Improvements			\$0.11	15	56148	1.148	8,928	\$990.00	16%	28%	65%	9.050	1
miscMo2	misc	Motors	Early	2	Air Compressor Optimization			\$0.16	15	56148	2.174	16,901	\$2,750.00	30%	38%	65%	6.168	1
LodgMo1	Lodging	Motors	Early	1	Motor Retrocommissioning			\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.824	1
RestaMoN1	Retail	Motors	New	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.1015	15	15384	0.0282	139.5	\$154	0.91%	74.4%	100%	0.954	0
RestaMoN2	Retail	Motors	New	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.1901	15	58940	0.0231	437.7	\$521	0.74%	74.4%	100%	0.802	0
RestaMoN3	Retail	Motors	New	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.0693	15	144688	0.0138	644.1	\$689	0.45%	66.3%	100%	0.874	0
RestaMoN4	Retail	Motors	New	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.4499	15	290922	0.0121	1135.2	\$511	0.39%	55.8%	100%	2.063	1
RestaMoN5	Retail	Motors	New	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.3775	15	624328	0.0284	5711.1	\$2,156	0.91%	55.8%	100%	2.449	1
RestaMo16	Retail	Motors	Turnover	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.5635	15	97600	2.511	19,520	\$11,000.00	20%	55.0%	80%	1.781	1
RestaMo17	Retail	Motors	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.5573	15	97600	12.213	23326.3	\$13,000.00	24%	90.0%	80%	2.254	1
RestaMo18	Retail	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.5573	15	97600	12.213	23326.3	\$13,000.00	24%	70.0%	100%	2.254	1
RestaMoN8	Retail	Motors	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4844	15	97600	0.000	26839.9	\$13,000.00	28%	80.0%	100%	1.902	1
RestaMoN9	Retail	Motors	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5573	15	97600	12.213	23326.3	\$13,000.00	24%	70.0%	100%	2.254	1
RestaMoN10	Retail	Motors	New	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.4826	15	97600	9.205	26937.5	\$13,000.00	28%	55.0%	100%	2.362	1
RestaMoN11	Retail	Motors	New	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5573	15	97600	12.213	23326.3	\$13,000.00	24%	30.0%	100%	2.254	1
RestaMo11	Retail	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.1015	15	15384	0.0282	139.5	\$154	0.91%	74.4%	100%	0.954	0
RestaMo12	Retail	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.1901	15	58940	0.0231	437.7	\$521	0.74%	74.4%	100%	0.802	0
RestaMo13	Retail	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.0693	15	144688	0.0138	644.1	\$689	0.45%	66.3%	100%	0.874	0
RestaMo14	Retail	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.4499	15	290922	0.0121	1135.2	\$511	0.39%	55.8%	100%	2.063	1
RestaMo15	Retail	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.3775	15	624328	0.0284	5711.1	\$2,156	0.91%	55.8%	100%	2.449	1
RestaMo16	Retail	Motors	Turnover	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.5635	15	97600	2.511	19,520	\$11,000.00	20%	55.0%	80%	1.781	1
RestaMo17	Retail	Motors	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.5573	15	97600	12.213	23326.3	\$13,000.00	24%	90.0%	80%	2.254	1
RestaMo18	Retail	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4844	15	97600	0.000	26839.9	\$13,000.00	28%	90.0%	80%	1.902	1
RestaMo19	Retail	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5573	15	97600	12.213	23326.3	\$13,000.00	24%	70.0%	100%	2.254	1
RestaMo10	Retail	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.4826	15	97600	9.205	26937.5	\$13,000.00	28%	80.0%	100%	2.362	1
RestaMo11	Retail	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5573	15	97600	12.213	23326.3	\$13,000.00	24%	55.0%	80%	2.254	1
RestaMo12	Retail	Motors	Turnover	12	Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0.5097	15	292799	0.189	1471.4	\$7.50	0.5%	35.0%	95%	1.969	1
RestaMo13	Retail	Motors	Turnover	13	Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0.6274	15	634398	0.410	3187.9	\$2,000	0.5%	50.0%	95%	1.600	1
RestaMo14	Retail	Motors	Turnover	14	Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0.4704	15	59847	0.068	531.4	\$2.50	0.9%	10.0%	95%	2.133	1
RestaMo15	Retail	Motors	Turnover	15	Motors: Rewind 500+ HP	(E) Motor	Motor	\$0.5437	15	1463995	0.946	7356.8	\$4,000	0.5%	70.0%	95%	1.846	1
RestaMo16	Retail	Motors	Turnover	16	Motors: Rewind 1-100 HP	(E) Motor	Motor	\$0.5841	15	147991	0.110	856.0	\$500	0.6%	20.0%	95%	1.718	1
RestaMo17	Retail	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	3.727	1
RestaMoN12	Retail	Motors	New	12	Demand Control Ventilation (DCV)	Base Standard Ventilation		\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	3.710	1
RestaMoN13	Retail	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood		\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.043	0
RestaMoN14	Retail	Motors	New	14	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is		\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	4.690	1
RestaMoN15	Retail	Motors	New	15	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%		\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.884	0
RestaMo18	Retail	Motors	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation		\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	3.710	1
RestaMo19	Retail	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood		\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.043	0
RestaMo120	Retail	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is		\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	4.690	1
RestaMo121	Retail	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%		\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.884	0
RestaMo122	Retail	Motors	Turnover	22	Air Comp Improvements			\$0.11	15	56148	1.148	8,928	\$990.00	16%	28%	65%	9.050	1
RestaMo2	Retail	Motors	Early	2	Air Compressor Optimization			\$0.16	15	56148	2.174	16,901	\$2,750.00	30%	38%	65%	6.168	1
LodgMo123	Lodging	Motors	Turnover	23	Motor Retrocommissioning			\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.824	1
RestaMoN1	Restaurant	Motors	New	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.1487	15	14753	0.0282	133.8	\$154	0.91%	74.4%	100%	0.919	0
RestaMoN2	Restaurant	Motors	New	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.2410	15	56520	0.0231	419.7	\$52					

PPL Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Summer Peak KW Savings (%)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Fla
RestaMo120	Restaurant	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is		\$0.21	15	5,194	0.120	935	\$20,019	18.00%	75%	95%	4,690	1
RestaMo121	Restaurant	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%		\$0.80	10	136,760	0.880	6,838	\$3,450.00	5.00%	75%	95%	0.884	0
RestaMo122	Restaurant	Motors	Turnover	22	Air Comp Improvements			\$0.11	15	56,148	1.148	8,928	\$990.00	16%	28%	65%	9,050	1
RestaMo12	Restaurant	Motors	Early	2	Air Compressor Optimization			\$0.16	15	56,148	2.174	16,901	\$2,750.00	30%	38%	65%	6,168	1
MiscMo1	Misc	Motors	Early	1	Motor Retrocommissioning			\$0.27	7	56,148	1.156	8,984	\$2,450.00	16%	95%	75%	1,824	1
WarehMoN1	Warehouse	Motors	New	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1,114	15	15,247	0.0282	138.3	\$154	0.91%	74.4%	100%	0.946	0
WarehMoN2	Warehouse	Motors	New	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1,208	15	58416	0.0231	433.8	\$521	0.74%	74.4%	100%	0.796	0
WarehMoN3	Warehouse	Motors	New	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1,0789	15	143401	0.0138	638.4	\$689	0.45%	66.3%	100%	0.867	0
WarehMoN4	Warehouse	Motors	New	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0,4540	15	288334	0.0121	1125.1	\$511	0.39%	55.8%	100%	2.044	1
WarehMoN5	Warehouse	Motors	New	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0,3809	15	618773	0.0284	5660.3	\$2,156	0.91%	55.8%	100%	2.427	1
WarehMoN6	Warehouse	Motors	New	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0,5686	15	96731	2.489	19,346	\$11,000.00	20%	55.0%	100%	1.765	1
WarehMoN7	Warehouse	Motors	New	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0,5116	15	96731	12.674	25408.1	\$13,000.00	26%	70.0%	100%	2.425	1
WarehMoN8	Warehouse	Motors	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0,4887	15	96731	0.000	26601.1	\$13,000.00	28%	80.0%	100%	1.885	1
WarehMoN9	Warehouse	Motors	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0,5707	15	96731	12.674	22780.2	\$13,000.00	24%	70.0%	100%	2.238	1
WarehMoN10	Warehouse	Motors	New	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0,4917	15	96731	9.576	26439.9	\$13,000.00	27%	55.0%	100%	2.345	1
WarehMoN11	Warehouse	Motors	New	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0,5663	15	96731	12.674	22957.6	\$13,000.00	24%	30.0%	100%	2.251	1
WarehMoT1	Warehouse	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1,1114	15	15247	0.0282	138.3	\$154	0.91%	74.4%	100%	0.946	0
WarehMoT2	Warehouse	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1,2008	15	58416	0.0231	433.8	\$521	0.74%	74.4%	100%	0.796	0
WarehMoT3	Warehouse	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1,0789	15	143401	0.0138	638.4	\$689	0.45%	66.3%	100%	0.867	0
WarehMoT4	Warehouse	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0,4540	15	288334	0.0121	1125.1	\$511	0.39%	55.8%	100%	2.044	1
WarehMoT5	Warehouse	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0,3809	15	618773	0.0284	5660.3	\$2,156	0.91%	55.8%	100%	2.427	1
WarehMoT6	Warehouse	Motors	Turnover	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0,5686	15	96731	2.489	19,346	\$11,000.00	20%	55.0%	80%	1.765	1
WarehMoT7	Warehouse	Motors	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0,5116	15	96731	12.674	25408.1	\$13,000.00	26%	90.0%	80%	2.425	1
WarehMoT8	Warehouse	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0,4887	15	96731	0.000	26601.1	\$13,000.00	28%	90.0%	80%	1.885	1
WarehMoT9	Warehouse	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0,5707	15	96731	12.674	22780.2	\$13,000.00	24%	90.0%	80%	2.238	1
WarehMoT10	Warehouse	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0,4917	15	96731	9.576	26439.9	\$13,000.00	27%	80.0%	80%	2.345	1
WarehMoT11	Warehouse	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0,5663	15	96731	12.674	22957.6	\$13,000.00	24%	55.0%	100%	2.251	1
WarehMoT12	Warehouse	Motors	Turnover	12	Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0,5143	15	20104	0.188	1458.3	\$750	0.5%	35.0%	95%	1.951	1
WarehMoT13	Warehouse	Motors	Turnover	13	Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0,6330	15	628754	0.406	3159.6	\$2,000	0.5%	50.0%	95%	1.585	1
WarehMoT14	Warehouse	Motors	Turnover	14	Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0,4747	15	59314	0.068	526.7	\$250	0.9%	70.0%	95%	2.114	1
WarehMoT15	Warehouse	Motors	Turnover	15	Motors: Rewind 500+ HP	(E) Motor	Motor	\$0,5486	15	1450970	0.938	7291.3	\$4,000	0.5%	70.0%	95%	1.829	1
WarehMoT16	Warehouse	Motors	Turnover	16	Motors: Rewind 51-100 HP	(E) Motor	Motor	\$0,5894	15	146674	0.109	848.4	\$500	0.6%	20.0%	95%	1.703	1
WarehMoT17	Warehouse	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	3.727	1
WarehMoN12	Warehouse	Motors	New	12	Demand Control Ventilation (DCV)	Base Standard Ventilation		\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	3.710	1
WarehMoN13	Warehouse	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood		\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.043	0
WarehMoN14	Warehouse	Motors	New	14	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is		\$0.21	15	5,194	0.120	935	\$20,019	18.00%	75%	95%	4.690	1
WarehMoN15	Warehouse	Motors	New	15	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%		\$0.80	10	136,760	0.880	6,838	\$3,450.00	5.00%	75%	95%	0.884	0
WarehMoT18	Warehouse	Motors	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation		\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	3.710	1
WarehMoT19	Warehouse	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood		\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.043	0
WarehMoT20	Warehouse	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is		\$0.21	15	5,194	0.120	935	\$20,019	18.00%	75%	95%	4.690	1
WarehMoT21	Warehouse	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%		\$0.80	10	136,760	0.880	6,838	\$3,450.00	5.00%	75%	95%	0.884	0
WarehMoT22	Warehouse	Motors	Turnover	22	Air Comp Improvements			\$0.11	15	56,148	1.148	8,928	\$990.00	16%	28%	65%	9,050	1
WarehMoT2	Warehouse	Motors	Early	2	Air Compressor Optimization			\$0.16	15	56,148	2.174	16,901	\$2,750.00	30%	38%	65%	6,168	1
MiscMoT23	Misc	Motors	Turnover	23	Motor Retrocommissioning			\$0.27	7	56,148	1.156	8,984	\$2,450.00	16%	95%	75%	1,824	1
HealthEn2	Healthcare	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$38.96	15	318	0.23	19	\$ 7500	6%	20%	95%	0.224	0
HealthEn3	Healthcare	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$38.96	15	318	0.000	19	\$7500.00	6%	100%	95%	0.024	0
GrocePaE1	Grocery	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3.13	20	648	0.05	64	\$200.00	10%	15%	9%	0.561	0
GrocePaE2	Grocery	Packaged DX	Early	2	Adding window shade film	No shade film	sq ft window area	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.049	0
GrocePaE3	Grocery	Packaged DX	Early	3	Adding window shade screen	No shade screen	sq ft window area	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.255	0
GrocePaE4	Grocery	Packaged DX	Early	4	Windows U<0.40, 55 SHGC	Existing window specifications	sq ft window area	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	1.179	1
GrocePaE5	Grocery	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$5.21	20	648	0.05	43	\$225.00	7%	95%	95%	0.932	0
GrocePaE7	Grocery	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$0.73	10	685	0.004	34	\$25.00	5%	100%	65%	0.958	0
GrocePaE8	Grocery	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	648	0.05	12	\$95.00	2%	45%	80%	0.439	0
GrocePaE9	Grocery	Packaged DX	Early	9	Hotel Keyword Sensing	No prior controls	room Controls	\$0.29	10	582	0.041	342	\$100.00	59%	95%	80%	2.392	1
GrocePaE10	Grocery	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	705	0.05	64	\$35.00	9%	100%	45%	0.181	0
GrocePaE11	Grocery	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	648	0.015	125	\$55.00	19%	100%	45%	1.589	1
GrocePaE13	Grocery	Packaged DX	Early	13	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.53	7	648	0.05	104	\$55.15	16%	95%	75%	1.135	1
GrocePaN1	Grocery	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	648	0.05	64	\$85.00	10%	100%	95%	1.289	1
GrocePaN2	Grocery	Packaged DX	New	2	Adding reflective roof treatment	Std color roof	ton	\$4.50	20	648	0.05	10	\$45.00	2%	100%	95%	1.104	1
GrocePaN3	Grocery	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$2.89	20	648	0.05	43	\$125.00	7%	100%	95%	0.705	0
GrocePaN4	Grocery	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Std Roof	ton	\$2.95	20	648	0.05	43	\$127.43	7%	45%	95%	0.692	0
GrocePaN5	Grocery	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	648	0.05	12	\$125.00	2%	100%	95%	0.416	0
GrocePaN6	Grocery	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.27	20	558	0.04	20	\$90.40	7%	100%	95%	0.900	

PPL Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRG Test	Economic Flag
InstiPa15	Institutional	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$698	20	483	0.05	32	\$225.00	7%	95%	95%	0.335	0
InstiPa17	Institutional	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$9.98	10	511	0.003	26	\$25.00	5%	100%	65%	0.714	0
InstiPa18	Institutional	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$792	15	483	0.05	12	\$95.00	2%	45%	80%	0.439	0
InstiPa19	Institutional	Packaged DX	Early	9	Hotel Keycard Sensors	No prior controls	oom Controlle	\$0.29	10	434	0.041	342	\$100.00	79%	95%	80%	2.392	1
InstiPa10	Institutional	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	525	0.05	64	\$35.00	12%	100%	45%	0.181	0
InstiPa11	Institutional	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	483	0.015	125	\$55.00	26%	100%	45%	1.589	1
InstiPa12	Institutional	Packaged DX	Early	13	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.71	7	483	0.05	77	\$55.15	16%	95%	75%	0.918	0
InstiPa1	Institutional	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	483	0.05	64	\$87.00	13%	100%	95%	1.289	1
InstiPa2	Institutional	Packaged DX	New	2	Adding reflective roof treatment	Std color roof	ton	\$4.50	20	483	0.05	10	\$45.00	2%	100%	95%	1.104	1
InstiPa3	Institutional	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$3.88	20	483	0.05	32	\$125.00	7%	100%	95%	0.603	0
InstiPa4	Institutional	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Std Roof	ton	\$3.96	20	483	0.05	32	\$127.43	7%	45%	95%	0.592	0
InstiPa5	Institutional	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	483	0.05	12	\$125.00	2%	100%	95%	0.416	0
InstiPa6	Institutional	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$3.04	20	416	0.04	30	\$90.40	7%	100%	95%	0.770	0
InstiPa7	Institutional	Packaged DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$3.26	20	416	0.08	56	\$180.81	13%	100%	95%	0.718	0
InstiPa8	Institutional	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$3.47	20	416	0.12	78	\$271.21	19%	100%	95%	0.674	0
InstiPa9	Institutional	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.71	20	483	0.05	32	\$55.00	7%	100%	95%	1.371	1
InstiPa10	Institutional	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.71	20	492	0.06	41	\$70.00	8%	100%	95%	1.371	1
InstiPa11	Institutional	Packaged DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$2.87	20	541	0.06	40	\$115.13	7%	100%	95%	0.815	0
InstiPa12	Institutional	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$3.60	20	558	0.04	27	\$98.39	5%	100%	95%	0.650	0
InstiPa13	Institutional	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$4.75	15	492	0.23	158	\$ 7500	32%	20%	95%	0.394	0
InstiPa14	Institutional	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$8.51	15	492	0.011	88	\$750.00	18%	100%	95%	0.117	0
InstiPa15	Institutional	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$2.35	15	483	0.009	72	\$170.00	15%	75%	45%	0.425	0
InstiPa16	Institutional	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$1.85	15	483	0.012	97	\$179.00	20%	100%	95%	0.538	0
InstiPa17	Institutional	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$4.82	15	511	0.003	23	\$110.89	5%	100%	95%	0.207	0
InstiPa11	Institutional	Packaged DX	Turnover	1	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	483	0.05	12	\$125.00	2%	100%	95%	0.333	0
InstiPa12	Institutional	Packaged DX	Turnover	2	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$3.04	20	416	0.04	30	\$90.40	7%	100%	95%	0.770	0
InstiPa13	Institutional	Packaged DX	Turnover	3	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$3.26	20	416	0.08	56	\$180.81	13%	100%	95%	0.718	0
InstiPa14	Institutional	Packaged DX	Turnover	4	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$3.47	20	416	0.12	78	\$271.21	19%	100%	95%	0.674	0
InstiPa15	Institutional	Packaged DX	Turnover	5	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.71	20	483	0.05	32	\$55.00	7%	100%	95%	1.371	1
InstiPa16	Institutional	Packaged DX	Turnover	6	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.71	20	492	0.06	41	\$70.00	8%	100%	95%	1.371	1
InstiPa17	Institutional	Packaged DX	Turnover	7	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$2.87	20	541	0.06	40	\$115.13	7%	100%	95%	0.815	0
InstiPa18	Institutional	Packaged DX	Turnover	8	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$3.60	20	558	0.04	27	\$98.39	5%	100%	95%	0.650	0
InstiPa19	Institutional	Packaged DX	Turnover	9	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$4.75	15	492	0.23	158	\$ 7500	32%	5%	95%	0.394	0
InstiPa10	Institutional	Packaged DX	Turnover	10	Ground Source HP Closed	Air Source Heat Pump	ton	\$8.51	15	492	0.011	88	\$750.00	18%	100%	95%	0.117	0
InstiPa11	Institutional	Packaged DX	Turnover	11	Air-side Economizer	No Economizer	ton	\$2.35	15	483	0.009	72	\$170.00	15%	75%	45%	0.425	0
InstiPa12	Institutional	Packaged DX	Turnover	12	Energy Recovery Units	No Energy Recovery	ton	\$1.85	15	483	0.012	97	\$179.00	20%	100%	95%	0.538	0
InstiPa13	Institutional	Packaged DX	Turnover	13	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$4.82	15	511	0.003	23	\$110.89	5%	100%	95%	0.207	0
InstiPa18	Institutional	Packaged DX	New	18	Automated control system	Baseline DX	ton	\$9.98	10	511	0.003	26	\$25.00	5%	100%	65%	0.714	0
InstiPa19	Institutional	Packaged DX	New	19	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.82	10	434	0.003	24	\$43.00	5%	100%	95%	0.385	0
InstiPa15	Institutional	Packaged DX	Turnover	15	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.82	10	434	0.003	24	\$43.00	5%	100%	95%	0.385	0
LodgPa1	Lodging	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2,375	sq ft	\$3.13	20	576	0.05	64	\$200.00	11%	15%	9%	0.561	0
LodgPa2	Lodging	Packaged DX	Early	2	Adding window shade film	No shade film	sq ft window art	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.049	0
LodgPa3	Lodging	Packaged DX	Early	3	Adding window shade screen	No shade screen	sq ft window art	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.255	0
LodgPa4	Lodging	Packaged DX	Early	4	Windows U<0.40, 55 SHGC	Existing window specifications	sq ft window art	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	1.179	1
LodgPa5	Lodging	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$5.86	20	576	0.05	38	\$225.00	7%	95%	95%	0.367	0
LodgPa6	Lodging	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$0.82	10	609	0.004	30	\$25.00	5%	100%	65%	0.852	0
LodgPa8	Lodging	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	576	0.05	12	\$95.00	2%	45%	80%	0.439	0
LodgPa9	Lodging	Packaged DX	Early	9	Hotel Keycard Sensors	No prior controls	oom Controlle	\$0.29	10	517	0.041	342	\$100.00	66%	95%	80%	2.392	1
LodgPa10	Lodging	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	627	0.05	64	\$35.00	10%	100%	45%	0.181	0
LodgPa11	Lodging	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	576	0.015	125	\$55.00	22%	100%	45%	1.589	1
LodgPa13	Lodging	Packaged DX	Early	13	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.60	7	576	0.05	92	\$55.15	16%	95%	75%	1.041	1
LodgPa1	Lodging	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	576	0.05	64	\$87.00	11%	100%	95%	1.289	1
LodgPa2	Lodging	Packaged DX	New	2	Adding reflective roof treatment	Std color roof	ton	\$4.50	20	576	0.05	10	\$45.00	2%	100%	95%	1.104	1
LodgPa3	Lodging	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$3.25	20	576	0.05	38	\$125.00	7%	100%	95%	0.661	0
LodgPa4	Lodging	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Std Roof	ton	\$3.22	20	576	0.05	38	\$127.43	7%	45%	95%	0.648	0
LodgPa5	Lodging	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	576	0.05	12	\$125.00	2%	100%	95%	0.416	0
LodgPa6	Lodging	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.55	20	497	0.04	35	\$90.40	7%	100%	95%	0.843	0
LodgPa7	Lodging	Packaged DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.73	20	497	0.08	66	\$180.81	13%	100%	95%	0.787	0
LodgPa8	Lodging	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.91	20	497	0.12	93	\$271.21	19%	100%	95%	0.738	0
LodgPa9	Lodging	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.43	20	576	0.05	38	\$55.00	7%	100%	95%	1.501	1
LodgPa10	Lodging	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.43	20	587	0.06	49	\$70.00	8%	100%	95%	1.501	1
LodgPa11	Lodging	Packaged DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$2.41	20	646	0.06	48	\$115.13	7%	100%	95%	0.893	0
LodgPa12	Lodging	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$3.02	20	666	0.04	33	\$98.39	5%	100%	95%	0.713	0
LodgPa13	Lodging	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$3.78	15	587	0.23	188	\$ 7500	20%	95%	0.431	0	
LodgPa14	Lodging	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$7.13	15	587	0.013	105	\$750.00	18%	100%	95%	0.140	0
LodgPa15	Lodging	Packaged DX</																

PPL Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Summer Peak KW Savings	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRG Test	Economic Flag
MiscPa13	Misc	Packaged DX	Early	13	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.52	7	665	0.05	106	\$55.15	16%	95%	75%	1.157	1
MiscPa15	Misc	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.56	20	665	0.05	64	\$87.00	10%	100%	95%	1.289	1
MiscPa2	Misc	Packaged DX	New	2	Adding reflective roof treatment	Sld color roof	ton	\$4.50	20	665	0.05	10	\$45.00	2%	100%	95%	1.104	1
MiscPa3	Misc	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$2.82	20	665	0.05	44	\$125.00	7%	100%	95%	0.715	0
MiscPa4	Misc	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Sld Roof	ton	\$2.87	20	665	0.05	44	\$127.43	7%	45%	95%	0.702	0
MiscPa5	Misc	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	665	0.05	12	\$125.00	2%	100%	95%	0.416	0
MiscPa6	Misc	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.21	20	573	0.04	41	\$90.40	7%	100%	95%	0.913	0
MiscPa7	Misc	Packaged DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.37	20	573	0.08	76	\$180.81	13%	100%	95%	0.852	0
MiscPa8	Misc	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.52	20	573	0.12	107	\$271.21	19%	100%	95%	0.799	0
MiscPa9	Misc	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.24	20	665	0.05	44	\$55.00	7%	100%	95%	1.626	1
MiscPa10	Misc	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.24	20	677	0.06	56	\$70.00	8%	100%	95%	1.626	1
MiscPa11	Misc	Packaged DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$2.09	20	745	0.06	55	\$115.13	7%	100%	95%	0.967	0
MiscPa12	Misc	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$2.61	20	768	0.04	38	\$98.39	5%	100%	95%	0.772	0
MiscPa13	Misc	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$3.45	15	677	0.23	217	\$ 750.00	32%	20%	95%	0.467	0
MiscPa14	Misc	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$6.18	15	677	0.014	121	\$750.00	18%	100%	95%	0.161	0
MiscPa15	Misc	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$1.70	15	665	0.012	100	\$170.00	15%	75%	45%	0.585	0
MiscPa16	Misc	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$1.35	15	665	0.016	133	\$179.00	20%	100%	95%	0.740	0
MiscPa17	Misc	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$3.50	15	703	0.004	32	\$110.89	5%	100%	95%	0.284	0
MiscPa21	Misc	Packaged DX	Turnover	1	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	665	0.05	12	\$125.00	2%	100%	95%	0.333	0
MiscPa2	Misc	Packaged DX	Turnover	2	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.21	20	573	0.04	41	\$90.40	7%	100%	95%	0.913	0
MiscPa3	Misc	Packaged DX	Turnover	3	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.37	20	573	0.08	76	\$180.81	13%	100%	95%	0.852	0
MiscPa4	Misc	Packaged DX	Turnover	4	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.52	20	573	0.12	107	\$271.21	19%	100%	95%	0.799	0
MiscPa5	Misc	Packaged DX	Turnover	5	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.24	20	665	0.05	44	\$55.00	7%	100%	95%	1.626	1
MiscPa6	Misc	Packaged DX	Turnover	6	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.24	20	677	0.06	56	\$70.00	8%	100%	95%	1.626	1
MiscPa7	Misc	Packaged DX	Turnover	7	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$2.09	20	745	0.06	55	\$115.13	7%	100%	95%	0.967	0
MiscPa8	Misc	Packaged DX	Turnover	8	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$2.61	20	768	0.04	38	\$98.39	5%	100%	95%	0.772	0
MiscPa9	Misc	Packaged DX	Turnover	9	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$3.45	15	677	0.23	217	\$ 750.00	32%	5%	95%	0.467	0
MiscPa10	Misc	Packaged DX	Turnover	10	Ground Source HP Closed	Air Source Heat Pump	ton	\$6.18	15	677	0.014	121	\$750.00	18%	100%	95%	0.161	0
MiscPa11	Misc	Packaged DX	Turnover	11	Air-side Economizer	No Economizer	ton	\$1.70	15	665	0.012	100	\$170.00	15%	75%	45%	0.585	0
MiscPa12	Misc	Packaged DX	Turnover	12	Energy Recovery Units	No Energy Recovery	ton	\$1.35	15	665	0.016	133	\$179.00	20%	100%	95%	0.740	0
MiscPa13	Misc	Packaged DX	Turnover	13	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$3.50	15	703	0.004	32	\$110.89	5%	100%	95%	0.284	0
MiscPa18	Misc	Packaged DX	New	18	Automated control system	Baseline DX	ton	\$0.71	10	703	0.004	35	\$25.00	5%	100%	65%	0.983	0
MiscPa19	Misc	Packaged DX	New	19	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.32	10	597	0.004	33	\$43.00	5%	100%	95%	0.529	0
MiscPa15	Misc	Packaged DX	Turnover	15	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.32	10	597	0.004	33	\$43.00	5%	100%	95%	0.529	0
OfficePa1	Office	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3.13	20	648	0.05	64	\$200.00	10%	15%	9%	0.561	0
OfficePa2	Office	Packaged DX	Early	2	Adding window shade film	No shade film	sq ft window area	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.049	0
OfficePa3	Office	Packaged DX	Early	3	Adding window shade screen	No shade screen	sq ft window area	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.255	0
OfficePa4	Office	Packaged DX	Early	4	Windows U<0.40, 55 SHGC	Existing window specifications	sq ft window area	\$1.40	30	2	0.000	0	\$225.00	13%	50%	95%	1.179	1
OfficePa5	Office	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$5.21	20	648	0.05	43	\$125.00	7%	95%	0.392	0	
OfficePa7	Office	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$0.73	10	685	0.004	34	\$25.00	5%	100%	65%	0.958	0
OfficePa8	Office	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	648	0.05	12	\$95.00	2%	45%	80%	0.439	0
OfficePa9	Office	Packaged DX	Early	9	Hotel Keypad Sensors	No prior controls	room Control	\$0.29	10	582	0.041	342	\$100.00	55%	95%	80%	2.392	1
OfficePa10	Office	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	755	0.05	64	\$35.00	9%	100%	45%	0.181	0
OfficePa11	Office	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	648	0.015	125	\$55.00	19%	100%	45%	1.589	1
OfficePa13	Office	Packaged DX	Early	13	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.53	7	648	0.05	64	\$55.15	16%	95%	75%	1.135	1
OfficePa1	Office	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	648	0.05	64	\$87.00	10%	100%	95%	1.289	1
OfficePa2	Office	Packaged DX	New	2	Adding reflective roof treatment	Sld color roof	ton	\$4.50	20	648	0.05	10	\$45.00	2%	100%	95%	1.104	1
OfficePa3	Office	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$2.89	20	648	0.05	43	\$125.00	7%	100%	95%	0.705	0
OfficePa4	Office	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Sld Roof	ton	\$2.95	20	648	0.05	43	\$127.43	7%	45%	95%	0.692	0
OfficePa5	Office	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	648	0.05	12	\$125.00	2%	100%	95%	0.416	0
OfficePa6	Office	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.27	20	558	0.04	40	\$90.40	7%	100%	95%	0.900	0
OfficePa7	Office	Packaged DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.43	20	558	0.08	74	\$180.81	13%	100%	95%	0.840	0
OfficePa8	Office	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.59	20	558	0.12	105	\$271.21	19%	100%	95%	0.787	0
OfficePa9	Office	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.27	20	648	0.05	43	\$55.00	7%	100%	95%	1.602	1
OfficePa10	Office	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.27	20	660	0.06	55	\$70.00	8%	100%	95%	1.602	1
OfficePa11	Office	Packaged DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$2.14	20	726	0.06	54	\$115.13	7%	100%	95%	0.952	0
OfficePa12	Office	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$2.68	20	748	0.04	37	\$98.39	5%	100%	95%	0.760	0
OfficePa13	Office	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$3.54	15	660	0.23	212	\$ 750.00	32%	5%	95%	0.460	0
OfficePa14	Office	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$6.34	15	660	0.014	118	\$750.00	18%	100%	95%	0.157	0
OfficePa15	Office	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$1.75	15	648	0.012	97	\$170.00	15%	75%	45%	0.570	0
OfficePa16	Office	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$1.38	15	648	0.015	130	\$179.00	20%	100%	95%	0.722	0
OfficePa17	Office	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$3.59	15	685	0.004	31	\$110.89	5%	100%	95%	0.277	0
OfficePa21	Office	Packaged DX	Turnover	1	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	648	0.05	12	\$125.00	2%	100%	95%	0.333	0
OfficePa2	Office	Packaged DX	Turnover	2	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.27	20	558	0.04	40	\$90.40	7%	100%	95%	0.900	0
OfficePa3	Office	Packaged DX	Turnover	3	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.43	20	558	0.08	74	\$180.81	13%	100%	95%	0.840	0
OfficePa4	Office	Packaged DX	Turnover	4	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (

PPL Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Summer Peak KW Savings	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Fla
RestaPaN6	Restaurant	Package DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.12	20	598	0.04	43	\$90.40	7%	100%	95%	0.936	0
RestaPaN8	Restaurant	Package DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.27	20	598	0.08	80	\$180.81	13%	100%	95%	0.874	0
RestaPaN8	Restaurant	Package DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.42	20	598	0.12	112	\$271.21	19%	100%	95%	0.819	0
RestaPaN9	Restaurant	Package DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.19	20	694	0.05	46	\$55.00	7%	100%	95%	1.667	1
RestaPaN10	Restaurant	Package DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.19	20	707	0.06	59	\$70.00	8%	100%	95%	1.667	1
RestaPaN11	Restaurant	Package DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$2.00	20	778	0.06	58	\$115.13	7%	100%	95%	0.991	0
RestaPaN12	Restaurant	Package DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$2.50	20	802	0.04	39	\$98.39	5%	100%	95%	0.791	0
RestaPaN13	Restaurant	Package DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$3.31	15	707	0.23	227	\$ 750.00	32%	20%	95%	0.479	0
RestaPaN14	Restaurant	Package DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$5.92	15	707	0.015	127	\$750.00	18%	100%	95%	0.168	0
RestaPaN15	Restaurant	Package DX	New	15	Air-side Economizer	No Economizer	ton	\$1.63	15	694	0.012	104	\$170.00	15%	75%	45%	0.610	0
RestaPaN16	Restaurant	Package DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$1.29	15	694	0.017	139	\$179.00	20%	100%	95%	0.773	0
RestaPaN17	Restaurant	Package DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$3.36	15	734	0.004	33	\$110.89	5%	100%	95%	0.297	0
RestaPa11	Restaurant	Package DX	Turnover	1	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	694	0.05	12	\$125.00	2%	100%	95%	0.333	0
RestaPa12	Restaurant	Package DX	Turnover	2	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.12	20	598	0.04	43	\$90.40	7%	100%	95%	0.936	0
RestaPa13	Restaurant	Package DX	Turnover	3	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.27	20	598	0.08	80	\$180.81	13%	100%	95%	0.874	0
RestaPa14	Restaurant	Package DX	Turnover	4	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.42	20	598	0.12	112	\$271.21	19%	100%	95%	0.819	0
RestaPa15	Restaurant	Package DX	Turnover	5	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.19	20	694	0.05	46	\$55.00	7%	100%	95%	1.667	1
RestaPa16	Restaurant	Package DX	Turnover	6	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.19	20	707	0.06	59	\$70.00	8%	100%	95%	1.667	1
RestaPa17	Restaurant	Package DX	Turnover	7	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$2.00	20	778	0.06	58	\$115.13	7%	100%	95%	0.991	0
RestaPa18	Restaurant	Package DX	Turnover	8	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$2.50	20	802	0.04	39	\$98.39	5%	100%	95%	0.791	0
RestaPa19	Restaurant	Package DX	Turnover	9	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$3.31	15	707	0.23	227	\$ 750.00	32%	5%	95%	0.479	0
RestaPa110	Restaurant	Package DX	Turnover	10	Ground Source HP Closed	Air Source Heat Pump	ton	\$5.92	15	707	0.015	127	\$750.00	18%	100%	95%	0.168	0
RestaPa111	Restaurant	Package DX	Turnover	11	Air-side Economizer	No Economizer	ton	\$1.63	15	694	0.012	104	\$170.00	15%	75%	45%	0.610	0
RestaPa112	Restaurant	Package DX	Turnover	12	Energy Recovery Units	No Energy Recovery	ton	\$1.29	15	694	0.017	139	\$179.00	20%	100%	95%	0.773	0
RestaPa113	Restaurant	Package DX	Turnover	13	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$3.36	15	734	0.004	33	\$110.89	5%	100%	95%	0.297	0
RestaPaN18	Restaurant	Package DX	New	18	Automated control system	Baseline DX	ton	\$0.68	10	719	0.004	37	\$25.00	5%	100%	65%	1.026	1
RestaPa114	Restaurant	Package DX	Turnover	14	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.29	10	611	0.004	34	\$43.00	5%	100%	95%	0.533	0
RestaPa115	Restaurant	Package DX	Turnover	15	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.29	10	611	0.004	34	\$43.00	5%	100%	95%	0.533	0
RestaPa11	Retail	Package DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2,375	sq ft	\$3.13	20	680	0.05	64	\$200.00	9%	15%	9%	0.561	0
RestaPa12	Retail	Package DX	Early	2	Adding window shade film	No shade film	sq ft window art	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.049	0
RestaPa13	Retail	Package DX	Early	3	Adding window shade screen	No shade screen	sq ft window art	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.255	0
RestaPa14	Retail	Package DX	Early	4	Windows U<0.40, 55 SHGC	Existing window specifications	sq ft window art	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	1.179	1
RestaPa15	Retail	Package DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$4.96	20	680	0.05	45	\$225.00	7%	95%	95%	0.403	0
RestaPa17	Retail	Package DX	Early	7	Automated control system	Baseline DX	ton	\$0.70	10	719	0.004	36	\$25.00	5%	100%	65%	1.005	1
RestaPa18	Retail	Package DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	680	0.05	12	\$95.00	2%	45%	80%	0.439	0
RestaPa19	Retail	Package DX	Early	9	Hotel Keypad Sensors	No prior controls	room Controlle	\$0.29	10	611	0.041	342	\$100.00	56%	95%	80%	2.392	1
RestaPa110	Retail	Package DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	740	0.05	64	\$35.00	9%	100%	45%	0.181	0
RestaPa111	Retail	Package DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	680	0.015	125	\$55.00	18%	100%	45%	1.589	1
RestaPa113	Retail	Package DX	Early	13	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.51	7	680	0.05	109	\$55.15	16%	95%	75%	1.378	1
RestaPaN1	Retail	Package DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	680	0.05	64	\$87.00	9%	100%	95%	1.289	1
RestaPaN2	Retail	Package DX	New	2	Adding reflective roof treatment	Std color roof	ton	\$4.50	20	680	0.05	10	\$45.00	1%	100%	95%	1.104	1
RestaPaN3	Retail	Package DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$2.76	20	680	0.05	45	\$125.00	7%	100%	95%	0.725	0
RestaPaN4	Retail	Package DX	New	4	Green Roof (New construction or roof replacement)	Std Roof	ton	\$2.81	20	680	0.05	45	\$127.43	7%	45%	95%	0.711	0
RestaPaN5	Retail	Package DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	680	0.05	12	\$125.00	2%	100%	95%	0.416	0
RestaPaN6	Retail	Package DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.16	20	586	0.04	42	\$90.40	7%	100%	95%	0.925	0
RestaPaN7	Retail	Package DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.31	20	586	0.08	78	\$180.81	13%	100%	95%	0.863	0
RestaPaN8	Retail	Package DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.47	20	586	0.12	110	\$271.21	19%	100%	95%	0.809	0
RestaPaN9	Retail	Package DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.21	20	680	0.05	45	\$55.00	7%	100%	95%	1.647	1
RestaPaN10	Retail	Package DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.21	20	693	0.06	58	\$70.00	8%	100%	95%	1.647	1
RestaPaN11	Retail	Package DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$2.04	20	762	0.06	56	\$115.13	7%	100%	95%	0.979	0
RestaPaN12	Retail	Package DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$2.56	20	786	0.04	39	\$98.39	5%	100%	95%	0.782	0
RestaPaN13	Retail	Package DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$3.37	15	693	0.23	222	\$ 750.00	32%	20%	95%	0.473	0
RestaPaN14	Retail	Package DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$6.04	15	693	0.015	124	\$750.00	18%	100%	95%	0.165	0
RestaPaN15	Retail	Package DX	New	15	Air-side Economizer	No Economizer	ton	\$1.67	15	680	0.012	102	\$170.00	15%	75%	45%	0.598	0
RestaPaN16	Retail	Package DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$1.32	15	680	0.016	136	\$179.00	20%	100%	95%	0.757	0
RestaPaN17	Retail	Package DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$3.42	15	719	0.004	32	\$110.89	5%	100%	95%	0.291	0
RestaPa11	Retail	Package DX	Turnover	1	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	680	0.05	12	\$125.00	2%	100%	95%	0.333	0
RestaPa12	Retail	Package DX	Turnover	2	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.16	20	586	0.04	42	\$90.40	7%	100%	95%	0.925	0
RestaPa13	Retail	Package DX	Turnover	3	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.31	20	586	0.08	78	\$180.81	13%	100%	95%	0.863	0
RestaPa14	Retail	Package DX	Turnover	4	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.47	20	586	0.12	110	\$271.21	19%	100%	95%	0.809	0
RestaPa15	Retail	Package DX	Turnover	5	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.21	20	680	0.05	45	\$55.00	7%	100%	95%	1.647	1
RestaPa16	Retail	Package DX	Turnover	6	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.21	20	693	0.06	58	\$70.00	8%	100%	95%	1.647	1
RestaPa17	Retail	Package DX	Turnover	7	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$2.04	20	762	0.06	56	\$115.13	7%	100%	95%	0.979	0
RestaPa18	Retail	Package DX	Turnover	8	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$2.56	20	786	0.04	39	\$98.39	5%	100%	95%	0.782	0
RestaPa19	Retail	Package DX	Turnover	9	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$3.37	15	693	0.23							

PPL Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Summer Peak KW Savings (%)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
WarehPaN12	Warehouse	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$3.30	20	609	0.04	30	\$98.39	5%	100%	95%	0.680	0
WarehPaN13	Warehouse	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$4.35	15	537	0.23	172	\$750.00	3%	20%	95%	0.412	0
WarehPaN14	Warehouse	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$7.80	15	537	0.01	96	\$750.00	18%	100%	95%	0.128	0
WarehPaN15	Warehouse	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$2.15	15	527	0.009	79	\$170.00	15%	75%	45%	0.463	0
WarehPaN16	Warehouse	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$1.70	15	527	0.013	105	\$179.00	20%	100%	95%	0.587	0
WarehPaN17	Warehouse	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$4.42	15	557	0.003	25	\$110.89	5%	100%	95%	0.225	0
WarehPa11	Warehouse	Packaged DX	Turnover	1	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	527	0.05	12	\$125.00	2%	100%	95%	0.333	0
WarehPa12	Warehouse	Packaged DX	Turnover	2	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.79	20	454	0.04	32	\$90.40	7%	100%	95%	0.804	0
WarehPa13	Warehouse	Packaged DX	Turnover	3	<65k, 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.99	20	454	0.08	61	\$180.81	13%	100%	95%	0.751	0
WarehPa14	Warehouse	Packaged DX	Turnover	4	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$3.18	20	454	0.12	85	\$271.21	19%	100%	95%	0.704	0
WarehPa15	Warehouse	Packaged DX	Turnover	5	65-135k, AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.57	20	527	0.05	35	\$55.00	7%	100%	95%	1.432	1
WarehPa16	Warehouse	Packaged DX	Turnover	6	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.57	20	537	0.06	45	\$70.00	8%	100%	95%	1.432	1
WarehPa17	Warehouse	Packaged DX	Turnover	7	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$2.63	20	590	0.06	44	\$115.13	7%	100%	95%	0.851	0
WarehPa18	Warehouse	Packaged DX	Turnover	8	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$3.30	20	609	0.04	30	\$98.39	5%	100%	95%	0.680	0
WarehPa19	Warehouse	Packaged DX	Turnover	9	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$4.35	15	537	0.23	172	\$750.00	3%	20%	95%	0.412	0
WarehPa110	Warehouse	Packaged DX	Turnover	10	Ground Source HP Closed	Air Source Heat Pump	ton	\$7.80	15	537	0.01	96	\$750.00	18%	100%	95%	0.128	0
WarehPa111	Warehouse	Packaged DX	Turnover	11	Air-side Economizer	No Economizer	ton	\$2.15	15	527	0.009	79	\$170.00	15%	75%	45%	0.463	0
WarehPa112	Warehouse	Packaged DX	Turnover	12	Energy Recovery Units	No Energy Recovery	ton	\$1.70	15	527	0.013	105	\$179.00	20%	100%	95%	0.587	0
WarehPa113	Warehouse	Packaged DX	Turnover	13	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$4.42	15	557	0.003	25	\$110.89	5%	100%	95%	0.225	0
WarehPaN18	Warehouse	Packaged DX	New	18	Automated control system	Baseline DX	ton	\$0.90	10	557	0.003	28	\$25.00	5%	100%	65%	0.779	0
WarehPaN19	Warehouse	Packaged DX	New	19	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.67	10	473	0.003	26	\$43.00	5%	100%	95%	0.420	0
WarehPa115	Warehouse	Packaged DX	Turnover	15	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.67	10	473	0.003	26	\$43.00	5%	100%	95%	0.420	0
HealthE4	Healthcare	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$5.76	15	318	0.000	19	\$110.89	6%	100%	95%	0.164	0
HealthE1	Healthcare	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$5.76	15	318	0.000	19	\$110.89	6%	100%	95%	0.164	0
GroceHe1	Grocery	Heating	Early	1	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0.2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.723	1
GroceHe2	Grocery	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$4.44	20	1,369	0.05	45	\$200.00	3%	100%	95%	0.455	0
GroceHe3	Grocery	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$16.7	20	1,369	0.05	75	\$125.00	5%	100%	95%	1.010	1
GroceHe4	Grocery	Heating	Early	4	Green Roof (New construction or roof replacement)	Sid Roof	sq ft	\$3.75	20	1,369	0.05	34	\$127.43	2%	10%	95%	0.612	0
GroceHe5	Grocery	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0.1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	3.512	1
GroceHeN1	Grocery	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	1,369	0.05	45	\$87.00	3%	10%	95%	1.045	1
GroceHeN2	Grocery	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$9.04	15	1,369	0.23	83	\$750.00	6%	20%	95%	0.304	0
GroceHeN3	Grocery	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$9.04	15	1,369	0.001	83	\$750.00	6%	100%	95%	0.105	0
GroceHeN4	Grocery	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.34	15	1,369	0.001	83	\$110.89	6%	100%	95%	0.707	0
GroceHe11	Grocery	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.34	15	1,369	0.001	83	\$110.89	6%	100%	95%	0.707	0
InstilE1	Institutional	Heating	Early	1	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0.2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.723	1
InstilE2	Institutional	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$4.44	20	975	0.05	45	\$200.00	5%	10%	95%	0.455	0
InstilE3	Institutional	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$16.7	20	975	0.05	75	\$125.00	8%	10%	95%	1.010	1
InstilE4	Institutional	Heating	Early	4	Green Roof (New construction or roof replacement)	Sid Roof	sq ft	\$3.75	20	975	0.05	34	\$127.43	3%	10%	95%	0.612	0
InstilE5	Institutional	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0.1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	3.512	1
InstilE11	Institutional	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	975	0.05	45	\$87.00	5%	10%	95%	1.045	1
InstilE21	Institutional	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$12.70	15	975	0.23	59	\$750.00	6%	20%	95%	0.274	0
InstilE22	Institutional	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$12.70	15	975	0.001	59	\$750.00	6%	100%	95%	0.074	0
InstilE41	Institutional	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.88	15	975	0.001	59	\$110.89	6%	100%	95%	0.503	0
InstilE41	Institutional	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.88	15	975	0.001	59	\$110.89	6%	100%	95%	0.503	0
LodgHe1	Lodging	Heating	Early	1	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0.2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.723	1
LodgHe2	Lodging	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$4.44	20	1,659	0.05	45	\$200.00	3%	10%	95%	0.455	0
LodgHe3	Lodging	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$16.7	20	1,659	0.05	75	\$125.00	5%	10%	95%	1.010	1
LodgHe4	Lodging	Heating	Early	4	Green Roof (New construction or roof replacement)	Sid Roof	sq ft	\$3.75	20	1,659	0.05	34	\$127.43	2%	10%	95%	0.612	0
LodgHe5	Lodging	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0.1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	3.512	1
LodgHeN1	Lodging	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	1,659	0.05	45	\$87.00	3%	10%	95%	1.045	1
LodgHeN2	Lodging	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$7.46	15	1,659	0.23	101	\$750.00	6%	20%	95%	0.326	0
LodgHeN3	Lodging	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$7.46	15	1,659	0.001	101	\$750.00	6%	100%	95%	0.127	0
LodgHeN4	Lodging	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.10	15	1,659	0.001	101	\$110.89	6%	100%	95%	0.856	0
LodgHe11	Lodging	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.10	15	1,659	0.001	101	\$110.89	6%	100%	95%	0.856	0
MiscHe1	Misc	Heating	Early	1	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0.2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.723	1
MiscHe2	Misc	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$4.44	20	1,134	0.05	45	\$200.00	4%	10%	95%	0.455	0
MiscHe3	Misc	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$16.7	20	1,134	0.05	75	\$125.00	7%	10%	95%	1.010	1
MiscHe4	Misc	Heating	Early	4	Green Roof (New construction or roof replacement)	Sid Roof	sq ft	\$3.75	20	1,134	0.05	34	\$127.43	3%	10%	95%	0.612	0
MiscHe5	Misc	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0.1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	3.512	1
MiscHeN1	Misc	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	1,134	0.05	45	\$87.00	4%	10%	95%	1.045	1
MiscHeN2	Misc	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$10.91	15	1,134	0.23	69	\$750.00	6%	20%	95%	0.286	0
MiscHeN3	Misc	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$10.91	15	1,134	0.001	69	\$750.00	6%	100%	95%	0.087	0
MiscHeN4	Misc	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.61	15	1,134	0.001	69	\$110.89	6%	100%	95%	0.586	0
MiscHe11	Misc	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.61	15	1,134	0.001	69	\$110.89	6%	100%	95%	0.586	0
OfficHe1	Office	Heating	Early	2	Re													

PPL Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kW Saved)	Measure Life	Baseline kWh	Summer Summer Peak kW Savings	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRG Test	Economic Fla
WarehHe1	Warehouse	Heating	Early	1	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0.2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.723	1
WarehHe2	Warehouse	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2,375	sq ft	\$4.44	20	1,177	0.005	45	\$20,000	4%	10%	95%	0.453	0
WarehHe3	Warehouse	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.67	20	1,177	0.05	75	\$125,000	6%	10%	95%	1.010	0
WarehHe4	Warehouse	Heating	Early	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$3.75	20	1,177	0.05	34	\$127.43	3%	10%	95%	0.612	0
WarehHe5	Warehouse	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0.1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	3.512	1
WarehHeN1	Warehouse	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	1,177	0.05	45	\$87.00	4%	10%	95%	1.045	1
WarehHeN2	Warehouse	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$10.51	15	1,177	0.23	71	\$ 750.01	6%	20%	95%	0.289	0
WarehHeN3	Warehouse	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$10.51	15	1,177	0.001	71	\$750.00	6%	100%	95%	0.090	0
WarehHeN4	Warehouse	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.55	15	1,177	0.001	71	\$110.89	6%	100%	95%	0.608	0
WarehHe11	Warehouse	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.55	15	1,177	0.001	71	\$110.89	6%	100%	95%	0.608	0
GroceChE1	Grocery	Chiller	Early	1	Duct Sealing, down to 15%	Leakage of 29%	ton	\$2.1495	15	4,420	0.009	44,1960	\$95.00	1%	40%	\$0.90	0.477	0
GroceChE2	Grocery	Chiller	Early	2	Duct Insulation, Add R8	No Insulation	ton	\$2.8283	15	4,420	0.009	44,1960	\$125.00	1%	50%	95%	0.362	0
GroceChE3	Grocery	Chiller	Early	3	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW /ton	ton	\$0.5657	15	4,420	0.044	220,9800	\$125.00	5%	75%	75%	1.811	1
GroceChE4	Grocery	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0.5091	15	4,420	0.174	883.9	\$450.00	20%	75%	75%	2.012	1
GroceChE5	Grocery	Chiller	Early	5	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.5157	7	4,420	0.140	707	\$344.67	16%	75%	75%	0.978	0
GroceChE6	Grocery	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2,375	sq ft	\$0.82	15	4,420	0.05	245	\$200.00	6%	15%	95%	1.253	1
GroceChE7	Grocery	Chiller	Early	7	Adding window shade film	No shade film	sq ft window area	\$7.0453	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.050	0
GroceChE8	Grocery	Chiller	Early	8	Adding window shade screen	No shade screen	sq ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.263	0
GroceChE9	Grocery	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.70	20	4,420	0.05	133	\$225.00	3%	75%	95%	0.837	0
GroceChN1	Grocery	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.56	20	4,420	0.05	155	\$87.00	4%	15%	95%	2.454	1
GroceChN2	Grocery	Chiller	New	2	Adding window shade screen	No shade screen	sq ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.263	0
GroceChN3	Grocery	Chiller	New	3	Adding reflective roof treatment	Std color roof	sq ft roof area	\$4.50	20	4,420	0.05	10	\$45.00	0%	100%	95%	1.099	1
GroceChN4	Grocery	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$2.95	20	4,420	0.05	43	\$127.43	1%	45%	95%	0.683	0
GroceChN5	Grocery	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW /Ton	ton	\$0.4781	15	4,420	0.76	533	\$255.00	12%	95%	95%	3.776	1
GroceChN6	Grocery	Chiller	New	6	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW /Ton	ton	\$0.2643	15	4,420	1.944	1,372	\$362.50	31%	95%	95%	6.831	1
GroceChN7	Grocery	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.1370	15	10,592	1.728	1,219	\$167.00	12%	95%	95%	13.180	1
GroceChN8	Grocery	Chiller	New	8	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW /ton, 500 tons	ton	\$0.5204	15	4,420	0.044	220,9800	\$150.00	5%	95%	75%	1.369	0
GroceChN9	Grocery	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.2828	15	4,420	0.174	883.9	\$250.00	20%	95%	75%	3.622	1
GroceChN10	Grocery	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$2.8283	15	4,420	0.009	44,1960	\$125.00	1%	100%	95%	0.362	0
GroceChT1	Grocery	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW /Ton	ton	\$0.5531	15	4,420	0.76	533	\$295.00	12%	95%	95%	3.264	1
GroceChT2	Grocery	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW /Ton	ton	\$0.3372	15	4,420	1.944	1,372	\$462.50	31%	95%	95%	5.354	1
GroceChT3	Grocery	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW /Ton	ton	\$0.5379	15	4,420	1.944	773	\$416.00	18%	95%	95%	4.661	1
GroceChN11	Grocery	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW /Ton	ton	\$0.5379	15	4,420	1.944	773	\$416.00	18%	95%	95%	4.661	1
GroceChT5	Grocery	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW /ton, 500 tons	ton	\$0.5747	15	4,420	0.044	220,9800	\$127.00	5%	95%	75%	1.783	1
GroceChT4	Grocery	Chiller	Turnover	4	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW /Ton	ton	\$0.1698	15	10,592	1.728	1,219	\$207.00	12%	95%	95%	10.633	1
InstiChE1	Institutional	Chiller	Early	1	Duct Sealing, down to 15%	Leakage of 29%	ton	\$3.0265	15	3,139	0.006	31,3896	\$95.00	1%	40%	\$0.90	0.338	0
InstiChE2	Institutional	Chiller	Early	2	Duct Insulation, Add R8	No Insulation	ton	\$3.9822	15	3,139	0.006	31,3896	\$125.00	1%	50%	95%	0.257	0
InstiChE3	Institutional	Chiller	Early	3	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW /ton	ton	\$0.7964	15	3,139	0.031	156,9480	\$125.00	5%	75%	75%	1.286	1
InstiChE4	Institutional	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0.7168	15	3,139	0.124	627.8	\$450.00	20%	75%	75%	1.429	1
InstiChE5	Institutional	Chiller	Early	5	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.7264	7	3,139	0.044	502	\$344.67	16%	75%	75%	0.694	0
InstiChE6	Institutional	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2,375	sq ft	\$0.82	15	3,139	0.05	245	\$200.00	6%	15%	95%	1.253	1
InstiChE7	Institutional	Chiller	Early	7	Adding window shade film	No shade film	sq ft window area	\$7.0453	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.050	0
InstiChE8	Institutional	Chiller	Early	8	Adding window shade screen	No shade screen	sq ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.263	0
InstiChE9	Institutional	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$2.39	20	3,139	0.05	94	\$225.00	3%	75%	95%	0.644	0
InstiChN1	Institutional	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.79	20	3,139	0.05	110	\$87.00	4%	15%	95%	1.870	1
InstiChN2	Institutional	Chiller	New	2	Adding window shade screen	No shade screen	sq ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.263	0
InstiChN3	Institutional	Chiller	New	3	Adding reflective roof treatment	Std color roof	sq ft roof area	\$4.50	20	3,139	0.05	10	\$45.00	0%	100%	95%	1.099	1
InstiChN4	Institutional	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$3.96	20	3,139	0.05	32	\$127.43	1%	45%	95%	0.586	0
InstiChN5	Institutional	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW /Ton	ton	\$0.6731	15	3,139	0.76	379	\$255.00	12%	95%	95%	3.232	1
InstiChN6	Institutional	Chiller	New	6	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW /Ton	ton	\$0.3721	15	3,139	1.944	974	\$362.50	31%	95%	95%	5.846	1
InstiChN7	Institutional	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.1929	15	7,523	1.728	866	\$167.00	12%	95%	95%	11.270	1
InstiChN8	Institutional	Chiller	New	8	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW /ton, 500 tons	ton	\$0.7327	15	3,139	0.031	156,9480	\$150.00	5%	95%	75%	1.398	1
InstiChN9	Institutional	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.3982	15	3,139	0.124	627.8	\$250.00	20%	95%	75%	2.283	1
InstiChN10	Institutional	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$3.9822	15	3,139	0.006	31,3896	\$125.00	1%	100%	95%	0.257	0
InstiChT1	Institutional	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW /Ton	ton	\$0.7787	15	3,139	0.76	379	\$295.00	12%	95%	95%	2.794	1
InstiChT2	Institutional	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW /Ton	ton	\$0.4748	15	3,139	1.944	974	\$462.50	31%	95%	95%	4.582	1
InstiChT3	Institutional	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW /Ton	ton	\$0.7573	15	3,139	1.944	549	\$416.00	18%	95%	95%	4.177	1
InstiChN11	Institutional	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW /Ton	ton	\$0.7573	15	3,139	1.944	549	\$416.00	18%	95%	95%	4.177	1
InstiChT5	Institutional	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW /ton, 500 tons	ton	\$0.8092	15	3,139	0.031	156,9480	\$127.00	5%	95%	75%	1.266	1
InstiChT4	Institutional	Chiller	Turnover	4	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW /Ton	ton	\$0.2391	15	7,523	1.728	866	\$207.00	12%	95%	95%	9.100	1
LodgeChE1	Lodging	Chiller	Early	1	Duct Sealing, down to 15%	Leakage of 29%	ton	\$2.5371	15	3,744	0.007	37,4448	\$95.00	1%	40%	\$0.90	0.404	0
LodgeChE2	Lodging	Chiller	Early	2	Duct Insulation, Add R8	No Insulation	ton	\$3.3382	15	3,744	0.007	37,4448	\$125.00	1%	50%	95%	0.307	0
LodgeChE3	Lodging	Chiller	Early	3	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW /ton	ton	\$0.6676	15	3,744	0.037	187,2240	\$125.00	5%	75%	75%	1.534	1
LodgeChE4	Lodging	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0.6609	15	3,744	0.148	748.9	\$450.00	20%	75%	75%	1.705	1
LodgeChE5	Lodging	Chiller	Early	5	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.6187	7									

PPL Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kW Saved)	Measure Life	Baseline kWh	Summer Peak kW Savings	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
MiscChN1	Misc	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.57	20	4,347	0.05	152	\$87.00	4%	15%	95%	2,420	1
MiscChN2	Misc	Chiller	New	2	Adding window shade screen	No shade screen	g ft window area	\$3,900.01	15	4,347	0.00	0.38	\$1.50	25%	70%	95%	0.263	0
MiscChN3	Misc	Chiller	New	3	Adding reflective roof treatment	Std color roof	sq ft roof area	\$4.50	20	4,347	0.05	10	\$45.00	0%	100%	95%	1,099	0
MiscChN4	Misc	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$2.87	20	4,347	0.05	44	\$127.43	1%	45%	95%	0.693	0
MiscChN5	Misc	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.4861	15	4,347	0.76	525	\$255.00	12%	95%	95%	3,745	1
MiscChN6	Misc	Chiller	New	6	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.2687	15	4,347	1.944	1,349	\$362.50	31%	95%	95%	6,775	1
MiscChN7	Misc	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/ton	ton	\$0.1393	15	10,417	1.728	1,199	\$167.00	12%	95%	95%	13,071	1
MiscChN8	Misc	Chiller	New	8	FMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.5292	15	4,347	0.043	217.3260	\$115.00	5%	95%	75%	1,936	1
MiscChN9	Misc	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.2876	15	4,347	0.172	869.3	\$250.00	20%	95%	75%	3,562	1
MiscChN10	Misc	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$2.8759	15	4,347	0.009	43.4652	\$125.00	1%	100%	95%	0.356	0
MiscChT1	Misc	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.5624	15	4,347	0.76	525	\$295.00	12%	95%	95%	3,237	1
MiscChT2	Misc	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.3429	15	4,347	1.944	1,349	\$462.50	31%	95%	95%	5,310	1
MiscChT3	Misc	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW/ton	ton	\$0.5469	15	4,347	1.944	761	\$416.00	18%	95%	95%	4,633	1
MiscChN11	Misc	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW/ton	ton	\$0.5469	15	4,347	1.944	761	\$416.00	18%	95%	95%	4,633	1
MiscChT5	Misc	Chiller	Turnover	5	FMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.5844	15	4,347	0.043	217.3260	\$127.00	5%	95%	75%	1,753	1
MiscChT4	Misc	Chiller	Turnover	4	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/ton	ton	\$0.1726	15	10,417	1.728	1,199	\$207.00	12%	95%	95%	10,433	1
OfficCh1	Office	Chiller	Early	1	Duct Sealing, down to 15%	Leakage of 29%	ton	\$2.2561	15	4,211	0.008	42.1080	\$95.00	1%	40%	\$0.90	0.454	0
OfficCh2	Office	Chiller	Early	2	Duct Insulation, Add R8	No Insulation	ton	\$2.9686	15	4,211	0.008	42.1080	\$125.00	1%	50%	95%	0.345	0
OfficCh3	Office	Chiller	Early	3	FMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0.5937	15	4,211	0.042	210.5400	\$125.00	5%	75%	75%	1,726	1
OfficCh4	Office	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0.5343	15	4,211	0.166	842.2	\$450.00	20%	75%	75%	1,917	1
OfficCh5	Office	Chiller	Early	5	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.5413	7	4,211	0.133	674	\$364.67	16%	75%	75%	0.932	0
OfficCh6	Office	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	4,211	0.05	245	\$200.00	6%	15%	95%	1.253	1
OfficCh7	Office	Chiller	Early	7	Adding window shade film	No shade film	g ft window area	\$7.0453	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.050	0
OfficCh8	Office	Chiller	Early	8	Adding window shade screen	No shade screen	g ft window area	\$3,900.01	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.263	0
OfficCh9	Office	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.78	20	4,211	0.05	126	\$225.00	3%	75%	95%	0.806	0
OfficChN1	Office	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.59	20	4,211	0.05	147	\$87.00	4%	15%	95%	2,538	1
OfficChN2	Office	Chiller	New	2	Adding window shade screen	No shade screen	g ft window area	\$3,900.01	15	4,347	0.00	0.38	\$1.50	25%	70%	95%	0.263	0
OfficChN3	Office	Chiller	New	3	Adding reflective roof treatment	Std color roof	sq ft roof area	\$4.50	20	4,211	0.05	10	\$45.00	0%	100%	95%	1,099	0
OfficChN4	Office	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$2.95	20	4,211	0.05	43	\$127.43	1%	45%	95%	0.683	0
OfficChN5	Office	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.5018	15	4,211	0.76	508	\$255.00	12%	95%	95%	3,688	1
OfficChN6	Office	Chiller	New	6	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.2774	15	4,211	1.944	1,307	\$362.50	31%	95%	95%	6,670	1
OfficChN7	Office	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/ton	ton	\$0.1438	15	10,091	1.728	1,162	\$167.00	12%	95%	95%	12,870	1
OfficChN8	Office	Chiller	New	8	FMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.5462	15	4,211	0.042	210.5400	\$115.00	5%	95%	75%	1,876	1
OfficChN9	Office	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.2969	15	4,211	0.166	842.2	\$250.00	20%	95%	75%	3,451	1
OfficChN10	Office	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$2.9686	15	4,211	0.008	42.1080	\$125.00	1%	100%	95%	0.345	0
OfficChT1	Office	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.5805	15	4,211	0.76	508	\$295.00	12%	95%	95%	3,188	1
OfficChT2	Office	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.3539	15	4,211	1.944	1,307	\$462.50	31%	95%	95%	5,228	1
OfficChT3	Office	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW/ton	ton	\$0.5645	15	4,211	1.944	737	\$416.00	18%	95%	95%	4,582	1
OfficChN11	Office	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW/ton	ton	\$0.5645	15	4,211	1.944	737	\$416.00	18%	95%	95%	4,582	1
OfficChT5	Office	Chiller	Turnover	5	FMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.6032	15	4,211	0.042	210.5400	\$127.00	5%	95%	75%	1,698	1
OfficChT4	Office	Chiller	Turnover	4	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/ton	ton	\$0.1782	15	10,091	1.728	1,162	\$207.00	12%	95%	95%	10,383	1
RestaCh1	Restaurant	Chiller	Early	1	Duct Sealing, down to 15%	Leakage of 29%	ton	\$2.1064	15	4,510	0.009	45.1008	\$95.00	1%	40%	\$0.90	0.486	0
RestaCh2	Restaurant	Chiller	Early	2	Duct Insulation, Add R8	No Insulation	ton	\$2.7716	15	4,510	0.009	45.1008	\$125.00	1%	50%	95%	0.370	0
RestaCh3	Restaurant	Chiller	Early	3	FMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0.5543	15	4,510	0.045	225.5040	\$125.00	5%	75%	75%	1,848	1
RestaCh4	Restaurant	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0.4989	15	4,510	0.178	902.0	\$450.00	20%	75%	75%	2,054	1
RestaCh5	Restaurant	Chiller	Early	5	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.5054	7	4,510	0.142	722	\$364.67	16%	75%	75%	0.998	0
RestaCh6	Restaurant	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	4,510	0.05	245	\$200.00	5%	15%	95%	1.253	1
RestaCh7	Restaurant	Chiller	Early	7	Adding window shade film	No shade film	g ft window area	\$7.0453	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.050	0
RestaCh8	Restaurant	Chiller	Early	8	Adding window shade screen	No shade screen	g ft window area	\$3,900.01	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.263	0
RestaCh9	Restaurant	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.66	20	4,510	0.05	135	\$225.00	3%	75%	95%	0.851	0
RestaChN1	Restaurant	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.55	20	4,510	0.05	138	\$87.00	4%	15%	95%	2,495	1
RestaChN2	Restaurant	Chiller	New	2	Adding window shade screen	No shade screen	g ft window area	\$3,900.01	15	4,347	0.00	0.38	\$1.50	25%	70%	95%	0.263	0
RestaChN3	Restaurant	Chiller	New	3	Adding reflective roof treatment	Std color roof	sq ft roof area	\$4.50	20	4,510	0.05	10	\$45.00	0%	100%	95%	1,099	0
RestaChN4	Restaurant	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$2.75	20	4,510	0.05	46	\$127.43	1%	45%	95%	0.711	0
RestaChN5	Restaurant	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.4685	15	4,510	0.76	544	\$255.00	12%	95%	95%	3,815	1
RestaChN6	Restaurant	Chiller	New	6	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.2590	15	4,510	1.944	1,400	\$362.50	31%	95%	95%	6,900	1
RestaChN7	Restaurant	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/ton	ton	\$0.1342	15	10,809	1.728	1,244	\$167.00	12%	95%	95%	13,314	1
RestaChN8	Restaurant	Chiller	New	8	FMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.5100	15	4,510	0.045	225.5040	\$115.00	5%	95%	75%	2,009	1
RestaChN9	Restaurant	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.2772	15	4,510	0.178	902.0	\$250.00	20%	95%	75%	3,696	1
RestaChN10	Restaurant	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$2.7716	15	4,510	0.009	45.1008	\$125.00	1%	100%	95%	0.370	0
RestaChT1	Restaurant	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.5420	15	4,510	0.76	544	\$295.00	12%	95%	95%	3,297	1
RestaChT2	Restaurant	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0.3304	15	4,510	1.944	1,400	\$462.50	31%	95%	95%	5,408	1
RestaChT3	Restaurant	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW/ton	ton	\$0.5271	15	4,510	1.944	789	\$416.00	18%	95%	95%	4,605	1
RestaChN11	Restaurant	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW/ton	ton	\$0.5271	15	4,510	1.944	789	\$416.00	18%	95%	95%	4,605	1
RestaChT5	Restaurant	Chiller	Turnover	5	FMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.5632	15	4,510	0.045	225.5040	\$127.00	5%				

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	Summer Peak KW Savings	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
WarehChE4	Warehouse	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0.6571	15	3,424	0.135	684.9	\$450.00	20%	75%	75%	1,559	1
WarehChE5	Warehouse	Chiller	Early	5	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.6656	7	3,424	0.108	548	\$364.67	16%	75%	75%	0,758	0
WarehChH6	Warehouse	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2,375	sq ft	\$0.82	15	3,424	0.05	245	\$200.00	7%	15%	95%	1,253	1
WarehChH7	Warehouse	Chiller	Early	7	Adding window shade film	No shade film	sq ft window area	\$7.0453	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0,050	0
WarehChE8	Warehouse	Chiller	Early	8	Adding window shade screen	No shade screen	sq ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0,263	0
WarehChE9	Warehouse	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$2.19	20	3,424	0.05	103	\$225.00	3%	75%	95%	0,687	0
WarehChN1	Warehouse	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.73	20	3,424	0.05	120	\$87.00	4%	15%	95%	2,000	1
WarehChN2	Warehouse	Chiller	New	2	Adding window shade screen	No shade screen	sq ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0,263	0
WarehChN3	Warehouse	Chiller	New	3	Adding reflective roof treatment	Std color roof	sq ft roof area	\$4.50	20	3,424	0.05	10	\$45.00	0%	100%	95%	1,099	1
WarehChN4	Warehouse	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$3.63	20	3,424	0.05	35	\$127.43	1%	45%	95%	0,612	0
WarehChN5	Warehouse	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW /Ton	ton	\$0.6170	15	3,424	0.76	413	\$255.00	12%	95%	95%	3,353	1
WarehChN6	Warehouse	Chiller	New	6	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW /Ton	ton	\$0.3411	15	3,424	1.944	1,063	\$362.50	31%	95%	95%	6,065	1
WarehChN7	Warehouse	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW /Ton	ton	\$0.1768	15	8,207	1.728	945	\$167.00	12%	95%	95%	11,703	1
WarehChN8	Warehouse	Chiller	New	8	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.6717	15	3,424	0.034	171,2160	\$11,500	5%	95%	75%	1,525	1
WarehChN9	Warehouse	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.3650	15	3,424	0.135	684.9	\$250.00	20%	95%	75%	2,806	1
WarehChN10	Warehouse	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$3.6504	15	3,424	0.007	34,2432	\$125.00	1%	100%	95%	0,281	0
WarehChT1	Warehouse	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW /Ton	ton	\$0.7138	15	3,424	0.76	413	\$295.00	12%	95%	95%	2,899	1
WarehChT2	Warehouse	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW /Ton	ton	\$0.4352	15	3,424	1.944	1,063	\$462.50	31%	95%	95%	4,754	1
WarehChT3	Warehouse	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW /Ton	ton	\$0.6942	15	3,424	1.944	599	\$416.00	18%	95%	95%	4,285	1
WarehChN11	Warehouse	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW /Ton	ton	\$0.6942	15	3,424	1.944	599	\$416.00	18%	95%	95%	4,285	1
WarehChT5	Warehouse	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.7418	15	3,424	0.034	171,2160	\$127.00	5%	95%	75%	1,381	1
WarehChT4	Warehouse	Chiller	Turnover	4	Air-Cooled Chillers (1.23 kW /ton)	Std Chiller, 1.39 kW /Ton	ton	\$0.2191	15	8,207	1.728	945	\$207.00	12%	95%	95%	9,442	1
WarehHeT2	Warehouse	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.09	10	4,016	0.009	602	\$55.00	15%	100%	45%	7,283	1
GroceHeT2	Grocery	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.08	10	4,672	0.010	701	\$55.00	15%	100%	45%	8,473	1
HealthHeT2	Healthcare	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.34	10	1,084	0.002	163	\$55.00	15%	100%	45%	1,966	1
InstiHeT2	Institutional	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.11	10	3,325	0.007	499	\$55.00	15%	100%	45%	6,030	1
MiscHeT2	Misc	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.09	10	3,870	0.009	581	\$55.00	15%	100%	45%	7,019	1
OfficeHeT2	Office	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.12	10	2,985	0.007	448	\$55.00	15%	100%	45%	5,412	1
RestaHeT2	Restaurant	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.08	10	4,548	0.010	682	\$55.00	15%	100%	45%	8,248	1
RetaHeT2	Retail	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.08	10	4,672	0.010	701	\$55.00	15%	100%	45%	8,473	1
LodgHeT2	Lodging	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.06	10	5,659	0.013	849	\$55.00	15%	100%	45%	10,263	1
OfficMoE1	Office	Motors	Early	1	Motor Retrocommissioning	Motor	Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1,824	1
OfficMoT23	Office	Motors	Turnover	23	Motor Retrocommissioning	Motor	Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1,824	1
RestaMoE1	Restaurant	Motors	Early	1	Motor Retrocommissioning	Motor	Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1,824	1
InstiMoT9	Institutional	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.6348	15	84274	13.596	20478.6	\$13,000.00	24%	90.0%	80%	2,121	1
RestaMoT23	Restaurant	Motors	Turnover	23	Motor Retrocommissioning	Motor	Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1,824	1
RetaMoE1	Retail	Motors	Early	1	Motor Retrocommissioning	Motor	Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1,824	1
RetaMoT23	Retail	Motors	Turnover	23	Motor Retrocommissioning	Motor	Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1,824	1
WarehMoE1	Warehouse	Motors	Early	1	Motor Retrocommissioning	Motor	Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1,824	1
WarehMoT23	Warehouse	Motors	Turnover	23	Motor Retrocommissioning	Motor	Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1,824	1

West Penn Commercial Measures

Measure Lookup	Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	PJM Summer Peak (kW)	Change case (kW)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag	
HeatCh21	Healthcare	Chiller	Early	1	Duct Sealing, down to 15%	Leakage of 29%	ton	\$1,727	15	5,359	0.011	53,520	\$95.00	1%	40%	95%	0.90	0.429	0
HeatCh2	Healthcare	Chiller	Early	2	Duct Insulation, Add R8	No Insulation	ton	\$2,324	15	5,359	0.011	53,520	\$125.00	1%	50%	95%	0.326	0	0
HeatCh3	Healthcare	Chiller	Early	3	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0,465	15	5,359	0.053	267,960	\$1,629	5%	75%	95%	1.629	1	0
HeatCh4	Healthcare	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0,419	15	5,359	0.212	1,071.8	\$450.00	20%	75%	95%	1.810	1	0
HeatCh5	Healthcare	Chiller	Early	5	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0,425	7	5,359	0.169	857	\$364.67	16%	75%	95%	0.766	0	0
HeatCh6	Healthcare	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	5,359	0.05	245	\$200.00	5%	15%	95%	0.930	0	0
HeatCh7	Healthcare	Chiller	Early	7	Adding window shade film	No shade film	sq ft window area	\$7,045.3	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.033	0	0
HeatCh8	Healthcare	Chiller	Early	8	Adding window shade screen	No shade screen	sq ft window area	\$3,900.1	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.195	0	0
HeatCh9	Healthcare	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.40	20	5,359	0.05	161	\$225.00	3%	75%	95%	0.723	0	0
HeatChN1	Healthcare	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.46	20	5,359	0.05	188	\$87.00	4%	15%	95%	2.133	1	0
HeatChN2	Healthcare	Chiller	New	2	Adding window shade screen	No shade screen	sq ft window area	\$3,900.1	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.195	0	0
HeatChN3	Healthcare	Chiller	New	3	Adding reflective roof treatment	Std cold roof	sq ft roof area	\$4.50	20	5,359	0.05	10	\$45.00	0%	100%	95%	0.764	0	0
HeatChN4	Healthcare	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$2.32	20	5,359	0.05	55	\$127.43	1%	45%	95%	0.570	0	0
HeatChN5	Healthcare	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0,394.2	15	5,359	0.76	647	\$255.00	12%	95%	95%	3.059	1	0
HeatChN6	Healthcare	Chiller	New	6	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0,218.0	15	5,359	1.944	1,663	\$362.50	31%	95%	95%	5.534	1	0
HeatChN7	Healthcare	Chiller	New	7	Std Chiller, 1.39 kW/ton	Std Chiller, 1.39 kW/ton	ton	\$0,113.0	15	12,844	1.728	1,478	\$167.00	12%	95%	95%	10.678	1	0
HeatChN8	Healthcare	Chiller	New	8	Air-Cooled Chiller (1.23 kW/ton)	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0,429.2	15	5,359	0.053	267,960	\$115.00	5%	95%	75%	5.770	1	0
HeatChN9	Healthcare	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0,233.2	15	5,359	0.212	1,071.8	\$250.00	20%	95%	75%	3.258	1	0
HeatChN10	Healthcare	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$2,324	15	5,359	0.011	53,520	\$125.00	1%	100%	95%	0.326	0	0
HeatChT1	Healthcare	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0,456.1	15	5,359	0.76	647	\$295.00	12%	95%	95%	2.645	1	0
HeatChT2	Healthcare	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/ton	ton	\$0,278.1	15	5,359	1.944	1,663	\$462.50	31%	95%	95%	4.337	1	0
HeatChT3	Healthcare	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW/ton	ton	\$0,443.6	15	5,359	1.944	938	\$416.00	18%	95%	95%	3.656	1	0
HeatChN11	Healthcare	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW/ton	ton	\$0,443.6	15	5,359	1.944	938	\$416.00	18%	95%	95%	3.656	1	0
HeatChT5	Healthcare	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0,474.0	15	5,359	0.053	267,960	\$127.00	5%	95%	75%	1.603	1	0
HeatChT4	Healthcare	Chiller	Turnover	4	Air-Cooled Chiller (1.23 kW/ton)	Std Chiller, 1.39 kW/ton	ton	\$0,140.0	15	12,844	1.728	1,478	\$207.00	12%	95%	95%	8.614	1	0
OfficH1	Office	Fluorescent	Early	1	Premium Efficiency T8 Lighting Replacement (32W lamps with low	Replace (E) T12 Lamp - Bundle	Fixture	\$0,571.2	14	394	0.007	64	\$55.38	25%	95%	41%	1.192	1	0
GroceH16	Grocery	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1,014.6	6	163	0.007	64	\$65.00	39%	40%	95%	0.260	0	0
OfficH2	Office	Fluorescent	Early	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0,264.1	14	0.054	0.011	0.011	\$125.00	30%	95%	95%	2.578	1	0
OfficH3	Office	Fluorescent	Early	3	Photocell dimming control	No prior dimming control	Photocell	\$0,285.2	9	1,378	0.091	789	\$225.00	50%	95%	95%	1.367	1	0
LodgInE6	Lodging	Incandescent	Early	6	Hotel Occupancy Sensors	No prior control	Per Room	\$0,747.7	10	240	0.019	168	\$125.00	70%	90%	95%	0.613	0	0
OfficH11	Office	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0,178.1	15	20,340	0.234	2,034	\$362.18	10%	95%	100%	4.089	1	0
OfficH12	Office	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0,356.1	15	20,340	0.584	5,085	\$1,810.90	25%	75%	100%	2.044	1	0
HeatH1E1	Healthcare	Heating	Early	1	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0,271.0	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.039	1	0
HeatH1E2	Healthcare	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$4.44	20	364	0.05	45	\$200.00	12%	10%	95%	0.323	0	0
HeatH1E3	Healthcare	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.67	20	364	0.05	75	\$125.00	21%	10%	95%	0.724	0	0
HeatH1E4	Healthcare	Heating	Early	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$3.75	20	364	0.05	34	\$127.43	9%	10%	95%	0.433	0	0
HeatH1E5	Healthcare	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0,189.3	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	2.233	1	0
HeatH1N1	Healthcare	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	364	0.05	45	\$87.00	12%	10%	95%	0.743	0	0
WarehH1E1	Warehouse	HID	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPP	Replace HID fixture drawing 250W	Fixture	\$0,567.0	10	1,268	0.043	378	\$214.50	30%	85%	80%	0.984	0	0
WarehH1E2	Warehouse	HID	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPP	Replace HID fixture drawing 400 W	Fixture	\$0,447.2	10	1,856	0.077	671	\$390.00	36%	85%	80%	1.020	0	0
WarehH1E3	Warehouse	HID	Early	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0,515.0	10	1,268	0.052	456	\$235.00	36%	85%	80%	0.886	0	0
WarehH1E4	Warehouse	HID	Early	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0,508.1	10	1,856	0.074	640	\$325.00	34%	85%	80%	0.898	0	0
WarehH1E5	Warehouse	HID	Turnover	5	Ceramic Metal Halide Lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0,128.2	4	1,560	0.031	273	\$35.00	18%	85%	55%	1.336	1	0
WarehH1E8	Warehouse	HID	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0,246.5	10	5,070	0.175	1,521	\$375.00	30%	85%	85%	1.850	1	0
WarehH1E9	Warehouse	HID	Early	9	Photocell dimming control	No prior dimming control	Photocell	\$0,217.0	10	5,070	0.291	2,535	\$550.00	50%	85%	85%	2.102	1	0
WarehH1E10	Warehouse	HID	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0,197.2	10	5,070	0.058	507	\$100.00	10%	85%	45%	2.313	1	0
WarehH1E7	Warehouse	HID	Early	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$1,216.6	15	1,268	0.065	566	\$688.00	45%	85%	80%	0.598	0	0
WarehH1T1	Warehouse	HID	Turnover	1	4' T8 High Bay fixture - 32 W - 6 lamps HPP	Replace HID fixture drawing 250W	Fixture	\$0,292.1	10	1,268	0.043	378	\$110.50	30%	85%	80%	1.562	1	0
WarehH1T2	Warehouse	HID	Turnover	2	4' T8 High Bay fixture - 32 W - 8 lamps HPP	Replace HID fixture drawing 400 W	Fixture	\$0,335.4	10	1,856	0.077	671	\$225.00	36%	85%	80%	1.360	1	0
WarehH1T3	Warehouse	HID	Turnover	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0,317.8	10	1,268	0.052	456	\$145.00	36%	85%	80%	1.435	1	0
WarehH1T4	Warehouse	HID	Turnover	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0,406.5	10	1,856	0.074	640	\$260.00	34%	85%	80%	1.122	1	0
WarehH1T6	Warehouse	HID	Turnover	6	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0,514.0	10	1,856	0.095	827	\$425.00	45%	85%	55%	0.887	0	0
WarehH1T7	Warehouse	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0,663.1	15	1,268	0.065	566	\$375.00	40%	85%	80%	1.098	0	0
OfficE2	Office	Incandescent	Early	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0,113.9	14	3,594	0.124	1,078	\$125.00	30%	95%	80%	5.873	1	0
OfficE3	Office	Incandescent	Early	3	Photocell dimming control	No prior dimming control	Photocell	\$0,125.2	9	3,594	0.207	1,797	\$225.00	50%	95%	95%	3.113	1	0
GroceH1N1	Grocery	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0,057.2	15	9,629	0.111	963	\$55.11	10%	95%	100%	12.720	1	0
HeatH1N1	Healthcare	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0,084.2	15	49,948	0.574	4,995	\$420.44	10%	95%	100%	8.649	1	0
AllA1	All	Large Appliances	New	1	EnergyStar vending machine	Standard vending machine	machine	\$0,267.2	15	3,619	0.140	1,310	\$350.00	36%	100%	50%	2.701	1	0
AllA2	All	Large Appliances	New	2	Beverage machine control	Vending machine with no sensor	machine	\$0,102.1	5	3,619	0.178	1,665	\$170.00	46%	100%	50%	2.101	1	0
AllA3	All	Large Appliances	New	3	Other cold product control	Vending machine with no sensor	machine	\$0,111.1	5	3,504	0.172	1,612	\$179.00	46%	100%	50%	1.931	1	0
AllA4	All	Large Appliances	New	4	Non-cooled snack control	Vending machine with no sensor	machine	\$0,467.1	5	745	0.037	343	\$160.00	46%	100%	50%	0.459	0	0
AllA5	All	Large Appliances	New	5	EnergyStar dishwasher	Std Dishwasher	dishwasher	\$0,401.5	12	250	0.015	137	\$55.00	55%	100%	50%	1.421	1	0
AllA6	All	Large Appliances	New	6															

West Penn Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	PJM Summer Peak KW Savings (metric)	Change case kWh Savings (metric)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
OfficMo17	Office	Motors	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0,5604	15	81970	12,153	23197.4	\$13,000.00	28%	90.0%	80%	1.639	1
OfficMo18	Office	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0,5705	15	81970	0.000	22787.6	\$13,000.00	28%	90.0%	80%	1.188	1
OfficMo19	Office	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0,6400	15	81970	0,2153	2000.6	\$13,000.00	24%	90.0%	80%	1.472	1
OfficMo110	Office	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0,5705	15	81970	9,205	22787.6	\$13,000.00	28%	80.0%	80%	1.513	1
OfficMo111	Office	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0,6500	15	81970	12,153	2000.6	\$13,000.00	24%	55.0%	80%	1.472	1
OfficMo112	Office	Motors	Turnover	12	Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0,6609	15	245909	0,159	1235.7	\$750	0.5%	35.0%	95%	1.214	1
OfficMo113	Office	Motors	Turnover	13	Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0,7470	15	532803	0,344	2677.4	\$2,000	0.5%	50.0%	95%	0.986	0
OfficMo114	Office	Motors	Turnover	14	Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0,5601	15	50263	0,057	446.3	\$250	0.9%	10.0%	95%	1.316	1
OfficMo115	Office	Motors	Turnover	15	Motors: Rewind 500+ HP	(E) Motor	Motor	\$0,6474	15	1229546	0,795	6178.6	\$4,000	0.5%	70.0%	95%	1.138	1
OfficMo116	Office	Motors	Turnover	16	Motors: Rewind 51-100 HP	(E) Motor	Motor	\$0,6955	15	124291	0,092	718.9	\$500	0.6%	20.0%	95%	1.059	1
OfficMo117	Office	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0,34	20	186,404	0,190	1,477	\$500.00	0.79%	25%	95%	2.749	1
OfficMo118	Office	Motors	New	12	Demand Control Ventilation (DCV)	Base Standard Ventilation	unit	\$0,19	10	16,963	0,175	1,357	\$257.83	8%	75%	95%	2.439	1
OfficMo119	Office	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	unit	\$16,21	10	5,013	0,052	401	\$6,500.21	8%	75%	95%	0.029	0
OfficMo120	Office	Motors	New	14	Electrically Commutated Motors (ECM) on Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is	unit	\$0,21	15	5,194	0,120	935	\$200.09	18.00%	75%	95%	3.443	1
OfficMo121	Office	Motors	New	15	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	unit	\$0,80	10	136,760	0,880	6,838	\$5,450.00	5.00%	75%	95%	0.582	0
OfficMo122	Office	Motors	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation	unit	\$0,19	10	16,963	0,175	1,357	\$257.83	8%	75%	95%	2.439	1
OfficMo123	Office	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	unit	\$16,21	10	5,013	0,052	401	\$6,500.21	8%	75%	95%	0.029	0
OfficMo124	Office	Motors	Turnover	20	Electrically Commutated Motors (ECM) on Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is	unit	\$0,21	15	5,194	0,120	935	\$200.09	18.00%	75%	95%	3.443	1
OfficMo125	Office	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	unit	\$0,80	10	136,760	0,880	6,838	\$5,450.00	5.00%	75%	95%	0.582	0
AlfOB1	All	Office Equipment	Early	1	PC network power management	No central control	PC	\$0,14	5	410	0,023	215	\$3,000	52.44%	75%	80%	1.537	1
AlfOB2	All	Office Equipment	Early	2	Occupancy sensor controls/Smart Strip	Computers, other plug loads	sensor	\$0,60	5	413	0,010	124	\$75.00	30.02%	55%	95%	0.347	0
AlfON1	All	Office Equipment	New	1	ENERGY STAR® Office Equipment	Std Office Equipment	PC	\$1,09	5	4,000	0,021	200	\$218.00	5.00%	90%	80%	0.197	0
AlfON2	All	Office Equipment	New	2	Energy Star - Water Cooler	Std Water Cooler	unit	\$1,06	5	453	0,022	204	\$215.67	45.08%	35%	80%	0.203	0
AlfON3	All	Office Equipment	New	3	80 Plus® PC-desktop	Standard personal computer, desktop	PC	\$0,19	5	410	0,014	130	\$25.00	31.71%	100%	55%	1.115	1
AlfON6	All	Office Equipment	New	6	Data Center - Server/Storage Virtualization	No Virtualization	unit	\$1,76	5	4,818	0,452	4,227	\$7,434	87.73%	70%	80%	0.122	0
AlfOT1	All	Office Equipment	Turnover	1	ENERGY STAR® Office Equipment	Std Office Equipment	PC	\$1,09	5	4,000	0,021	200	\$218.00	5.00%	90%	80%	0.197	0
AlfOT2	All	Office Equipment	Turnover	2	Energy Star - Water Cooler	Std Water Cooler	unit	\$1,06	5	453	0,022	204	\$215.67	45.08%	35%	80%	0.203	0
AlfOT3	All	Office Equipment	Turnover	3	80 Plus® PC-desktop	Standard personal computer, desktop	PC	\$0,19	5	410	0,014	130	\$25.00	31.71%	100%	55%	1.115	1
AlfOT6	All	Office Equipment	Turnover	6	Data Center - Server/Storage Virtualization	No Virtualization	unit	\$1,76	5	4,818	0,452	4,227	\$7,434	87.73%	70%	80%	0.122	0
HealthE1	Healthcare	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3,13	20	825	0,05	64	\$200.00	8%	15%	95%	0.404	0
HealthE2	Healthcare	Packaged DX	Early	2	Adding window shade film	No shade film	sq ft window art	\$7,05	5	7,58	0,000	0,38	\$2,67	5%	50%	95%	0.051	0
HealthE3	Healthcare	Packaged DX	Early	3	Adding window shade screen	No shade screen	sq ft window art	\$3,90	15	1,54	0,000	0,38	\$1,50	25%	70%	95%	0.187	0
HealthE4	Healthcare	Packaged DX	Early	4	Windows U<0.40, SS SHGC	Existing window specifications	sq ft window art	\$1,40	30	2	0,000	0	\$0,28	13%	50%	95%	0.825	0
HealthE5	Healthcare	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$4,09	20	825	0,05	55	\$225.00	7%	95%	95%	0.325	0
HealthE7	Healthcare	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$0,57	10	872	0,005	44	\$25.00	5%	100%	65%	0.799	0
HealthE8	Healthcare	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7,92	15	825	0,05	12	\$95.00	1%	45%	80%	0.317	0
HealthE9	Healthcare	Packaged DX	Early	9	Hotel Keypad Sensors	No prior controls	oom Controlle	\$0,29	10	740	0,041	342	\$100.00	46%	95%	80%	1.568	1
HealthE10	Healthcare	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0,55	1	897	0,05	64	\$35.00	7%	100%	45%	0.093	0
HealthE11	Healthcare	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0,44	10	825	0,015	125	\$55.00	15%	100%	45%	1.042	1
HealthE13	Healthcare	Packaged DX	Early	13	Rc commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0,42	7	825	0,05	132	\$5,15	16%	95%	75%	0.888	0
HealthP1	Healthcare	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1,36	20	825	0,05	64	\$87.00	8%	100%	95%	0.929	0
HealthP2	Healthcare	Packaged DX	New	2	Adding reflective roof treatment	Std color roof	ton	\$4,50	20	825	0,05	10	\$45.00	1%	100%	95%	1.766	0
HealthP3	Healthcare	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$2,27	20	825	0,05	55	\$125.00	7%	100%	95%	0.585	0
HealthP4	Healthcare	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Std Roof	ton	\$2,32	20	825	0,05	55	\$127.43	7%	45%	95%	0.574	0
HealthP5	Healthcare	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10,42	20	825	0,05	12	\$125.00	1%	100%	95%	0.290	0
HealthP6	Healthcare	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1,78	20	711	0,04	51	\$90.40	7%	100%	95%	0.747	0
HealthP7	Healthcare	Packaged DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1,91	20	711	0,08	95	\$180.81	13%	100%	95%	0.697	0
HealthP8	Healthcare	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$2,04	20	711	0,12	133	\$271.21	19%	100%	95%	0.653	0
HealthP9	Healthcare	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1,00	20	825	0,05	55	\$55.00	7%	100%	95%	1.329	1
HealthP10	Healthcare	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1,00	20	840	0,06	70	\$70.00	8%	100%	95%	1.329	1
HealthP11	Healthcare	Packaged DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1,68	20	924	0,06	68	\$115.13	7%	100%	95%	0.790	0
HealthP12	Healthcare	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$2,11	20	953	0,04	47	\$98.39	5%	100%	95%	0.631	0
HealthP13	Healthcare	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$4,78	15	840	0,23	270	\$ 750.0	32%	95%	95%	0.387	0
HealthP14	Healthcare	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$4,78	15	840	0,18	150	\$750.00	18%	100%	95%	0.147	0
HealthP15	Healthcare	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$1,37	15	825	0,015	124	\$170.00	15%	75%	45%	0.532	0
HealthP16	Healthcare	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$1,08	15	825	0,020	165	\$179.00	20%	100%	95%	0.674	0
HealthP17	Healthcare	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$2,82	15	872	0,005	39	\$110.89	5%	100%	95%	0.259	0
HealthP18	Healthcare	Packaged DX	Turnover	1	Duct Insulation, Add R8	No Insulation	ton	\$10,42	15	825	0,05	12	\$125.00	1%	100%	95%	0.241	0
HealthP12	Healthcare	Packaged DX	Turnover	2	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$1,78	20	711	0,04	51	\$90.40	7%	100%	95%	0.747	0
HealthP13	Healthcare	Packaged DX	Turnover	3	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$1,91	20	711	0,08	95	\$180.81	13%	100%	95%	0.697	0
HealthP14	Healthcare	Packaged DX	Turnover	4	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$2,04	20	711	0,12	133	\$271.21	19%	100%	95%	0.653	0
HealthP15	Healthcare	Packaged DX	Turnover	5	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1,00	20	825	0,05	55	\$55.00	7%	100%	95%	1.329	1
HealthP16	Healthcare	Packaged DX	Turnover	6	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1,00	20	840	0,06	70	\$70.00	8%	100%	95%	1.329	1
HealthP17	Healthcare	Packaged DX	Turnover	7	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$1,68	20	924	0,06	68	\$115.13	7%	100%	95%	0.790	0
HealthP18	Healthcare	Packaged DX	Turnover	8	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$2,11	20									

West Penn Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	PJM Summer Peak (kW/meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
AlBrE19	All	Refrigeration	New	19	High Efficiency Ice Machine Self Contained	Standard Ice Machine Self Contained	unit	\$0.31	10	4,341	0.042	318	\$100.00	7%	85%	85%	1,468	1
AlBrE17	All	Refrigeration	Turnover	7	Fluorescent walk-in light fixture	Incandescent walk-in light fixture	fixture	\$0.42	15	792	0.055	491	\$206.00	62.00%	85%	95%	1,752	1
AlBrE18	All	Refrigeration	Turnover	8	LED Case Lighting	T12 or T10 fluorescent lighting	Light Bar	\$0.43	15	677	0.055	426	\$225.00	77.78%	95%	95%	1,720	1
AlBrE19	All	Refrigeration	Turnover	9	LED Case Lighting - Occupancy Sensor	No Occupancy Sensor	Light Bar	\$0.15	8	667	0.003	20	\$3.00	3.00%	15%	95%	2,361	1
AlBrE110	All	Refrigeration	Turnover	10	Efficient, low-temp reach-in	Standard low-temp reach-in	unit	\$0.07	12	5,431	0.222	1,671	\$123.33	30.77%	85%	85%	7,890	1
AlBrE111	All	Refrigeration	Turnover	11	High R-Value Glass Doors		door	\$0.67	10	3,986	0.106	797	\$537.50	20.00%	85%	85%	0,685	0
AlBrE112	All	Refrigeration	Turnover	12	Compressor VSD retrofit	Base Refrigeration System - Grocery		\$0.35	13	5,436	0.101	761	\$267.00	14%	75%	86%	1,815	1
AlBrE113	All	Refrigeration	Turnover	13	Quick acting freezer doors			\$0.62	10	38,544	4.461	33,637	\$20,966.00	87%	75%	86%	0,741	0
AlBrE114	All	Refrigeration	Turnover	14	VFD on cooling tower fans	Base single-speed fan		\$0.29	15	7,158	0.681	5,132	\$1,507.40	7%	35%	85%	2,503	1
AlBrE115	All	Refrigeration	Turnover	15	Reach-in Cooler: Shaded Pole to PSC: 1-37 Watt			\$0.60	15	832	0.047	352	\$212.50	42%	75%	49%	1,218	1
AlBrE116	All	Refrigeration	Turnover	16	Reach-in Cooler: PSC to ECM: 1-37 Watt			\$0.54	15	467	0.022	169	\$91.25	36%	75%	49%	1,362	1
AlBrE117	All	Refrigeration	Turnover	17	Reach-in Cooler: Shaded Pole to ECM: 1-37 Watt			\$0.59	15	832	0.069	521	\$306.25	63%	75%	49%	1,251	1
AlBrE118	All	Refrigeration	Turnover	18	Reach-in Freezer: Shaded Pole to ECM: 1-14 Watt			\$0.49	15	832	0.082	622	\$306.25	75%	75%	49%	1,493	1
AlBrE119	All	Refrigeration	Turnover	19	Reach-in Shaded Pole to PSC Evaporator Fan Motor			\$0.55	15	832	0.051	386	\$212.50	46%	75%	49%	1,336	1
AlBrE118	All	Refrigeration	Turnover	18	Reach-in PSC to ECM Evaporator Fan Motor			\$0.49	15	467	0.025	185	\$91.25	40%	75%	49%	1,491	1
AlBrE120	All	Refrigeration	Turnover	20	Reach-in Shaded Pole to ECM Evaporator Fan Motor			\$0.54	15	832	0.076	571	\$306.25	69%	75%	49%	1,371	1
AlBrE121	All	Refrigeration	Turnover	21	Walk-in Cooler: PSC to ECM: 16-49 Watt			\$0.35	15	711	0.034	258	\$91.25	36%	75%	49%	2,079	1
AlBrE122	All	Refrigeration	Turnover	22	Walk-in Freezer: PSC to ECM: 16-49 Watt			\$0.30	15	711	0.041	309	\$91.25	43%	75%	49%	2,490	1
AlBrE123	All	Refrigeration	Turnover	23	Walk-in Cooler: Shaded Pole to ECM: 16-49 Watt			\$0.44	15	1,175	0.093	704	\$306.25	60%	75%	49%	1,690	1
AlBrE124	All	Refrigeration	Turnover	24	Walk-in Freezer: Shaded Pole to ECM: 16-49 Watt			\$0.36	15	1,175	0.112	842	\$306.25	72%	75%	49%	2,022	1
AlBrE125	All	Refrigeration	Turnover	25	Walk-in PSC to ECM			\$0.32	15	711	0.038	283	\$91.25	40%	75%	49%	2,281	1
AlBrE126	All	Refrigeration	Turnover	26	Walk-in Shaded Pole to ECM			\$0.40	15	1,175	0.103	773	\$306.25	66%	75%	49%	1,856	1
AlSt11	All	Signage	Turnover	1	Induction Street Lighting	Base HLD Streetlighting	Fixture	\$0.57	15	2,762	0.101	1,619	\$925.00	59%	95%	95%	1,211	1
AlSt12	All	Signage	Turnover	2	LED exit sign - 1 sided	Incandescent exit sign	Exit Sign	\$0.15	15	175	0.024	158	\$23.50	90%	65%	70%	4,917	1
AlSt13	All	Signage	Turnover	3	LED exit sign -2 sided	Incandescent exit sign	Exit Sign	\$0.16	15	350	0.048	228	\$37.50	65%	65%	70%	4,614	1
AlSt14	All	Signage	Turnover	4	Photoluminescent Exit Sign	Incandescent exit sign	Exit Sign	\$0.17	15	175	0.011	175	\$30.00	100%	50%	70%	4,039	1
AlSt15	All	Signage	Turnover	5	LED or equivalent sign lighting - 1 sided	Replace fluorescent sign lighting	Exit Sign	\$0.28	15	79	0.009	61	\$17.36	78%	48%	7%	2,580	1
AlSt16	All	Signage	Turnover	6	LED or equivalent sign lighting -2 sided	Replace fluorescent sign lighting	Exit Sign	\$0.12	15	175	0.012	140	\$17.36	80%	48%	7%	2,408	1
AlSt17	All	Signage	Turnover	7	LED Street Lighting	Std HLD Street Lighting	Pole	\$0.63	15	2,762	0.047	756	\$473.00	27%	95%	95%	2,100	1
AlSt18	All	Signage	Turnover	8	Red LED Traffic Light	Red Traffic Light	Signal	\$0.37	10	332	0.019	299	\$112.00	90%	95%	75%	1,137	1
AlSt19	All	Signage	Turnover	9	Yellow LED Traffic Light	Yellow Standard Traffic Light	Lamp	\$12.10	10	12	0.001	10	\$121.00	83%	95%	95%	0,035	0
AlSt10	All	Signage	Turnover	10	Green LED Traffic Light	Green Standard Traffic Light	Lamp	\$0.77	10	260	0.014	226	\$174.00	87%	95%	75%	0,553	0
AlSt11	All	Signage	Turnover	11	Hand/Man LED	Pedestrian Standard	Lamp	\$0.19	10	1,016	0.059	946	\$182.00	93%	95%	75%	2,213	1
AlWt11	All	Water Heating	Turnover	1	Ultrasonic Faucet Control	Manual Faucet Control	unit	\$1.00	10	1,750	0.010	125	\$125	7%	75%	75%	0,439	0
AlWt12	All	Water Heating	Turnover	2	Faucet Aerators	Std Flow faucet	unit	\$0.246	12	4,122	0.006	61	\$15	6%	75%	75%	2,292	1
AlWt13	All	Water Heating	Turnover	3	Hot Water (DHW) Pipe Insulation	No insulation present	10 In ft	\$0.292	14	4,122	0.011	124.00	\$36.23	3%	75%	75%	2,284	1
AlWt14	All	Water Heating	Turnover	4	Low-Flow Showerheads	Std Flow showerhead	unit	\$0.108	9	4,122	0.042	461	\$50	11%	75%	75%	3,494	1
AlWt15	All	Water Heating	Turnover	5	Water Heater Thermostat Setback	Constant setpoint	unit	\$0.029	2	4,122	0.053	577.09	\$17	14%	75%	75%	2,940	1
AlWt16	All	Water Heating	New	1	Ultrasonic Faucet Control	Manual Faucet Control	unit	\$0.400	10	4,122	0.011	125	\$50	3%	75%	75%	1,112	1
AlWt17	All	Water Heating	New	2	Faucet Aerators	Std Flow faucet	unit	\$0.082	12	4,122	0.006	61	\$5	6%	75%	75%	6,875	1
AlWt18	All	Water Heating	New	3	Hot Water (DHW) Pipe Insulation	No insulation present	10 In ft	\$0.292	14	4,122	0.011	124.00	\$36.23	3%	75%	75%	2,284	1
AlWt19	All	Water Heating	New	4	Low-Flow Showerheads	Std Flow showerhead	unit	\$0.108	9	4,122	0.042	461	\$50	11%	75%	75%	3,494	1
AlWt20	All	Water Heating	New	5	Water Heater Thermostat Setback	Constant setpoint	unit	\$0.029	2	4,122	0.053	577.09	\$17	14%	75%	75%	2,940	1
AlWt21	All	Water Heating	New	6	High Efficiency Water Heater (Electric) EF .93, 28-50 Gal	Std Efficiency water heater	unit	\$0.541	14	4,122	0.012	133	\$72	3%	75%	100%	1,233	1
AlWt22	All	Water Heating	New	7	Heat Pump Water Heater (air source)	Base Water Heating	unit	\$0.516	14	4,122	0.176	1,914.00	\$988	46%	75%	100%	1,293	1
AlWt23	All	Water Heating	New	8	Heat Recovery Unit	Base Water Heating	unit	\$0.362	14	4,122	0.190	2,073	\$750	50.3%	50%	95%	1,845	1
AlWt24	All	Water Heating	New	9	Solar Water Heater	Base Water Heating	unit	\$1,206	14	4,122	0.193	2,106	\$2,540	82.0%	65%	95%	0,533	0
AlWt25	All	Water Heating	Turnover	6	High Efficiency Water Heater (Electric) EF .93, 28-50 Gal	Std Efficiency water heater	unit	\$0.541	14	4,122	0.012	133	\$72	3%	75%	100%	1,233	1
AlWt26	All	Water Heating	Turnover	7	Heat Pump Water Heater (air source)	Base Water Heating	unit	\$0.516	14	4,122	0.176	1,914.00	\$988	46%	75%	100%	1,293	1
AlWt27	All	Water Heating	Turnover	8	Heat Recovery Unit	Base Water Heating	unit	\$0.458	14	4,122	0.190	2,073	\$950	50.3%	50%	95%	1,456	1
AlWt28	All	Water Heating	Turnover	9	Solar Water Heater	Base Water Heating	unit	\$1,401	14	4,122	0.193	2,106	\$2,590	82.0%	65%	95%	0,476	0
GroceRn1	All	Refrigeration	New	20	Demand Defrost Electric	Base Refrigeration System - Grocery	unit	\$0.91	15	4	0.000	0	\$0.05	1%	95%	92%	0,810	0
GroceRn2	All	Refrigeration	Turnover	27	Demand Defrost Electric	Base Refrigeration System - Grocery	unit	\$0.91	15	4	0.000	0	\$0.05	1%	95%	92%	0,810	0
GroceRn3	All	Refrigeration	New	21	Demand Hot Gas Defrost	Base Refrigeration System - Grocery	unit	\$0.35	15	4	0.000	0	\$0.05	3%	95%	92%	2,077	1
AlBrE128	All	Refrigeration	Turnover	28	Demand Hot Gas Defrost	Base Refrigeration System - Grocery	unit	\$0.35	15	4	0.000	0	\$0.05	3%	95%	92%	2,077	1
GroceRn4	All	Refrigeration	New	22	Efficient compressor motor - scroll	Base Refrigeration System - Grocery	unit	\$0.09	15	15,825	0.084	633	\$60.00	4%	95%	92%	7,758	1
AlBrE129	All	Refrigeration	Turnover	29	Efficient compressor motor - scroll	Base Refrigeration System - Grocery	unit	\$0.09	15	15,825	0.084	633	\$60.00	4%	95%	92%	7,758	1
GroceRn6	All	Refrigeration	New	23	High R-Value Glass Doors	Base Refrigeration System - Grocery	Door	\$0.67	10	3,986	0.106	797	\$537.50	20.00%	95%	92%	0,685	0
GroceRn7	All	Refrigeration	New	24	Refrigeration Commissioning	Base Refrigeration System - Grocery	Per refrigerator	\$0.31	7	8,800	0.187	1,408	\$440.00	16%	95%	92%	0,998	0
AlBrE1	All	Refrigeration	Early	1	Refrigeration Commissioning	Base Refrigeration System - Grocery	Per refrigerator	\$0.25	7	8,800	0.117	880	\$220.00	10%	95%	92%	1,247	1
GroceRn8	All	Refrigeration	New	25	Strip curtains for walk-ins	Base Refrigeration System - Grocery	unit	\$0.50	15	29,900	0.079	598	\$300.00	2%	45%	78%	1,466	1
AlBrE130	All	Refrigeration	Turnover	30	Strip curtains for walk-ins	Base Refrigeration System - Grocery	unit	\$0.50	15	29,900	0.079	598	\$300.00	2%	45%	78%	1,466	1
HealthPn18	Healthcare	Packaged DX	New	18	Automated control system	Baschne DX	ton	\$0.57	10	872	0.005	44	\$25.00	5%	100%	65%	0,799	0
HealthPn19	Healthcare	Packaged DX	New	19	PTAC (120 EER/10,000 BTU)	PTAC (104 EER/10,000 BTU)	unit	\$1.06	10	740	0.005	40	\$43.00	5%	100%	95%	0,430	0
HealthPn15	Healthcare	Packaged DX	Turnover	15	PTAC (120 EER/10,000 BTU)	PTAC (104 EER/10,000 BTU)	unit	\$1.06	10	740	0.005	40	\$43.00	5%	100%	95%	0,430	0
AlBrCn1	All	Cooking	New	1	Commercial Hot Food Holding Cabinets (Energy Star)	Standard Cabinet	Each	\$0.94	12	23,411	0.187	1,392	\$1,500.00	7%	40%	95%	0,613	0
AlBrCn2	All	Cooking	New	2	High Efficiency Fryers (Energy Star)	Standard Fryer	Each	\$5.45	12	18,196	0.027	233	\$1,271.00	1%	40%	95%	0,106	0
AlBrCn3	All	Cooking	New	3	High Efficiency Griddle	Standard Griddle												

West Penn Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	PJM Summer Peak (KWh Savings)	Change case (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
Resta#E1	Retail	Fluorescent	Early	1	Premium Efficiency T8 Lighting Replacement (32W lamps with low	Replace (E) T12 Lamp - Bundle	Fixture	\$0.3810	11	591	0.017	145	\$55.38	25%	95%	55%	1.360	1
Resta#E2	Retail	Fluorescent	Early	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1761	14	2,365	0.082	710	\$125.00	30%	95%	80%	3.865	1
Resta#E3	Retail	Fluorescent	Early	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1902	9	2,265	0.136	1,183	\$25.00	50%	95%	95%	2.049	1
Wareh#H1	Warehouse	Fluorescent	Early	1	Premium Efficiency T8 Lighting Replacement (32W lamps with low	Replace (E) T12 Lamp - Bundle	Fixture	\$0.4113	12	548	0.015	135	\$55.38	25%	95%	35%	1.401	1
Wareh#H2	Warehouse	Fluorescent	Early	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1901	14	2,191	0.076	657	\$125.00	30%	95%	80%	3.581	1
Wareh#H3	Warehouse	Fluorescent	Early	3	Photocell dimming control	No prior dimming control	Photocell	\$0.2054	9	2,191	0.126	1,096	\$225.00	50%	95%	95%	1.898	1
Misc#E1	Misc	Fluorescent	Early	1	Premium Efficiency T8 Lighting Replacement (32W lamps with low	Replace (E) T12 Lamp - Bundle	Fixture	\$0.3764	11	599	0.017	147	\$55.38	25%	95%	44%	1.377	1
Offic#N1	Office	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1781	15	621	0.007	62	\$11.06	10%	95%	100%	4.089	1
Offic#N2	Office	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3561	15	621	0.018	155	\$55.32	25%	85%	100%	2.044	1
Offic#N1	Office	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1781	15	2,727	0.031	273	\$48.56	10%	95%	100%	4.089	1
Offic#N2	Office	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3561	15	2,727	0.078	682	\$242.78	25%	75%	100%	2.044	1
Insta#N1	Institutional	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1722	15	62,741	0.721	6,274	\$1,080.26	10%	95%	100%	4.228	1
Insta#N2	Institutional	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3444	15	62,741	1.803	15,685	\$5,401.30	25%	75%	100%	2.114	1
Health#N1	Healthcare	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1842	15	441,728	5.077	44,173	\$3,718.25	10%	95%	100%	8.649	1
Health#N2	Healthcare	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1684	15	441,728	12.691	110,432	\$18,591.24	25%	75%	100%	4.324	1
Groce#N1	Grocery	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0572	15	60,020	0.690	6,002	\$343.52	10%	95%	100%	12.720	1
Groce#N2	Grocery	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1145	15	60,020	1.724	15,005	\$1,717.60	25%	75%	100%	6.360	1
Lodg#N1	Lodging	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1012	15	303,563	3.489	30,356	\$3,071.87	10%	95%	100%	7.194	1
Lodg#N2	Lodging	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.2024	15	303,563	8.722	75,891	\$15,359.37	25%	75%	100%	3.597	1
Resta#N1	Restaurant	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0763	15	13,140	0.151	1,314	\$100.27	10%	95%	100%	9.540	1
Resta#N2	Restaurant	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1526	15	13,140	0.378	3,285	\$501.37	25%	75%	100%	4.770	1
Resta#N1	Retail	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0792	15	60,011	0.690	6,001	\$475.15	10%	95%	100%	9.195	1
Resta#N2	Retail	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1584	15	60,011	1.724	15,003	\$2,375.74	25%	75%	100%	4.597	1
Wareh#N1	Warehouse	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1603	15	44,747	0.514	4,475	\$717.11	10%	95%	100%	4.543	1
Wareh#N2	Warehouse	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3205	15	44,747	1.286	11,187	\$3,585.53	25%	75%	100%	2.271	1
Groce#N1	Grocery	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0572	15	3,937	0.045	394	\$22.53	10%	95%	100%	12.720	1
Groce#N2	Grocery	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1145	15	3,937	0.113	984	\$112.66	25%	85%	100%	6.360	1
Insta#N1	Institutional	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1722	15	219,029	0.025	216	\$27.18	10%	95%	100%	12.714	1
Insta#N2	Institutional	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3444	15	219,029	0.062	540	\$183.89	25%	85%	100%	2.114	1
Health#N1	Healthcare	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0842	15	15,203	0.175	1,520	\$127.97	10%	95%	100%	8.649	1
Health#N2	Healthcare	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1684	15	15,203	0.437	3,801	\$639.84	25%	85%	100%	4.324	1
Lodg#N1	Lodging	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1012	15	10,539	0.121	1,054	\$106.65	10%	95%	100%	7.194	1
Lodg#N2	Lodging	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.2024	15	10,539	0.303	2,635	\$532.27	25%	85%	100%	3.597	1
Resta#N1	Restaurant	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0763	15	459	0.005	46	\$3.51	10%	95%	100%	9.540	1
Resta#N2	Restaurant	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1526	15	459	0.013	115	\$17.53	25%	85%	100%	4.770	1
Resta#N1	Retail	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0792	15	10,313	0.119	1,031	\$81.65	10%	95%	100%	9.195	1
Resta#N2	Retail	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1584	15	10,313	0.296	2,578	\$408.25	25%	85%	100%	4.597	1
Wareh#N1	Warehouse	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1603	15	7,843	0.090	784	\$125.69	10%	95%	100%	4.543	1
Wareh#N2	Warehouse	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3205	15	7,843	0.225	1,961	\$628.45	25%	85%	100%	2.271	1
Misc#N1	Misc	LED	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0988	15	4,211	0.048	421	\$41.61	10%	95%	100%	7.368	1
Misc#N2	Misc	LED	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1976	15	4,211	0.121	1,053	\$208.03	25%	85%	100%	3.684	1
Misc#N1	Misc	Fluorescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0988	15	121,285	1.394	12,128	\$1,198.38	10%	95%	100%	7.368	1
Misc#N2	Misc	Fluorescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1976	15	121,285	3.485	30,321	\$5,991.88	25%	75%	100%	3.684	1
Insta#N1	Institutional	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1722	15	7,094	0.082	709	\$122.15	10%	95%	100%	4.228	1
Insta#N2	Institutional	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3444	15	7,094	0.204	1,774	\$610.75	25%	75%	100%	2.114	1
Groce#N1	Grocery	Incandescent	Turnover	1	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0161	5	309	0.021	186	\$3.00	60%	75%	50%	13.568	1
Health#N1	Healthcare	Incandescent	Turnover	1	CFL Lamp - 21 Watt	EISA - 75 Watt equivalent - 53W	Lamp	\$0.0174	5	286	0.020	173	\$3.00	60%	75%	50%	12.580	1
Groce#N2	Grocery	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1145	15	9,629	0.277	2,407	\$275.57	25%	75%	100%	6.360	1
Health#N2	Healthcare	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1684	15	49,948	1.435	12,487	\$2,102.19	25%	75%	100%	4.324	1
Lodg#N1	Lodging	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1012	15	72,424	0.832	7,242	\$732.89	10%	95%	100%	7.194	1
Lodg#N2	Lodging	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.2024	15	72,424	2.081	18,106	\$3,604.46	25%	75%	100%	3.597	1
Resta#N1	Restaurant	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0763	15	8,649	0.099	865	\$66.01	10%	95%	100%	9.540	1
Resta#N2	Restaurant	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1526	15	8,649	0.249	2,162	\$330.03	25%	75%	100%	4.770	1
Resta#N1	Retail	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0792	15	9,628	0.111	963	\$76.23	10%	95%	100%	9.195	1
Resta#N2	Retail	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1584	15	9,628	0.277	2,407	\$381.16	25%	75%	100%	4.597	1
Wareh#N1	Warehouse	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.1603	15	5,975	0.069	598	\$95.76	10%	95%	100%	4.543	1
Wareh#N2	Warehouse	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.3205	15	5,975	0.172	1,494	\$478.78	25%	75%	100%	2.271	1
Misc#N1	Misc	Incandescent	New	1	HE Lighting Fixtures/Design 15% better than code	Code Baseline	per Building	\$0.0988	15	28,936	0.333	2,894	\$285.91	10%	95%	100%	7.368	1
Misc#N2	Misc	Incandescent	New	2	HE Lighting Fixtures/Design 25% better than code	Code Baseline	per Building	\$0.1976	15	28,936	0.831	7,234	\$1,429.55	25%	75%	100%	3.684	1
Misc#E2	Misc	Fluorescent	Early	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1740	14	2,394	0.083	718	\$125.00	30%	95%	80%	3.912	1
Misc#E3	Misc	Fluorescent	Early	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1879	9	2,394	0.138	1,197	\$225.00	50%	95%	95%	2.074	1
Misc#N4	Misc	Fluorescent	New	4	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0696	14	2,394	0.083	718	\$50.00	30%	95%	15%	9.781	1
Misc#N3	Misc	Fluorescent	New	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1253	9	2,394	0.138	1,197	\$150.00	50%	95%	75%	3.111	1
Insta#N4	Institutional	Fluorescent	New	4	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1124	14	1,483	0.051	445	\$50.00					

West Penn Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh)	Measure Life	Baseline kWh	PJM Summer Peak (kW savings)	Change case (kWh Savings)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
RestHT3	Retail	Fluorescent	Turnover	2	Photocell dimming control	No prior dimming control	Photocell	\$0.1268	9	2,365	0.136	1,183	\$150.00	50%	95%	95%	3,073	1
WarehHT2	Warehouse	Fluorescent	Turnover	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0761	14	2,315	0.076	657	\$50.00	30%	95%	95%	8,951	1
WarehHT3	Warehouse	Fluorescent	Turnover	3	No prior dimming control	No prior dimming control	Photocell	\$0.1360	9	2,301	0.126	1,096	\$150.00	50%	95%	95%	2,847	1
GroceHT1	Grocery	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.0650	6	163	0.004	36	\$2.32	22%	90%	95%	4,062	1
GroceHT4	Grocery	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.0990	6	163	0.002	20	\$2.02	13%	60%	95%	2,666	1
GroceHT5	Grocery	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0307	11	582	0.010	83	\$2.55	14%	75%	95%	16,875	1
GroceHE4	Grocery	Fluorescent	Early	4	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.7257	11	582	0.010	83	\$60.38	14%	75%	95%	0.714	0
HealthT6	Healthcare	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1.0943	7	151	0.007	59	\$65.00	39%	40%	95%	0.281	0
HealthT1	Healthcare	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.0701	7	151	0.004	33	\$2.32	22%	90%	95%	4,389	1
HealthT4	Healthcare	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.1068	7	151	0.002	19	\$2.02	13%	60%	95%	2,881	1
HealthT5	Healthcare	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0331	11	540	0.009	77	\$2.55	14%	75%	95%	15,646	1
HealthHE4	Healthcare	Fluorescent	Early	4	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.7769	11	540	0.009	77	\$59.93	14%	75%	95%	0.667	0
InstHT6	Institutional	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$2.2583	15	74	0.003	29	\$65.00	39%	40%	95%	0.325	0
InstHT1	Institutional	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.1433	15	74	0.002	16	\$2.32	22%	90%	95%	5,079	1
InstHT4	Institutional	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.2184	15	74	0.001	9	\$2.02	13%	60%	95%	3,334	1
InstHT5	Institutional	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0677	11	264	0.004	38	\$2.55	14%	75%	95%	7,649	1
InstHE4	Institutional	Fluorescent	Early	4	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.9281	11	264	0.004	38	\$35.00	14%	75%	95%	0.558	0
LodgHT6	Lodging	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1.1959	8	138	0.006	54	\$65.00	39%	40%	95%	0.292	0
LodgHT1	Lodging	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.0766	8	138	0.003	30	\$2.32	22%	90%	95%	4,564	1
LodgHT4	Lodging	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.1167	8	138	0.002	17	\$2.02	13%	60%	95%	2,996	1
LodgHT5	Lodging	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0362	11	494	0.008	71	\$2.55	14%	75%	95%	14,317	1
LodgHE4	Lodging	Fluorescent	Early	4	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.4959	11	494	0.008	71	\$35.00	14%	75%	95%	1.045	1
MiscHT6	Misc	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1.3867	9	119	0.005	47	\$65.00	39%	40%	95%	0.281	0
MiscHT1	Misc	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.0888	9	119	0.003	26	\$2.32	22%	90%	95%	4,389	1
MiscHT4	Misc	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.1353	9	119	0.002	15	\$2.02	13%	60%	95%	2,881	1
MiscHT5	Misc	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0420	11	426	0.007	61	\$2.55	14%	75%	95%	12,347	1
MiscHE4	Misc	Fluorescent	Early	4	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.5750	11	426	0.007	61	\$35.00	14%	75%	95%	0.901	0
OfficHT6	Office	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$2.1044	14	79	0.004	31	\$65.00	39%	40%	95%	0.324	0
OfficHT1	Office	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.1348	14	79	0.002	17	\$2.32	22%	90%	95%	5,052	1
OfficHT4	Office	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.2053	14	79	0.001	10	\$2.02	13%	60%	95%	3,316	1
OfficHT5	Office	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0637	11	281	0.005	40	\$2.55	14%	75%	95%	8,156	1
OfficHE4	Office	Fluorescent	Early	4	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.8726	11	281	0.005	40	\$35.00	14%	75%	95%	0.594	0
RestaHT6	Restaurant	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1.3528	9	122	0.006	48	\$65.00	39%	40%	95%	0.288	0
RestaHT1	Restaurant	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.0866	9	122	0.003	27	\$2.32	22%	90%	95%	4,499	1
RestaHT4	Restaurant	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.1320	9	122	0.002	15	\$2.02	13%	60%	95%	2,953	1
RestaHT5	Restaurant	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0409	11	437	0.007	62	\$2.55	14%	75%	95%	12,656	1
RestaHE4	Restaurant	Fluorescent	Early	4	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.5610	11	437	0.007	62	\$35.00	14%	75%	95%	0.924	0
RestHT6	Retail	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1.4036	9	118	0.005	46	\$65.00	39%	40%	95%	0.278	0
RestHT1	Retail	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.0899	9	118	0.003	26	\$2.32	22%	90%	95%	4,536	1
RestHT4	Retail	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.1360	9	118	0.002	15	\$2.02	13%	60%	95%	2,846	1
RestHT5	Retail	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0425	11	421	0.007	60	\$2.55	14%	75%	95%	12,198	1
RestHE4	Retail	Fluorescent	Early	4	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.5820	11	421	0.007	60	\$35.00	14%	75%	95%	0.890	0
WarehHT6	Warehouse	Fluorescent	Turnover	6	LED Retrofit Tube	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$1.5152	10	109	0.005	43	\$65.00	39%	40%	95%	0.301	0
WarehHT1	Warehouse	Fluorescent	Turnover	1	Premium Efficiency T8 Lighting Replacement (28W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.0970	10	109	0.003	24	\$2.32	22%	90%	95%	4,701	1
WarehHT4	Warehouse	Fluorescent	Turnover	4	Premium Efficiency T8 Lighting Replacement (25W lamps)	Replace (E) high efficiency 32 W T8 Lamp	Lamp	\$0.1478	10	109	0.002	14	\$2.02	13%	60%	95%	3,086	1
WarehHT5	Warehouse	Fluorescent	Turnover	5	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.0459	11	390	0.006	56	\$2.55	14%	75%	95%	11,300	1
WarehHE4	Warehouse	Fluorescent	Early	4	Low Power Ballast Replacement	NPF high efficiency 32 W T8 Lamp Ballast - 2 lamp	Lamp	\$0.6283	11	390	0.006	56	\$35.00	14%	75%	95%	0.825	0
GroceHE1	Grocery	HID	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPE	Replace HID fixture drawing 250W	Fixture	\$0.3797	10	1,893	0.065	565	\$214.50	30%	85%	80%	1,201	1
GroceHE2	Grocery	HID	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPE	Replace HID fixture drawing 400 W	Fixture	\$0.2995	10	2,772	0.115	1,002	\$300.00	36%	85%	80%	1,523	1
GroceHE3	Grocery	HID	Early	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.3449	10	1,893	0.078	681	\$235.00	36%	85%	80%	1,323	1
GroceHE4	Grocery	HID	Early	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.3403	10	2,772	0.110	955	\$325.00	34%	85%	80%	1,341	1
GroceHT5	Grocery	HID	Turnover	5	Ceramic Metal Halide Lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0.0859	3	2,330	0.047	408	\$35.00	18%	85%	55%	1,565	1
GroceHE7	Grocery	HID	Early	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0.8147	15	1,893	0.097	844	\$688.00	45%	85%	80%	0.894	0
GroceHT15	Grocery	HID	Turnover	1	4' T8 High Bay fixture - 32 W - 6 lamps HPE	Replace HID fixture drawing 250W	Fixture	\$0.1956	10	1,893	0.065	565	\$110.50	30%	85%	80%	2,332	1
GroceHT2	Grocery	HID	Turnover	2	4' T8 High Bay fixture - 32 W - 8 lamps HPE	Replace HID fixture drawing 400 W	Fixture	\$0.2246	10	2,772	0.115	1,002	\$225.00	36%	85%	80%	2,051	1
GroceHT3	Grocery	HID	Turnover	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.2128	10	1,893	0.078	681	\$145.00	36%	85%	80%	2,144	1
GroceHT4	Grocery	HID	Turnover	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.2722	10	2,772	0.110	955	\$260.00	34%	85%	80%	1,676	1
GroceHT6	Grocery	HID	Turnover	6	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0.3442	10	2,772	0.142	1,235	\$425.00	45%	85%	55%	1,325	1
GroceHT7	Grocery	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0.4441	15	1,893	0.097	844	\$375.00	45%	85%	80%	1,639	1
HealthHE1	Healthcare	HID	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPE	Replace HID fixture drawing 250W	Fixture	\$0.4095	10	1,755	0.060	524	\$214.50	30%	85%	80%	1,114	1
HealthHE2	Healthcare	HID	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPE	Replace HID fixture drawing 400 W	Fixture	\$0.3230	10	2,570	0.107	929	\$300.00	36%	85%	80%	1,412	1
HealthHE3	Healthcare	HID	Early	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.3720	10	1,755	0.073	632	\$235.00	36%	85%	80%	1,226	1
HealthHE4	Healthcare	HID	Early	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.3670	10	2,570	0.102	886	\$325.00	34%	85%	80%	1,243	1
HealthHT5	Healthcare	HID	Turnover	5	Ceramic Metal Halide Lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0.0926	3	2,160	0.043	378	\$35.00	18%	85%	55%		

West Penn Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh)	Measure Life	Baseline kWh	PJM Summer Peak (kW)	Change case (meter)	Customer kWh Savings	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
LodgIH17	Lodging	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0.5234	15	1,606	0.082	716	\$375.00	45%	85%	80%	1,391	1
OfficHE11	Office	HID	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPP	Replace HID fixture drawing 250W	Fixture	\$0.7875	10	913	0.056	272	\$214.50	30%	85%	80%	0.579	0
OfficHE13	Office	HID	Early	3	4' T8 High Bay fixture - 32 W - 8 lamps HPP	Replace HID fixture drawing 400 W	Fixture	\$0.6211	10	1,337	0.057	483	\$300.00	36%	85%	80%	0.734	0
OfficHE4	Office	HID	Early	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.7153	10	913	0.038	329	\$235.00	34%	85%	80%	0.638	0
OfficHE3	Office	HID	Early	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.7057	10	1,137	0.053	461	\$325.00	34%	85%	80%	0.646	0
OfficHT5	Office	HID	Turnover	5	Ceramic Metal Halide lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0.1781	5	1,123	0.023	197	\$33.00	18%	85%	55%	1.227	1
OfficHE7	Office	HID	Early	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$1.6898	15	913	0.047	407	\$688.00	45%	85%	80%	0.451	0
OfficHT1	Office	HID	Turnover	1	4' T8 High Bay fixture - 32 W - 6 lamps HPP	Replace HID fixture drawing 250W	Fixture	\$0.4057	10	913	0.031	272	\$110.50	30%	85%	80%	1.124	1
OfficHT2	Office	HID	Turnover	2	4' T8 High Bay fixture - 32 W - 8 lamps HPP	Replace HID fixture drawing 400 W	Fixture	\$0.4659	10	1,337	0.056	483	\$225.00	36%	85%	80%	0.979	0
OfficHT3	Office	HID	Turnover	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.4414	10	913	0.038	329	\$145.00	36%	85%	80%	1.034	1
OfficHT4	Office	HID	Turnover	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.5646	10	1,337	0.053	461	\$260.00	34%	85%	80%	0.808	0
OfficHT6	Office	HID	Turnover	6	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0.7139	10	1,337	0.068	595	\$425.00	45%	85%	55%	0.639	0
OfficHT7	Office	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0.9210	15	913	0.047	407	\$375.00	45%	85%	80%	0.790	0
RestaHE1	Restaurant	HID	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPP	Replace HID fixture drawing 250W	Fixture	\$0.5063	10	1,420	0.049	424	\$214.50	30%	85%	80%	0.901	0
RestaHE2	Restaurant	HID	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPP	Replace HID fixture drawing 400 W	Fixture	\$0.3993	10	2,079	0.086	751	\$300.00	36%	85%	80%	1.142	1
RestaHE3	Restaurant	HID	Early	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.4598	10	1,420	0.059	511	\$235.00	36%	85%	80%	0.992	0
RestaHE4	Restaurant	HID	Early	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.4537	10	2,079	0.082	716	\$325.00	34%	85%	80%	1.005	1
RestaHT5	Restaurant	HID	Turnover	5	Ceramic Metal Halide lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0.1145	3	1,747	0.035	306	\$35.00	18%	85%	55%	1.174	1
RestaHE7	Restaurant	HID	Early	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$1.0863	15	1,420	0.073	633	\$688.00	45%	85%	80%	0.670	0
RestaHT1	Restaurant	HID	Turnover	1	4' T8 High Bay fixture - 32 W - 6 lamps HPP	Replace HID fixture drawing 250 W	Fixture	\$0.2608	10	1,420	0.049	424	\$110.50	30%	85%	80%	1.749	1
RestaHT2	Restaurant	HID	Turnover	2	4' T8 High Bay fixture - 32 W - 8 lamps HPP	Replace HID fixture drawing 400 W	Fixture	\$0.2995	10	2,079	0.086	751	\$225.00	36%	85%	80%	1.523	1
RestaHT3	Restaurant	HID	Turnover	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.2837	10	1,420	0.059	511	\$145.00	36%	85%	80%	1.608	1
RestaHT4	Restaurant	HID	Turnover	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.3630	10	2,079	0.082	716	\$260.00	34%	85%	80%	1.257	1
RestaHT6	Restaurant	HID	Turnover	6	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0.4590	10	2,079	0.106	926	\$425.00	45%	85%	55%	0.994	0
RestaHT7	Restaurant	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0.5921	15	1,420	0.073	633	\$375.00	45%	85%	80%	1.230	1
RetalHE1	Retail	HID	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPP	Replace HID fixture drawing 250W	Fixture	\$0.5253	10	1,368	0.047	408	\$214.50	30%	85%	80%	0.868	0
RetalHE2	Retail	HID	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPP	Replace HID fixture drawing 400 W	Fixture	\$0.4143	10	2,004	0.083	724	\$300.00	36%	85%	80%	1.101	1
RetalHE3	Retail	HID	Early	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.4771	10	1,368	0.057	493	\$235.00	36%	85%	80%	0.956	0
RetalHE4	Retail	HID	Early	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.4707	10	2,004	0.079	690	\$325.00	34%	85%	80%	1.069	0
RetalHT5	Retail	HID	Turnover	5	Ceramic Metal Halide lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0.1188	4	1,684	0.034	295	\$33.00	18%	85%	55%	1.442	1
RetalHE7	Retail	HID	Early	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$1.1270	15	1,368	0.070	610	\$688.00	45%	85%	80%	0.646	0
RetalHT1	Retail	HID	Turnover	1	4' T8 High Bay fixture - 32 W - 6 lamps HPP	Replace HID fixture drawing 250W	Fixture	\$0.2706	10	1,368	0.047	408	\$110.50	30%	85%	80%	1.686	1
RetalHT2	Retail	HID	Turnover	2	4' T8 High Bay fixture - 32 W - 8 lamps HPP	Replace HID fixture drawing 400 W	Fixture	\$0.3107	10	2,004	0.083	724	\$225.00	36%	85%	80%	1.468	1
RetalHT3	Retail	HID	Turnover	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.2944	10	1,368	0.057	493	\$145.00	36%	85%	80%	1.550	1
RetalHT4	Retail	HID	Turnover	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.3766	10	2,004	0.079	690	\$260.00	34%	85%	80%	1.211	1
RetalHT6	Retail	HID	Turnover	6	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0.4762	10	2,004	0.103	893	\$425.00	45%	85%	55%	0.958	0
RetalHT7	Retail	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0.6143	15	1,368	0.070	610	\$375.00	45%	85%	80%	1.185	1
MiscHE11	Misc	HID	Early	1	4' T8 High Bay fixture - 32 W - 6 lamps HPP	Replace HID fixture drawing 250W	Fixture	\$0.5189	10	1,385	0.048	413	\$214.50	30%	85%	80%	0.879	0
MiscHE12	Misc	HID	Early	2	4' T8 High Bay fixture - 32 W - 8 lamps HPP	Replace HID fixture drawing 400 W	Fixture	\$0.4093	10	2,028	0.084	733	\$300.00	36%	85%	80%	1.114	1
MiscHE3	Misc	HID	Early	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.4713	10	1,385	0.057	499	\$235.00	36%	85%	80%	0.968	0
MiscHE4	Misc	HID	Early	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.4650	10	2,028	0.080	699	\$325.00	34%	85%	80%	0.981	0
MiscHT5	Misc	HID	Turnover	5	Ceramic Metal Halide lamp	Replace non-ceramic lamp lamp 400 W	Lamp	\$0.1173	4	1,705	0.034	298	\$35.00	18%	85%	55%	1.460	1
MiscHE7	Misc	HID	Early	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$1.1134	15	1,385	0.071	618	\$688.00	45%	85%	80%	0.654	0
MiscHT1	Misc	HID	Turnover	1	4' T8 High Bay fixture - 32 W - 6 lamps HPP	Replace HID fixture drawing 250W	Fixture	\$0.2673	10	1,385	0.048	413	\$110.50	30%	85%	80%	1.706	1
MiscHT2	Misc	HID	Turnover	2	4' T8 High Bay fixture - 32 W - 8 lamps HPP	Replace HID fixture drawing 400 W	Fixture	\$0.3070	10	2,028	0.084	733	\$225.00	36%	85%	80%	1.486	1
MiscHT3	Misc	HID	Turnover	3	4' T5 HO fixture - 54 W - 4 lamp	Replace HID Fixture drawing 250 W	Fixture	\$0.2908	10	1,385	0.057	499	\$145.00	36%	85%	80%	1.568	1
MiscHT4	Misc	HID	Turnover	4	4' T5 HO fixture - 54 W - 6 lamp	Replace HID Fixture drawing 400 W	Fixture	\$0.3720	10	2,028	0.080	699	\$260.00	34%	85%	80%	1.226	1
MiscHT6	Misc	HID	Turnover	6	Multi Lamp Hard Wired CFL	Replace HID Fixture Drawing 400 W	Fixture	\$0.4704	10	2,028	0.104	903	\$425.00	45%	85%	55%	0.970	0
MiscHT7	Misc	HID	Turnover	7	Induction High Bay Lighting	Base High Bay HID, 250W	Fixture	\$0.6069	15	1,385	0.071	618	\$375.00	45%	85%	80%	1.200	1
GroceHE8	Grocery	HID	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1651	10	7,571	0.261	2,271	\$375.00	30%	85%	85%	2.763	1
GroceHE9	Grocery	HID	Early	9	Photozell dimming control	No prior dimming control	Control Point	\$0.1453	10	7,571	0.435	3,786	\$550.00	50%	85%	85%	3.140	1
GroceHE10	Grocery	HID	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1321	10	7,571	0.087	757	\$100.00	10%	85%	85%	3.454	1
HealthHE8	Healthcare	HID	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1781	10	7,020	0.242	2,106	\$375.00	30%	85%	85%	2.562	1
HealthHE9	Healthcare	HID	Early	9	Photozell dimming control	No prior dimming control	Control Point	\$0.1567	10	7,020	0.403	3,510	\$550.00	50%	85%	85%	2.911	1
HealthHE10	Healthcare	HID	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1425	10	7,020	0.081	702	\$100.00	10%	85%	45%	3.202	1
InstHE8	Institutional	HID	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.3642	10	3,432	0.118	1,030	\$375.00	30%	85%	85%	1.252	1
InstHE9	Institutional	HID	Early	9	Photozell dimming control	No prior dimming control	Control Point	\$0.3205	10	3,432	0.197	1,716	\$550.00	50%	85%	85%	1.423	1
InstHE10	Institutional	HID	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.2914	10	3,432	0.039	343	\$100.00	10%	85%	45%	1.565	1
OfficHE8	Office	HID	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.3424	10	3,650	0.126	1,095	\$375.00	30%	85%	85%	1.332	1
OfficHE9	Office	HID	Early	9	Photozell dimming control	No prior dimming control	Control Point	\$0.3013	10	3,650	0.210	1,825	\$550.00	50%	85%	85%	1.514	1
OfficHE10	Office	HID	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.2739	10	3,650	0.042	365	\$100.00	10%	85%	45%	1.665	1
RestaHE8	Restaurant	HID	Early	8	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2201	10	5,678	0.196	1,704	\$375.00	30%	85%	85%	2.072	1
RestaHE9	Restaurant	HID	Early	9	Photozell dimming control	No prior dimming control	Control Point	\$0.1937	10	5,678	0.326	2,839	\$550.00	50%	85%	85%	2.355	1
RestaHE10	Restaurant	HID	Early	10	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1761	10	5,678	0.065	568	\$100.00	10%	85%	45%	2.590	1
RetalHE8	Retail	HID	Early	8	Occupancy sensor, wall or ceiling mounted													

West Penn Commercial Measures

Measure	Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	PJM Summer Peak (kW)	Change case (kW)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
RestalHT8	Retail	HD	Turnover	8	9	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1675	10	5,473	0.189	1,642	\$275.00	30%	85%	85%	2,723	1
RestalHT9	Retail	HD	Turnover	9	9	Photocell dimming control	No prior dimming control	Photocell	\$0.2010	10	5,473	0.314	2,737	\$550.00	50%	85%	85%	2,270	1
RestalHT10	Retail	HD	Turnover	10	9	Central lighting control system	Replace manual switches or no control	Control Point	\$0.170	10	5,473	0.063	547	\$75.00	10%	85%	85%	3,329	1
WarechHT8	Warehouse	HD	Turnover	8	9	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1808	10	5,070	0.175	1,521	\$275.00	30%	85%	85%	2,523	1
WarechHT9	Warehouse	HD	Turnover	9	9	Photocell dimming control	No prior dimming control	Photocell	\$0.2170	10	5,070	0.291	2,535	\$550.00	50%	85%	85%	2,102	1
WarechHT10	Warehouse	HD	Turnover	10	9	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1479	10	5,070	0.058	507	\$75.00	10%	85%	45%	3,084	1
WarechHN8	Warehouse	HD	New	8	9	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1781	10	4,680	0.161	1,404	\$250.00	30%	85%	85%	2,562	1
WarechHN9	Warehouse	HD	New	9	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1923	10	4,680	0.269	2,340	\$450.00	50%	85%	85%	2,372	1
WarechHN10	Warehouse	HD	New	10	9	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1389	10	4,680	0.054	468	\$65.00	10%	25%	45%	3,284	1
GroceHIN8	Grocery	HD	New	8	9	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1192	10	6,989	0.241	2,097	\$250.00	30%	85%	85%	3,826	1
GroceHIN9	Grocery	HD	New	9	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1288	10	6,989	0.402	3,494	\$450.00	50%	85%	85%	3,542	1
GroceHN10	Grocery	HD	New	10	9	Central lighting control system	Replace manual switches or no control	Control Point	\$0.0930	10	6,989	0.080	699	\$65.00	10%	25%	45%	4,904	1
HealthHN8	Healthcare	HD	New	8	9	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1286	10	6,480	0.223	1,944	\$250.00	30%	85%	85%	3,547	1
HealthHN9	Healthcare	HD	New	9	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1389	10	6,480	0.372	3,240	\$450.00	50%	85%	85%	3,284	1
HealthHN10	Healthcare	HD	New	10	9	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1003	10	6,480	0.074	648	\$65.00	10%	25%	45%	4,547	1
InstnHN8	Institutional	HD	New	8	9	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2630	10	3,168	0.107	950	\$250.00	30%	85%	85%	3,174	1
InstnHN9	Institutional	HD	New	9	9	Photocell dimming control	No prior dimming control	Photocell	\$0.2841	10	3,168	0.182	1,584	\$450.00	50%	85%	85%	1,606	1
InstnHN10	Institutional	HD	New	10	9	Central lighting control system	Replace manual switches or no control	Control Point	\$0.2052	10	3,168	0.036	317	\$65.00	10%	25%	45%	2,223	1
LodgHIN8	Lodging	HD	New	8	9	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1405	10	5,929	0.204	1,779	\$250.00	30%	85%	85%	3,246	1
LodgHIN9	Lodging	HD	New	9	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1518	10	5,929	0.341	2,965	\$450.00	50%	85%	85%	3,005	1
LodgHN10	Lodging	HD	New	10	9	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1096	10	5,929	0.068	593	\$65.00	10%	25%	45%	4,161	1
OfficHN8	Office	HD	New	8	9	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.2473	10	3,370	0.116	1,011	\$250.00	30%	85%	85%	1,844	1
OfficHN9	Office	HD	New	9	9	Photocell dimming control	No prior dimming control	Photocell	\$0.2671	10	3,370	0.194	1,685	\$450.00	50%	85%	85%	1,708	1
OfficHN10	Office	HD	New	10	9	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1929	10	3,370	0.039	337	\$65.00	10%	25%	45%	2,365	1
RestalHN8	Restaurant	HD	New	8	9	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1590	10	5,242	0.181	1,572	\$250.00	30%	85%	85%	2,869	1
RestalHN9	Restaurant	HD	New	9	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1717	10	5,242	0.301	2,621	\$450.00	50%	85%	85%	2,657	1
RestalHN10	Restaurant	HD	New	10	9	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1240	10	5,242	0.060	524	\$65.00	10%	25%	45%	3,678	1
RestalHN9	Retail	HD	New	9	9	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1650	10	5,052	0.174	1,526	\$250.00	30%	85%	85%	2,561	1
RestalHN10	Retail	HD	New	10	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1781	10	5,052	0.290	2,526	\$450.00	50%	85%	85%	2,561	1
RestalHN10	Retail	HD	New	10	9	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1287	10	5,052	0.058	505	\$65.00	10%	25%	45%	3,545	1
miscHN8	Misc	HD	New	8	9	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1630	10	5,114	0.176	1,534	\$250.00	30%	85%	85%	2,799	1
MiscHN9	Misc	HD	New	9	9	Photocell dimming control	No prior dimming control	Photocell	\$0.1760	10	5,114	0.294	2,557	\$450.00	50%	85%	85%	2,592	1
MiscHN10	Misc	HD	New	10	9	Central lighting control system	Replace manual switches or no control	Control Point	\$0.1271	10	5,114	0.059	511	\$65.00	10%	25%	45%	3,589	1
OfficN3	Office	Incandescent	New	3	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0464	14	3,594	0.124	1,078	\$50.00	30%	95%	15%	14,683	1
OfficN4	Office	Incandescent	New	4	4	Photocell dimming control	No prior dimming control	Photocell	\$0.0835	9	3,594	0.207	1,797	\$150.00	50%	95%	95%	4,670	1
OfficT2	Office	Incandescent	Turnover	2	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1159	14	3,594	0.124	1,078	\$125.00	30%	95%	80%	5,873	1
OfficT3	Office	Incandescent	Turnover	3	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1252	9	3,594	0.207	1,797	\$225.00	50%	95%	95%	3,113	1
GroceN3	Grocery	Incandescent	New	3	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0224	14	7,455	0.257	2,236	\$50.00	30%	95%	15%	30,453	1
GroceT2	Grocery	Incandescent	Turnover	2	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0559	14	7,455	0.257	2,236	\$125.00	30%	95%	80%	12,181	1
HealthT2	Healthcare	Incandescent	Turnover	2	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0603	14	6,912	0.238	2,074	\$125.00	30%	95%	80%	11,204	1
GroceN4	Grocery	Incandescent	New	4	4	Photocell dimming control	No prior dimming control	Photocell	\$0.0402	9	7,455	0.428	3,727	\$150.00	50%	95%	95%	9,685	1
HealthN3	Healthcare	Incandescent	New	4	4	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0241	14	6,912	0.238	2,074	\$50.00	30%	95%	15%	28,236	1
GroceT3	Grocery	Incandescent	Turnover	3	3	Photocell dimming control	No prior dimming control	Photocell	\$0.0604	9	7,455	0.428	3,727	\$225.00	50%	95%	95%	6,457	1
HealthT3	Healthcare	Incandescent	Turnover	3	3	Photocell dimming control	No prior dimming control	Photocell	\$0.0651	9	6,912	0.397	3,456	\$225.00	50%	95%	95%	5,987	1
HealthN4	Healthcare	Incandescent	New	4	4	Photocell dimming control	No prior dimming control	Photocell	\$0.0434	9	6,912	0.397	3,456	\$150.00	50%	95%	95%	8,980	1
InstnN3	Institutional	Incandescent	New	3	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0493	14	3,379	0.117	1,014	\$50.00	30%	95%	15%	13,804	1
InstnN4	Institutional	Incandescent	New	4	4	Photocell dimming control	No prior dimming control	Photocell	\$0.0888	9	3,379	0.194	1,690	\$150.00	50%	95%	95%	4,390	1
InstnT2	Institutional	Incandescent	Turnover	2	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.1233	14	3,379	0.117	1,014	\$125.00	30%	95%	80%	5,522	1
InstnT3	Institutional	Incandescent	Turnover	3	3	Photocell dimming control	No prior dimming control	Photocell	\$0.1332	9	3,379	0.194	1,690	\$225.00	50%	95%	95%	2,927	1
LodgHN3	Lodging	Incandescent	New	3	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0264	14	6,324	0.218	1,897	\$50.00	30%	95%	15%	25,836	1
LodgHN4	Lodging	Incandescent	New	4	4	Photocell dimming control	No prior dimming control	Photocell	\$0.0474	9	6,324	0.363	3,162	\$150.00	50%	95%	95%	8,217	1
LodgT2	Lodging	Incandescent	Turnover	2	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0659	14	6,324	0.218	1,897	\$125.00	30%	95%	80%	10,334	1
LodgT3	Lodging	Incandescent	Turnover	3	3	Photocell dimming control	No prior dimming control	Photocell	\$0.0712	9	6,324	0.363	3,162	\$225.00	50%	95%	95%	6,478	1
RestalN3	Restaurant	Incandescent	New	3	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0298	14	5,591	0.193	1,677	\$50.00	30%	95%	15%	22,840	1
RestalN4	Restaurant	Incandescent	New	4	4	Photocell dimming control	No prior dimming control	Photocell	\$0.0537	9	5,591	0.321	2,796	\$150.00	50%	95%	95%	7,264	1
RestalT2	Restaurant	Incandescent	Turnover	2	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0745	14	5,591	0.193	1,677	\$125.00	30%	95%	80%	9,136	1
RestalT3	Restaurant	Incandescent	Turnover	3	3	Photocell dimming control	No prior dimming control	Photocell	\$0.0805	9	5,591	0.321	2,796	\$225.00	50%	95%	95%	4,843	1
RestalN3	Retail	Incandescent	New	3	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0309	14	5,389	0.186	1,617	\$50.00	30%	95%	15%	22,014	1
RestalN4	Retail	Incandescent	New	4	4	Photocell dimming control	No prior dimming control	Photocell	\$0.0557	9	5,389	0.310	2,694	\$150.00	50%	95%	95%	7,001	1
RestalT2	Retail	Incandescent	Turnover	2	2	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0773	14	5,389	0.186	1,617	\$125.00	30%	95%	80%	8,805	1
RestalT3	Retail	Incandescent	Turnover	3	3	Photocell dimming control	No prior dimming control	Photocell	\$0.0835	9	5,389	0.310	2,694	\$225.00	50%	95%	95%	4,667	1
WarechN3	Warehouse	Incandescent	New	3	3	Occupancy sensor, wall or ceiling mounted	Manual Wall Switch	Sensor	\$0.0334	14	4,992	0.172	1,498	\$50.00	30%	95%	15%	20,393	1
WarechN4	Warehouse	Incandescent	New	4	4	Photocell dimming control	No prior dimming control	Photocell	\$0.0601	9	4,992	0.287	2,496	\$150.00	50%	95%	95%	6,486	1
WarechT																			

West Penn Commercial Measures

Measure	Lookup	New Commercial	Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh)	Measure Life	Baseline kWh	PJM Summer Peak (kW)	Change case kWh Savings	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
Lighting6	Lodging	Lodging	Incandescent	New	6	Hotel Occupancy Sensors	No prior control	Per Room	\$0.4468	10	240	0.019	168	\$7,500	70%	90%	95%	1.021	1	
LodgingT6	Lodging	Incandescent	Turnover	6	Hotel Occupancy Sensors	No prior control	Per Room	\$0.5957	10	240	0.019	168	\$10,000	70%	90%	95%	0.766	1	0	
AlBSN1	All	Signage	New	1	Induction Street Lighting	Base HID Streetlighting	Per Foot	\$0.54	15	2,762	0.107	1,619	\$875.00	59%	95%	95%	1,200	1		
AlBSN2	All	Signage	New	2	LED or equivalent sign lighting	Replace fluorescent sign lighting	Exit Sign	\$0.58	15	3.02	0.002	30	\$17.36	58%	95%	7%	1,190	1		
AlBSN3	All	Signage	New	3	LED Street Lighting	Sid/HDD Street Lighting	Pole	\$0.56	15	3,023	0.047	756	\$425.00	25%	95%	95%	1,230	1		
AlBSI1	All	Signage	Early	1	Dusk to Dawn	Time Clock Control	Pole	\$0.17	15	3,023	0.076	1,209	\$200.00	40%	95%	50%	4,181	1		
OfficeMoT22	Office	Motors	Turnover	22	Air Comp Improvements	Air Compressor Optimization		\$0.11	15	56148	1.148	8,928	\$990.00	16%	28%	65%	6,645	1		
OfficeMoE2	Office	Motors	Early	2	Air Compressor Optimization	Air Compressor Optimization		\$0.16	15	56148	2.174	16,901	\$2,750.00	30%	38%	65%	4,529	1		
GroceMoI1	Grocery	Motors	Early	1	Motor Retrocommissioning	Motor Retrocommissioning	Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1,151	1		
AlOeT1	All	Other	Turnover	1	Motor Improvements Bundle - Industrial Model	No Motor Improvements	Motor	\$0.48	14	10,000	0.128	1,092	\$522.00	11%	90%	95%	1,427	1		
AlOeT2	All	Other	Turnover	2	EE Transformer - CSI. 3	NEMA Transformer - 75W	Motor	\$0.60	15	4197	0.187	1,595	\$950.00	23%	90%	95%	1,224	1		
AlOeN1	All	Other	New	1	EE Transformer - CSI. 3	NEMA Transformer - 75W	Motor	\$0.60	15	4197	0.187	1,595	\$950.00	23%	90%	95%	1,224	1		
AlIReN26	All	Refrigeration	New	26	Anti-sweat heat (ASH) controls - Freezer	ASH without controls	Per Door	\$0.16	12	2,985	0.029	1,882	\$300.00	63%	95%	85%	3,362	1		
AlIReN27	All	Refrigeration	New	27	Anti-sweat heat (ASH) controls - Cooler	ASH without controls	Per Door	\$0.29	12	1,621	0.028	1,023	\$300.00	63%	95%	85%	1,843	1		
GroceMoN1	Grocery	Motors	New	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.1015	15	15384	0.0282	139.5	\$154	0.91%	74.4%	100%	0.700			
GroceMoN2	Grocery	Motors	New	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.1901	15	58940	0.0231	437.7	\$521	0.74%	74.4%	100%	0.590			
GroceMoN3	Grocery	Motors	New	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.0693	15	144688	0.0138	644.1	\$689	0.45%	66.3%	100%	0.643			
GroceMoN4	Grocery	Motors	New	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.4499	15	290922	0.0121	1135.2	\$511	0.39%	55.8%	100%	1.517			
GroceMoN5	Grocery	Motors	New	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.3775	15	624328	0.0284	5711.1	\$2,156	0.91%	55.8%	100%	1.801			
GroceMoN6	Grocery	Motors	New	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.5635	15	97600	2.511	19,520	\$11,000.00	20%	55.0%	100%	1.308			
GroceMoN7	Grocery	Motors	New	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.4707	15	97600	9.776	27,620.7	\$13,000.00	28%	70.0%	100%	1.786			
GroceMoN8	Grocery	Motors	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4791	15	97600	0.000	27,132.7	\$13,000.00	28%	80.0%	100%	1.415			
GroceMoN9	Grocery	Motors	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5459	15	97600	9.776	23,814.3	\$13,000.00	24%	70.0%	100%	1.587			
GroceMoN10	Grocery	Motors	New	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.4791	15	97600	7.280	27,132.7	\$13,000.00	28%	55.0%	100%	1.672			
GroceMoN11	Grocery	Motors	New	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5459	15	97600	9.776	23,814.3	\$13,000.00	24%	30.0%	100%	1.587			
GroceMoT1	Grocery	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.1015	15	15384	0.0282	139.5	\$154	0.91%	74.4%	100%	0.700			
GroceMoT2	Grocery	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.1901	15	58940	0.0231	437.7	\$521	0.74%	74.4%	100%	0.590			
GroceMoT3	Grocery	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.0693	15	144688	0.0138	644.1	\$689	0.45%	66.3%	100%	0.643			
GroceMoT4	Grocery	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.4499	15	290922	0.0121	1135.2	\$511	0.39%	55.8%	100%	1.517			
GroceMoT5	Grocery	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.3775	15	624328	0.0284	5711.1	\$2,156	0.91%	55.8%	100%	1.801			
GroceMoT6	Grocery	Motors	Turnover	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.5635	15	97600	2.511	19,520	\$11,000.00	20%	55.0%	100%	1.308			
GroceMoT7	Grocery	Motors	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.4707	15	97600	9.776	27,620.7	\$13,000.00	28%	90.0%	80%	1.786			
GroceMoT8	Grocery	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4791	15	97600	0.000	27,132.7	\$13,000.00	28%	90.0%	80%	1.415			
GroceMoT9	Grocery	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5459	15	97600	9.776	23,814.3	\$13,000.00	24%	90.0%	80%	1.587			
GroceMoT10	Grocery	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.4791	15	97600	7.280	27,132.7	\$13,000.00	28%	80.0%	80%	1.672			
GroceMoT11	Grocery	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5459	15	97600	9.776	23,814.3	\$13,000.00	24%	55.0%	80%	1.587			
GroceMoT12	Grocery	Motors	Turnover	12	Motors Rewind 125-200 HP	(E) Motor	Motor	\$0.5097	15	292799	0.189	1471.4	\$750	0.5%	35.0%	95%	1.446			
GroceMoT13	Grocery	Motors	Turnover	13	Motors Rewind 201-500 HP	(E) Motor	Motor	\$0.6274	15	634998	0.410	3187.9	\$2,000	0.5%	50.0%	95%	1.175			
GroceMoT14	Grocery	Motors	Turnover	14	Motors Rewind 20-50 HP	(E) Motor	Motor	\$0.4704	15	59847	0.068	531.4	\$250	0.9%	10.0%	95%	1.566			
GroceMoT15	Grocery	Motors	Turnover	15	Motors Rewind 50+ HP	(E) Motor	Motor	\$0.5437	15	1463995	0.946	7356.8	\$4,000	0.5%	70.0%	95%	1.355			
GroceMoT16	Grocery	Motors	Turnover	16	Motors Rewind 51-100 HP	(E) Motor	Motor	\$0.5841	15	147991	0.110	856.0	\$500	0.6%	20.0%	95%	1.261			
GroceMoT17	Grocery	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.7%	25%	95%	2.749			
GroceMoN12	Grocery	Motors	New	12	Demand Control Ventilation (DCV)	Base Standard Ventilation		\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.439			
GroceMoN13	Grocery	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood		\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.029			
GroceMoN14	Grocery	Motors	New	14	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. .35 HP PSC motor operating 2000 hours per year is		\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.443			
GroceMoN15	Grocery	Motors	New	15	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%		\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	95%	95%	0.582			
GroceMoT18	Grocery	Motors	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation		\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.439			
GroceMoT19	Grocery	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood		\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.029			
GroceMoT20	Grocery	Motors	Turnover	20	Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. .35 HP PSC motor operating 2000 hours per year is		\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.443			
GroceMoT21	Grocery	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%		\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	95%	95%	0.582			
GroceMoT22	Grocery	Motors	Turnover	22	Air Comp Improvements	Air Compressor Optimization		\$0.11	15	56148	1.148	8,928	\$990.00	16%	28%	65%	6,645			
GroceMoE2	Grocery	Motors	Early	2	Air Compressor Optimization	Air Compressor Optimization		\$0.16	15	56148	2.174	16,901	\$2,750.00	30%	38%	65%	4,529			
GroceMoT23	Grocery	Motors	Turnover	23	Motor Retrocommissioning	Motor Retrocommissioning	Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1,151			
HealthMoN1	Healthcare	Motors	New	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$0.8576	15	19759	0.0282	179.2	\$154	0.91%	74.4%	100%	0.874			
HealthMoN2	Healthcare	Motors	New	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$0.9266	15	75700	0.0231	562.2	\$521	0.74%	74.4%	100%	0.752			
HealthMoN3	Healthcare	Motors	New	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$0.8325	15	185830	0.0138	827.3	\$689	0.45%	66.3%	100%	0.823			
HealthMoN4	Healthcare	Motors	New	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.3503	15	373646	0.0121	1458.0	\$511	0.39%	55.8%	100%	1.946			
HealthMoN5	Healthcare	Motors	New	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.2939	15	801855	0.0284	7335.1	\$2,156	0.91%	55.8%	100%	2.312			
HealthMoN6	Healthcare	Motors	New	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.4388	15	125352	3.225	25,070	\$11,000.00	20%	55.0%	100%	1.679			

West Penn Commercial Measures

Measure	Lookup	New Commercial	Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	PJM Summer Peak (kW)	Summer Peak Change case (kW)	Customer Cost (\$)	Customer Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
InstMoN3	Institutional	Motors	New	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1,284.84	15	12493.3	0.0138	556.2	\$689	0.45%	66.3%	100%	0.557	0		
InstMoN4	Institutional	Motors	New	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0,521.11	15	25120.1	0.0121	980.2	\$511	0.39%	55.8%	100%	1.312	1		
InstMoN5	Institutional	Motors	New	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0,437.2	15	53908.6	0.0284	4931.3	\$2,156	0.91%	55.8%	100%	1.556	1		
InstMoN6	Institutional	Motors	New	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0,652.6	15	84274.2	2.168	16,855	\$11,000.00	20%	55.0%	100%	1.129	1		
InstMoN7	Institutional	Motors	New	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0,545.1	15	84274.2	12.062	23849.5	\$13,000.00	28%	70.0%	100%	1.670	1		
InstMoN8	Institutional	Motors	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0,554.9	15	84274.2	0.000	23428.2	\$13,000.00	28%	80.0%	100%	1.221	1		
InstMoN9	Institutional	Motors	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0,634.8	15	84274.2	12.062	20478.6	\$13,000.00	24%	70.0%	100%	1.494	1		
InstMoN10	Institutional	Motors	New	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0,556.9	15	84274.2	9.145	23343.9	\$13,000.00	28%	55.0%	100%	1.540	1		
InstMoN11	Institutional	Motors	New	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0,634.8	15	84274.2	12.062	20478.6	\$13,000.00	24%	30.0%	100%	1.494	1		
InstMoT1	Institutional	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1,275.7	15	13284.0	0.0282	120.5	\$154	0.91%	74.4%	100%	0.615	0		
InstMoT10	Institutional	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0,556.9	15	84274.2	9.145	23343.9	\$13,000.00	28%	80.0%	80%	1.540	1		
InstMoT11	Institutional	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0,634.8	15	84274.2	12.062	20478.6	\$13,000.00	24%	55.0%	80%	1.494	1		
InstMoT12	Institutional	Motors	Turnover	12	Motors Rewind 125-200 HP	(E) Motor	Motor	\$0,590.3	15	25282.2	0.163	1270.5	\$750	0.5%	35.0%	95%	1.248	1		
InstMoT13	Institutional	Motors	Turnover	13	Motors Rewind 201-500 HP	(E) Motor	Motor	\$0,726.6	15	54778.1	0.354	2752.7	\$2,000	0.5%	50.0%	95%	1.014	1		
InstMoT14	Institutional	Motors	Turnover	14	Motors Rewind 20-50 HP	(E) Motor	Motor	\$0,544.8	15	21676.0	0.059	458.9	\$250	0.09%	10.0%	95%	1.352	1		
InstMoT15	Institutional	Motors	Turnover	15	Motors Rewind 500+ HP	(E) Motor	Motor	\$0,629.7	15	126410.9	0.817	6352.3	\$4,000	0.5%	70.0%	95%	0.170	1		
InstMoT16	Institutional	Motors	Turnover	16	Motors Rewind 51-100 HP	(E) Motor	Motor	\$0,676.5	15	12778.5	0.095	739.1	\$500	0.6%	20.0%	95%	1.089	1		
InstMoT17	Institutional	Motors	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.79%	25%	95%	2.749	1		
InstMoT2	Institutional	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1,378.3	15	5089.3	0.0231	377.9	\$521	0.74%	74.4%	100%	0.512	0		
HealthMoT23	Healthcare	Motors	Turnover	23	Motor Retrocommissioning	Motor Retrocommissioning	Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.151	1		
InstMoT3	Institutional	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1,238.4	15	12493.3	0.0138	556.2	\$689	0.45%	66.3%	100%	0.557	0		
InstMoT4	Institutional	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0,521.11	15	25120.1	0.0121	980.2	\$511	0.39%	55.8%	100%	1.312	1		
InstMoT5	Institutional	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0,437.2	15	53908.6	0.0284	4931.3	\$2,156	0.91%	55.8%	100%	1.556	1		
InstMoT6	Institutional	Motors	Turnover	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0,652.6	15	84274.2	2.168	16,855	\$11,000.00	20%	55.0%	80%	1.129	1		
InstMoT7	Institutional	Motors	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0,545.1	15	84274.2	12.062	23849.5	\$13,000.00	28%	90.0%	80%	1.670	1		
InstMoT8	Institutional	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0,554.9	15	84274.2	0.000	23428.2	\$13,000.00	28%	90.0%	80%	1.221	1		
InstMoN12	Institutional	Motors	New	12	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.439	1		
InstMoN13	Institutional	Motors	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$0.21	15	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.029	0		
InstMoN14	Institutional	Motors	New	14	Electrically Commutated Motors (ECM) on Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is	Motor	\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.443	1		
InstMoN15	Institutional	Motors	New	15	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.582	0		
InstMoT18	Institutional	Motors	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation	Motor	\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.439	1		
InstMoT19	Institutional	Motors	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	Motor	\$0.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.029	0		
InstMoT20	Institutional	Motors	Turnover	20	Electrically Commutated Motors (ECM) on Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is	Motor	\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.443	1		
InstMoT21	Institutional	Motors	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%	Motor	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.582	0		
InstMoT22	Institutional	Motors	Turnover	22	Air Comp Improvements	Air Comp Improvements	Motor	\$0.11	15	56148	1.148	8,928	\$990.00	16%	28%	65%	6.645	1		
InstMoT2	Institutional	Motors	Early	2	Air Compressor Optimization	Air Compressor Optimization	Motor	\$0.16	15	56148	2.174	16,901	\$2,750.00	30%	38%	65%	4.529	1		
InstMoE1	Institutional	Motors	Early	1	Motor Retrocommissioning	Motor Retrocommissioning	Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.151	1		
LodgeMoN1	Lodging	Motors	New	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1,111.4	15	15247	0.0282	138.3	\$154	0.91%	74.4%	100%	0.694	0		
LodgeMoN2	Lodging	Motors	New	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1,200.8	15	58416	0.0231	433.8	\$521	0.74%	74.4%	100%	0.585	0		
LodgeMoN3	Lodging	Motors	New	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$0,450.4	15	14340.1	0.0138	638.4	\$689	0.45%	66.3%	100%	0.637	1		
LodgeMoN4	Lodging	Motors	New	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0,454.0	15	28833.4	0.0121	1125.1	\$511	0.39%	55.8%	100%	1.504	1		
LodgeMoN5	Lodging	Motors	New	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0,380.9	15	61873.5	0.0284	5660.3	\$2,156	0.91%	55.8%	100%	1.785	1		
LodgeMoN6	Lodging	Motors	New	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0,568.6	15	96731	2.489	19,346	\$11,000.00	20%	55.0%	100%	1.296	1		
LodgeMoN7	Lodging	Motors	New	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0,480.5	15	96731	10.553	27052.5	\$13,000.00	28%	70.0%	100%	1.783	1		
LodgeMoN8	Lodging	Motors	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0,483.4	15	96731	0.000	26891.3	\$13,000.00	28%	80.0%	100%	1.402	1		
LodgeMoN9	Lodging	Motors	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0,563.1	15	96731	10.177	23086.5	\$13,000.00	24%	70.0%	100%	1.563	1		
LodgeMoN10	Lodging	Motors	New	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0,488.7	15	96731	7.911	26601.1	\$13,000.00	28%	55.0%	100%	1.666	1		
LodgeMoN11	Lodging	Motors	New	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0,558.8	15	96731	10.553	23263.9	\$13,000.00	24%	30.0%	100%	1.586	1		
LodgeMoT1	Lodging	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1,111.4	15	15247	0.0282	138.3	\$154	0.91%	74.4%	100%	0.694	0		
LodgeMoT2	Lodging	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1,200.8	15	58416	0.0231	433.8	\$521	0.74%	74.4%	100%	0.585	0		
LodgeMoT3	Lodging	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$0,450.4	15	14340.1	0.0138	638.4	\$689	0.45%	66.3%	100%	0.637	1		
LodgeMoT4	Lodging	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0,454.0	15	28833.4	0.0121	1125.1	\$511	0.39%	55.8%	100%	1.504	1		
LodgeMoT5	Lodging	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0,380.9	15	61873.5	0.0284	5660.3	\$2,156	0.91%	55.8%	100%	1.785	1		
LodgeMoT6	Lodging	Motors	Turnover	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0,568.6	15	96731	2.489	19,346	\$11,000.00	20%	55.0%	100%	1.296	1		
LodgeMoT7	Lodging	Motors	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0,480.5	15	96731	10.553	27052.5	\$13,000.00	28%	90.0%	80%	1.783	1		
LodgeMoT8	Lodging	Motors	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0,483.4	15	96731	0.000	26891.3	\$13,000.00	28%	90.0%	80%	1.402	1		
LodgeMoT9	Lodging	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0,563.1	15	96731	10.177	23086.5	\$13,000.00	24%	90.0%	80%	1.563	1		
LodgeMoT10	Lodging	Motors	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0,488.7	15	96731	7.911	26601.1	\$13,000.00	28%	80.0%	80%	1.666	1		
LodgeMoT11	Lodging	Motors	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0,558.8	15	96731	10.553	23263.9	\$13,000.00	24%	55.0%	80%	1.586	1		
LodgeMoT12	Lodging	Motors	Turnover	12	Motors Rewind 125-200 HP	(E) Motor	Motor	\$0,514.3	15	29019.4	0.188									

West Penn Commercial Measures

Measure	Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	PJM Summer Peak KW Savings (Motors)	Change case kWh Savings (merch)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
miscMo18	misc	Motors	Turnover	8		VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4834	15	96731	0.000	26891.3	\$13,000.00	28%	90.0%	80%	1.402	1
miscMo19	misc	Motors	Turnover	9		VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5631	15	96731	10.177	23086.5	\$13,000.00	24%	90.0%	80%	1.563	1
miscMo20	misc	Motors	Turnover	11		VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.3987	15	96731	7.911	26401.1	\$13,000.00	28%	80.0%	80%	1.666	1
miscMo21	misc	Motors	Turnover	11		VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5588	15	96731	10.553	23263.9	\$13,000.00	24%	55.0%	80%	1.586	1
miscMo212	misc	Motors	Turnover	12		Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0.5143	15	290194	0.188	1458.3	\$750	0.5%	35.0%	95%	1.433	1
miscMo213	misc	Motors	Turnover	13		Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0.6330	15	628754	0.406	3159.6	\$2,000	0.5%	50.0%	95%	1.164	1
miscMo214	misc	Motors	Turnover	14		Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0.4747	15	59314	0.068	526.7	\$250	0.9%	10.0%	95%	1.552	1
miscMo215	misc	Motors	Turnover	15		Motors: Rewind 500+ HP	(E) Motor	Motor	\$0.5486	15	1450970	0.938	7291.3	\$4,000	0.5%	70.0%	95%	1.343	1
miscMo216	misc	Motors	Turnover	16		Motors: Rewind 51-100 HP	(E) Motor	Motor	\$0.5894	15	146674	0.109	848.4	\$500	0.6%	20.0%	95%	1.250	1
miscMo217	misc	Motors	Turnover	17		Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.7%	25%	95%	2.749	1
miscMo218	misc	Motors	New	12		Demand Control Ventilation (DCV)	Base Standard Ventilation		\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.439	1
miscMo219	misc	Motors	New	13		Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood		\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.029	0
miscMo214	misc	Motors	New	14		Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. .35 HP PSC motor operating 2000 hours per year is		\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.443	1
miscMo215	misc	Motors	New	15		Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%		\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.582	0
miscMo218	misc	Motors	Turnover	18		Demand Control Ventilation (DCV)	Base Standard Ventilation		\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.439	1
miscMo219	misc	Motors	Turnover	19		Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood		\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.029	0
miscMo220	misc	Motors	Turnover	20		Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. .35 HP PSC motor operating 2000 hours per year is		\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.443	1
miscMo221	misc	Motors	Turnover	21		Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%		\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.582	0
miscMo222	misc	Motors	Turnover	22		Air Comp Improvements			\$0.11	15	56148	1.148	8,928	\$990.10	16%	28%	65%	6.645	1
miscMoE2	misc	Motors	Early	2		Air Compressor Optimization			\$0.16	15	56148	2.174	16,901	\$2,750.00	30%	38%	65%	4.529	1
LodgeMoE1	Lodging	Motors	Early	1		Motor Retrocommissioning			\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.151	1
RestaMoN1	Retail	Motors	New	1		Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.1015	15	15384	0.0282	139.5	\$154	0.91%	74.4%	100%	0.700	0
RestaMoN2	Retail	Motors	New	2		Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.1901	15	58940	0.0231	437.7	\$521	0.74%	74.4%	100%	0.590	0
RestaMoN3	Retail	Motors	New	3		Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.0693	15	144688	0.0138	644.1	\$689	0.45%	66.3%	100%	0.643	0
RestaMoN4	Retail	Motors	New	4		Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.4499	15	290922	0.0121	1135.2	\$511	0.39%	55.8%	100%	1.517	1
RestaMoN5	Retail	Motors	New	5		Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.3775	15	624328	0.0284	5711.1	\$2,156	0.91%	55.8%	100%	1.801	1
RestaMoN6	Retail	Motors	New	6		Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.5635	15	97600	2.511	19,520	\$11,000.00	20%	55.0%	80%	1.308	1
RestaMoN7	Retail	Motors	Turnover	7		VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.4707	15	97600	0.000	27132.7	\$13,000.00	28%	90.0%	80%	1.786	1
RestaMoN8	Retail	Motors	New	8		VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4791	15	97600	0.000	27132.7	\$13,000.00	28%	90.0%	80%	1.415	1
RestaMoN9	Retail	Motors	New	9		VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5459	15	97600	9.776	23814.3	\$13,000.00	24%	70.0%	100%	1.587	1
RestaMoN10	Retail	Motors	New	10		VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.4791	15	97600	7.280	27132.7	\$13,000.00	28%	55.0%	100%	1.672	1
RestaMoN11	Retail	Motors	New	11		VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5459	15	97600	9.776	23814.3	\$13,000.00	24%	30.0%	100%	1.587	1
RestaMoN11	Retail	Motors	Turnover	11		Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.1015	15	15384	0.0282	139.5	\$154	0.91%	74.4%	100%	0.700	0
RestaMoN12	Retail	Motors	Turnover	2		Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	NEMA-PE Motor 20-40 HP	Motor	\$1.1901	15	58940	0.0231	437.7	\$521	0.74%	74.4%	100%	0.590	0
RestaMoN13	Retail	Motors	Turnover	3		Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	NEMA-PE Motor 50-100 HP	Motor	\$1.0693	15	144688	0.0138	644.1	\$689	0.45%	66.3%	100%	0.643	0
RestaMoN14	Retail	Motors	Turnover	4		Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	NEMA-PE Motor 125-200 HP	Motor	\$0.4499	15	290922	0.0121	1135.2	\$511	0.39%	55.8%	100%	1.517	1
RestaMoN15	Retail	Motors	Turnover	5		Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	NEMA-PE Motor 250-500 HP	Motor	\$0.3775	15	624328	0.0284	5711.1	\$2,156	0.91%	55.8%	100%	1.801	1
RestaMoN16	Retail	Motors	Turnover	6		Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0.5635	15	97600	2.511	19,520	\$11,000.00	20%	55.0%	80%	1.308	1
RestaMoN17	Retail	Motors	Turnover	7		VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0.4707	15	97600	9.776	27620.7	\$13,000.00	28%	90.0%	80%	1.786	1
RestaMoN18	Retail	Motors	Turnover	8		VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0.4791	15	97600	0.000	27132.7	\$13,000.00	28%	90.0%	80%	1.415	1
RestaMoN19	Retail	Motors	Turnover	9		VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.5459	15	97600	9.776	23814.3	\$13,000.00	24%	90.0%	80%	1.387	1
RestaMoN20	Retail	Motors	Turnover	10		VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0.4791	15	97600	7.280	27132.7	\$13,000.00	28%	80.0%	80%	1.672	1
RestaMoN21	Retail	Motors	Turnover	11		VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0.5459	15	97600	9.776	23814.3	\$13,000.00	24%	55.0%	80%	1.587	1
RestaMoN212	Retail	Motors	Turnover	12		Motors: Rewind 125-200 HP	(E) Motor	Motor	\$0.5097	15	292799	0.189	1471.4	\$750	0.5%	35.0%	95%	1.446	1
RestaMoN213	Retail	Motors	Turnover	13		Motors: Rewind 201-500 HP	(E) Motor	Motor	\$0.6274	15	634998	0.410	3187.9	\$2,000	0.5%	50.0%	95%	1.175	1
RestaMoN214	Retail	Motors	Turnover	14		Motors: Rewind 20-50 HP	(E) Motor	Motor	\$0.4704	15	59847	0.068	531.4	\$250	0.9%	10.0%	95%	1.566	1
RestaMoN215	Retail	Motors	Turnover	15		Motors: Rewind 500+ HP	(E) Motor	Motor	\$0.5437	15	1463995	0.946	7356.8	\$4,000	0.5%	70.0%	95%	1.355	1
RestaMoN216	Retail	Motors	Turnover	16		Motors: Rewind 51-100 HP	(E) Motor	Motor	\$0.5841	15	147991	0.110	856.0	\$500	0.6%	20.0%	95%	1.261	1
RestaMoN217	Retail	Motors	Turnover	17		Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0.34	20	186,404	0.190	1,477	\$500.00	0.7%	25%	95%	2.749	1
RestaMoN218	Retail	Motors	New	12		Demand Control Ventilation (DCV)	Base Standard Ventilation		\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.439	1
RestaMoN219	Retail	Motors	New	13		Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood		\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.029	0
RestaMoN214	Retail	Motors	New	14		Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. .35 HP PSC motor operating 2000 hours per year is		\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.443	1
RestaMoN215	Retail	Motors	New	15		Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%		\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.582	0
RestaMoN218	Retail	Motors	Turnover	18		Demand Control Ventilation (DCV)	Base Standard Ventilation		\$0.19	10	16,963	0.175	1,357	\$257.83	8%	75%	95%	2.439	1
RestaMoN219	Retail	Motors	Turnover	19		Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood		\$16.21	10	5,013	0.052	401	\$6,500.21	8%	75%	95%	0.029	0
RestaMoN220	Retail	Motors	Turnover	20		Electronically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. .35 HP PSC motor operating 2000 hours per year is		\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.443	1
RestaMoN221	Retail	Motors	Turnover	21		Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 15hp, 1800rpm, 91.0%		\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.582	0
RestaMoN222	Retail	Motors	Turnover	22		Air Comp Improvements			\$0.11	15	56148	1.148	8,928	\$990.10	16%	28%	65%	6.645	1
LodgeMoT23	Lodging	Motors	Turnover	23		Motor Retrocommissioning			\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.151	1
RestaMoN1	Restaurant	Motors	New	1		Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	NEMA-PE Motor 1-15 HP	Motor	\$1.1487	15	14753	0.0282	133.8	\$154	0.91%	74.4%	100%	0.674	0
Resta																			

West Penn Commercial Measures

Measure Lookup	New Commercial	Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	PJM Summer Peak (kW savings)	Change case (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
RestMo120	Restaurant	RestMo120	Restaurant	Turnover	20	Electrically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is	Motor	\$0.21	15	5,194	0.120	935	\$200.09	18.00%	75%	95%	3.443	1
RestMo121	Restaurant	RestMo121	Restaurant	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 13hp, 1800rpm, 91.0%	Motor	\$0.80	10	136,760	0.880	6,838	\$5,450.00	5.00%	75%	95%	0.582	0
RestMo122	Restaurant	RestMo122	Restaurant	Turnover	22	Air Comp Improvements		Motor	\$0.11	15	56148	1.148	8,928	\$990.00	16%	28%	65%	6.645	1
MiscMoE1	Misc	MiscMoE1	Misc	Early	2	Air Compressor Optimization		Motor	\$0.16	15	56148	2.174	16,901	\$2,750.00	30%	38%	65%	4.529	1
WarehMo1	Warehouse	WarehMo1	Warehouse	Early	1	Motor Retrocommissioning		Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.151	1
WarehMo2	Warehouse	WarehMo2	Warehouse	New	1	Enhanced (Ultra-PE) Motor 1-15 HP	NEMA-PE Motor 1-15 HP	Motor	\$1,114	15	15247	0.0282	138.3	\$154	0.91%	74.4%	100%	0.694	0
WarehMo3	Warehouse	WarehMo3	Warehouse	New	2	Enhanced (Ultra-PE) Motor 20-40 HP	NEMA-PE Motor 20-40 HP	Motor	\$1,208	15	58416	0.0231	433.8	\$521	0.74%	74.4%	100%	0.585	0
WarehMo4	Warehouse	WarehMo4	Warehouse	New	3	Enhanced (Ultra-PE) Motor 50-100 HP	NEMA-PE Motor 50-100 HP	Motor	\$1,079	15	143401	0.0138	638.4	\$689	0.45%	66.3%	100%	0.637	0
WarehMo5	Warehouse	WarehMo5	Warehouse	New	4	Enhanced (Ultra-PE) Motor 125-200 HP	NEMA-PE Motor 125-200 HP	Motor	\$0,4540	15	288334	0.0121	1125.1	\$511	0.39%	55.8%	100%	1.504	1
WarehMo6	Warehouse	WarehMo6	Warehouse	New	5	Enhanced (Ultra-PE) Motor 250-500 HP	NEMA-PE Motor 250-500 HP	Motor	\$0,3809	15	618773	0.0284	5660.3	\$2,156	0.91%	55.8%	100%	1.785	1
WarehMo7	Warehouse	WarehMo7	Warehouse	New	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0,5686	15	96731	2.489	19,346	\$11,000.00	20%	55.0%	100%	1.296	1
WarehMo8	Warehouse	WarehMo8	Warehouse	New	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0,4805	15	96731	10,553	27,052.5	\$13,000.00	28%	70.0%	100%	1.783	1
WarehMo9	Warehouse	WarehMo9	Warehouse	New	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0,4834	15	96731	0,000	26,891.3	\$13,000.00	28%	80.0%	100%	1.402	1
WarehMo10	Warehouse	WarehMo10	Warehouse	New	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0,5631	15	96731	10,177	23,086.5	\$13,000.00	24%	70.0%	100%	1.563	1
WarehMo11	Warehouse	WarehMo11	Warehouse	New	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0,4887	15	96731	7,911	26,601.1	\$13,000.00	28%	55.0%	100%	1.666	1
WarehMo12	Warehouse	WarehMo12	Warehouse	New	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0,5588	15	96731	10,553	23,263.9	\$13,000.00	24%	30.0%	100%	1.586	1
WarehMo13	Warehouse	WarehMo13	Warehouse	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP	NEMA-PE Motor 1-15 HP	Motor	\$1,114	15	15247	0.0282	138.3	\$154	0.91%	74.4%	100%	0.694	0
WarehMo14	Warehouse	WarehMo14	Warehouse	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP	NEMA-PE Motor 20-40 HP	Motor	\$1,208	15	58416	0.0231	433.8	\$521	0.74%	74.4%	100%	0.585	0
WarehMo15	Warehouse	WarehMo15	Warehouse	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP	NEMA-PE Motor 50-100 HP	Motor	\$1,079	15	143401	0.0138	638.4	\$689	0.45%	66.3%	100%	0.637	0
WarehMo16	Warehouse	WarehMo16	Warehouse	Turnover	4	Enhanced (Ultra-PE) Motor 125-200 HP	NEMA-PE Motor 125-200 HP	Motor	\$0,4540	15	288334	0.0121	1125.1	\$511	0.39%	55.8%	100%	1.504	1
WarehMo17	Warehouse	WarehMo17	Warehouse	Turnover	5	Enhanced (Ultra-PE) Motor 250-500 HP	NEMA-PE Motor 250-500 HP	Motor	\$0,3809	15	618773	0.0284	5660.3	\$2,156	0.91%	55.8%	100%	1.785	1
WarehMo18	Warehouse	WarehMo18	Warehouse	Turnover	6	Variable Speed Drives on Process Equipment (1 hp - 100hp)	Constant speed control	Motor	\$0,5686	15	96731	2.489	19,346	\$11,000.00	20%	55.0%	80%	1.296	1
WarehMo19	Warehouse	WarehMo19	Warehouse	Turnover	7	VFD on Chilled Water Pump (Average 50HP)	Constant power control	Motor	\$0,4805	15	96731	10,553	27,052.5	\$13,000.00	28%	90.0%	80%	1.783	1
WarehMo20	Warehouse	WarehMo20	Warehouse	Turnover	8	VFD on Heating Hot Water Pump (Average 50HP)	Constant power control	Motor	\$0,4834	15	96731	0,000	26,891.3	\$13,000.00	28%	90.0%	80%	1.402	1
WarehMo21	Warehouse	WarehMo21	Warehouse	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0,5631	15	96731	10,177	23,086.5	\$13,000.00	24%	90.0%	80%	1.563	1
WarehMo22	Warehouse	WarehMo22	Warehouse	Turnover	10	VFD on HVAC Fan (Average 50HP)	Constant power control	Motor	\$0,4887	15	96731	7,911	26,601.1	\$13,000.00	28%	80.0%	80%	1.666	1
WarehMo23	Warehouse	WarehMo23	Warehouse	Turnover	11	VFD on Cooling Tower Fan (Average 50HP)	Constant power control	Motor	\$0,5588	15	96731	10,553	23,263.9	\$13,000.00	24%	55.0%	80%	1.586	1
WarehMo24	Warehouse	WarehMo24	Warehouse	Turnover	12	Motors Rewind 125-200 HP	(E) Motor	Motor	\$0,5143	15	229194	0,4583	14,538.3	\$7,500	0.83%	95%	3.443	1	
WarehMo25	Warehouse	WarehMo25	Warehouse	Turnover	13	Motors Rewind 201-500 HP	(E) Motor	Motor	\$0,6330	15	629754	0,406	3159.6	\$2,000	0.5%	50.0%	95%	1.164	1
WarehMo26	Warehouse	WarehMo26	Warehouse	Turnover	14	Motors Rewind 20-50 HP	(E) Motor	Motor	\$0,4747	15	9314	0,068	526.7	\$250	0.9%	10.0%	95%	1.552	1
WarehMo27	Warehouse	WarehMo27	Warehouse	Turnover	15	Motors Rewind 500+ HP	(E) Motor	Motor	\$0,5486	15	1450970	0,938	7291.3	\$4,000	0.5%	70.0%	95%	1.343	1
WarehMo28	Warehouse	WarehMo28	Warehouse	Turnover	16	Motors Rewind 51-100 HP	(E) Motor	Motor	\$0,5894	15	146674	0,109	848.4	\$500	0.6%	20.0%	95%	1.250	1
WarehMo29	Warehouse	WarehMo29	Warehouse	Turnover	17	Downsizing motor during retrofit	Larger hp standard motor	HP Reduction	\$0,34	20	186,404	0,190	1,477	\$500.00	0.79%	25%	95%	2.749	1
WarehMo30	Warehouse	WarehMo30	Warehouse	New	12	Demand Control Ventilation (DCV)	Base Standard Ventilation	ton	\$0,19	10	16,963	0,175	1,357	\$257.83	8%	75%	95%	2.439	1
WarehMo31	Warehouse	WarehMo31	Warehouse	New	13	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	ton	\$16,21	10	5,013	0,052	401	\$6,500.21	8%	75%	95%	0.029	0
WarehMo32	Warehouse	WarehMo32	Warehouse	New	14	Electrically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is	Motor	\$0,21	15	5,194	0,120	935	\$200.09	18.00%	75%	95%	3.443	1
WarehMo33	Warehouse	WarehMo33	Warehouse	New	15	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 13hp, 1800rpm, 91.0%	Motor	\$0,80	10	136,760	0,880	6,838	\$5,450.00	5.00%	75%	95%	0.582	0
WarehMo34	Warehouse	WarehMo34	Warehouse	Turnover	18	Demand Control Ventilation (DCV)	Base Standard Ventilation	ton	\$0,19	10	16,963	0,175	1,357	\$257.83	8%	75%	95%	2.439	1
WarehMo35	Warehouse	WarehMo35	Warehouse	Turnover	19	Exhaust Hood Demand Controlled Ventilation	Base Exhaust Hood	ton	\$16,21	10	5,013	0,052	401	\$6,500.21	8%	75%	95%	0.029	0
WarehMo36	Warehouse	WarehMo36	Warehouse	Turnover	20	Electrically Commutated Motors (ECM) on an Air Handler Unit	Assumes 67% eff. 35 HP PSC motor operating 2000 hours per year is	Motor	\$0,21	15	5,194	0,120	935	\$200.09	18.00%	75%	95%	3.443	1
WarehMo37	Warehouse	WarehMo37	Warehouse	Turnover	21	Separate Makeup Air / Exhaust Hoods AC	Base Fan Motor, 13hp, 1800rpm, 91.0%	Motor	\$0,80	10	136,760	0,880	6,838	\$5,450.00	5.00%	75%	95%	0.582	0
WarehMo38	Warehouse	WarehMo38	Warehouse	Turnover	22	Air Comp Improvements		Motor	\$0,11	15	56148	1,148	8,928	\$990.00	16%	28%	65%	6.645	1
WarehMo39	Warehouse	WarehMo39	Warehouse	Early	2	Air Compressor Optimization		Motor	\$0,16	15	56148	2,174	16,901	\$2,750.00	30%	38%	65%	4.529	1
MiscMoI23	Misc	MiscMoI23	Misc	Turnover	23	Motor Retrocommissioning		Motor	\$0,27	7	56148	1,156	8,984	\$2,450.00	16%	95%	75%	1.151	1
HealthE2	Healthcare	HealthE2	Healthcare	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$33,98	15	364	0,23	22	\$ 750.0	6%	20%	95%	0.164	0
HealthE3	Healthcare	HealthE3	Healthcare	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$33,98	15	364	0,000	22	\$750.00	6%	100%	95%	0.020	0
GrocePa11	Grocery	GrocePa11	Grocery	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2,375	sq ft	\$3,13	20	503	0,05	64	\$200.00	13%	15%	9%	0.404	0
GrocePa12	Grocery	GrocePa12	Grocery	Early	2	Adding window shade film	No shade film	sq ft window area	\$7,05	5	7.58	0,000	0.38	\$2.67	5%	50%	95%	0.031	0
GrocePa13	Grocery	GrocePa13	Grocery	Early	3	Adding window shade screen	No shade screen	sq ft window area	\$3,90	15	1.54	0,000	0.38	\$1.50	25%	70%	95%	0.187	0
GrocePa14	Grocery	GrocePa14	Grocery	Early	4	Windows U<0.40, 55 SHGC	Existing window specifications	sq ft window area	\$1,40	30	2	0,000	0	\$0.28	13%	50%	95%	0.825	0
GrocePa15	Grocery	GrocePa15	Grocery	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$6,72	20	503	0,05	34	\$225.00	7%	95%	95%	0.243	0
GrocePa16	Grocery	GrocePa16	Grocery	Early	7	Automated control system	Baseline DX	ton	\$0,94	10	531	0,003	27	\$25.00	5%	100%	65%	0.487	0
GrocePa17	Grocery	GrocePa17	Grocery	Early	8	Duct Sealing down to 15%	Leakage of 29%	ton	\$7,92	20	503	0,05	12	\$95.00	2%	45%	80%	0.317	0
GrocePa18	Grocery	GrocePa18	Grocery	Early	9	Flood Keypad Sensors	No noise controls	room Controls	\$0,29	10	451	0,041	342	\$100.00	7%	95%	80%	1.568	1
GrocePa19	Grocery	GrocePa19	Grocery	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0,55	1	546	0,05	64	\$35.00	12%	100%	45%	0.093	0
GrocePa20	Grocery	GrocePa20	Grocery	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0,44	10	503	0,015	125	\$55.00	25%	100%	45%	1.042	1
GrocePa21	Grocery	GrocePa21	Grocery	Early	13	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0,69	7	503	0,05	80	\$55.15	16%	95%	75%	0.627	0
GrocePa22	Grocery	GrocePa22	Grocery	Early	14	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1,36	20	503	0,05	64	\$87.00	13%	100%	95%	0.929	0
GrocePa23	Grocery	GrocePa23	Grocery	Early	2	Adding reflective roof treatment	Std color roof	ton	\$4,50	20	503	0,05	10	\$45.00	2%	100%	95%	0.766	0
GrocePa24	Grocery	GrocePa24	Grocery	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$3,73	20	503	0,05	34	\$125.00	7%	100%	95%	0.437	0
GrocePa25	Grocery	GrocePa25	Grocery	Early	4	Green Roof (New construction or roof replacement													

West Penn Commercial Measures

Measure Lookup	New Commercial	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh)	Measure Life	Baseline kWh	PJM Summer Peak KW Savings (mwcr)	Change case kWh Savings (mwcr)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag		
InstPa15	Institutional	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$9.00	20	375	0.05	25	\$225.00	7%	95%	65%	0.210	0
InstPa17	Institutional	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$1.26	10	396	0.002	20	\$25.00	5%	100%	65%	0.363	0
InstPa18	Institutional	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.02	15	375	0.05	12	\$95.00	3%	45%	80%	0.317	0
InstPa19	Institutional	Packaged DX	Early	9	Hotel Keypad Sensors	No prior controls	oom Controls	\$0.29	10	337	0.041	342	\$100.00	102%	95%	80%	1.568	1
InstPa10	Institutional	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	408	0.05	64	\$35.00	16%	100%	45%	0.093	0
InstPa11	Institutional	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	375	0.015	125	\$55.00	33%	100%	45%	1.042	1
InstPa13	Institutional	Packaged DX	Early	13	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.92	7	375	0.05	60	\$55.15	16%	95%	75%	0.523	0
InstPa1	Institutional	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	375	0.05	64	\$87.00	17%	100%	95%	0.929	0
InstPa2	Institutional	Packaged DX	New	2	Adding reflective roof treatment	Std color roof	ton	\$4.50	20	375	0.05	10	\$45.00	3%	100%	95%	0.766	0
InstPa3	Institutional	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$5.00	20	375	0.05	25	\$125.00	7%	100%	95%	0.379	0
InstPa4	Institutional	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Std Roof	ton	\$5.10	20	375	0.05	25	\$127.43	7%	45%	95%	0.372	0
InstPa5	Institutional	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	375	0.05	12	\$125.00	3%	100%	95%	0.290	0
InstPa6	Institutional	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$3.92	20	323	0.04	23	\$90.40	7%	100%	95%	0.484	0
InstPa7	Institutional	Packaged DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$4.20	20	323	0.08	43	\$180.81	13%	100%	95%	0.451	0
InstPa8	Institutional	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$4.48	20	323	0.12	61	\$271.21	19%	100%	95%	0.423	0
InstPa9	Institutional	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$2.20	20	375	0.05	25	\$55.00	7%	100%	95%	0.861	0
InstPa10	Institutional	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$2.20	20	382	0.06	32	\$70.00	8%	100%	95%	0.861	0
InstPa11	Institutional	Packaged DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$3.70	20	420	0.06	31	\$115.13	7%	100%	95%	0.512	0
InstPa12	Institutional	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$4.64	20	433	0.04	21	\$98.39	5%	100%	95%	0.409	0
InstPa13	Institutional	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$6.12	15	382	0.23	123	\$ 750.00	32%	20%	95%	0.254	0
InstPa14	Institutional	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$10.97	15	382	0.008	68	\$750.00	18%	100%	95%	0.067	0
InstPa15	Institutional	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$3.02	15	375	0.007	56	\$170.00	15%	75%	45%	0.242	0
InstPa16	Institutional	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$2.39	15	375	0.009	75	\$179.00	20%	100%	95%	0.306	0
InstPa17	Institutional	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$6.21	15	396	0.002	18	\$110.89	5%	100%	95%	0.118	0
InstPa11	Institutional	Packaged DX	Turnover	1	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	375	0.05	12	\$125.00	3%	100%	95%	0.290	0
InstPa12	Institutional	Packaged DX	Turnover	2	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$3.92	20	323	0.04	23	\$90.40	7%	100%	95%	0.484	0
InstPa13	Institutional	Packaged DX	Turnover	3	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$4.20	20	323	0.08	43	\$180.81	13%	100%	95%	0.451	0
InstPa14	Institutional	Packaged DX	Turnover	4	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$4.48	20	323	0.12	61	\$271.21	19%	100%	95%	0.423	0
InstPa15	Institutional	Packaged DX	Turnover	5	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$2.20	20	375	0.05	25	\$55.00	7%	100%	95%	0.861	0
InstPa16	Institutional	Packaged DX	Turnover	6	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$2.20	20	382	0.06	32	\$70.00	8%	100%	95%	0.861	0
InstPa17	Institutional	Packaged DX	Turnover	7	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$3.70	20	420	0.06	31	\$115.13	7%	100%	95%	0.512	0
InstPa18	Institutional	Packaged DX	Turnover	8	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$4.64	20	433	0.04	21	\$98.39	5%	100%	95%	0.409	0
InstPa19	Institutional	Packaged DX	Turnover	9	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$6.12	15	382	0.23	123	\$ 750.00	32%	20%	95%	0.254	0
InstPa10	Institutional	Packaged DX	Turnover	10	Ground Source HP Closed	Air Source Heat Pump	ton	\$10.97	15	382	0.008	68	\$750.00	18%	100%	95%	0.067	0
InstPa11	Institutional	Packaged DX	Turnover	11	Air-side Economizer	No Economizer	ton	\$3.02	15	375	0.007	56	\$170.00	15%	75%	45%	0.242	0
InstPa12	Institutional	Packaged DX	Turnover	12	Energy Recovery Units	No Energy Recovery	ton	\$2.39	15	375	0.009	75	\$179.00	20%	100%	95%	0.306	0
InstPa13	Institutional	Packaged DX	Turnover	13	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$6.21	15	396	0.002	18	\$110.89	5%	100%	95%	0.118	0
InstPa18	Institutional	Packaged DX	New	18	Automated control system	Baseline DX	ton	\$1.26	10	396	0.002	20	\$25.00	5%	100%	65%	0.363	0
InstPa19	Institutional	Packaged DX	New	19	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$2.34	10	337	0.002	18	\$43.00	5%	100%	95%	0.196	0
InstPa15	Institutional	Packaged DX	Turnover	15	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$2.34	10	337	0.002	18	\$43.00	5%	100%	95%	0.196	0
LodgPa1	Lodging	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3.13	20	448	0.05	64	\$200.00	14%	15%	9%	0.404	0
LodgPa2	Lodging	Packaged DX	Early	2	Adding window shade film	No shade film	q ft window area	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.031	0
LodgPa3	Lodging	Packaged DX	Early	3	Adding window shade screen	No shade screen	q ft window area	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.187	0
LodgPa4	Lodging	Packaged DX	Early	4	Windows U<0.40, 55 SHGC	Existing window specifications	q ft window area	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	0.825	0
LodgPa5	Lodging	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$7.54	20	448	0.05	30	\$225.00	7%	95%	95%	0.229	0
LodgPa17	Lodging	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$1.06	10	473	0.003	24	\$25.00	5%	100%	65%	0.434	0
LodgPa18	Lodging	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	448	0.05	12	\$95.00	3%	45%	80%	0.317	0
LodgPa19	Lodging	Packaged DX	Early	9	Hotel Keypad Sensors	No prior controls	oom Controls	\$0.29	10	402	0.041	342	\$100.00	85%	95%	80%	1.568	1
LodgPa10	Lodging	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	487	0.05	64	\$35.00	13%	100%	45%	0.093	0
LodgPa11	Lodging	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	448	0.015	125	\$55.00	28%	100%	45%	1.042	1
LodgPa13	Lodging	Packaged DX	Early	13	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.77	7	448	0.05	72	\$55.15	16%	95%	75%	0.582	0
LodgPa1	Lodging	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	448	0.05	64	\$87.00	14%	100%	95%	0.929	0
LodgPa2	Lodging	Packaged DX	New	2	Adding reflective roof treatment	Std color roof	ton	\$4.50	20	448	0.05	10	\$45.00	2%	100%	95%	0.766	0
LodgPa3	Lodging	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$4.19	20	448	0.05	30	\$125.00	7%	100%	95%	0.412	0
LodgPa4	Lodging	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Std Roof	ton	\$4.27	20	448	0.05	30	\$127.43	7%	45%	95%	0.404	0
LodgPa5	Lodging	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	448	0.05	12	\$125.00	3%	100%	95%	0.290	0
LodgPa6	Lodging	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$3.28	20	386	0.04	28	\$90.40	7%	100%	95%	0.526	0
LodgPa7	Lodging	Packaged DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$3.51	20	386	0.08	51	\$180.81	13%	100%	95%	0.491	0
LodgPa8	Lodging	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$3.75	20	386	0.12	72	\$271.21	19%	100%	95%	0.460	0
LodgPa9	Lodging	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.84	20	448	0.05	30	\$55.00	7%	100%	95%	0.937	0
LodgPa10	Lodging	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.84	20	456	0.06	38	\$70.00	8%	100%	95%	0.937	0
LodgPa11	Lodging	Packaged DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$3.10	20	502	0.06	37	\$115.13	7%	100%	95%	0.557	0
LodgPa12	Lodging	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$3.88	20	517	0.04	25	\$98.39	5%	100%	95%	0.445	0
LodgPa13	Lodging	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$5.12	15	456	0.23	146	\$ 750.00	32%	20%	95%	0.276	0
LodgPa14	Lodging	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$9.18	15	456	0.010	82	\$750.00	18%	100%	95%	0.080	0
LodgPa15	Lodging</																	

West Penn Commercial Measures

Measure Lookup	New Commercial	Measure	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh)	Measure Life	Baseline kWh	PJM Summer Peak (kW)	Change case kWh Savings	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
MiscPaE13	Misc	Packaged DX	Early	13		Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.67	7	516	0.05	64	\$55.15	16%	95%	75%	0.638	0
MiscPaN1	Misc	Packaged DX	New	1		Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	516	0.05	83	\$87.00	12%	100%	95%	0.929	0
MiscPaN2	Misc	Packaged DX	New	2		Adding reflective roof treatment	Std color roof	ton	\$4.50	20	516	0.05	30	\$45.00	2%	100%	95%	0.766	0
MiscPaN3	Misc	Packaged DX	New	3		Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$3.63	20	516	0.05	34	\$125.00	7%	100%	95%	0.443	0
MiscPaN4	Misc	Packaged DX	New	4		Green Roof (New construction or roof replacement)	Std Roof	ton	\$3.70	20	516	0.05	34	\$127.43	7%	45%	95%	0.435	0
MiscPaN5	Misc	Packaged DX	New	5		Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	516	0.05	12	\$125.00	2%	100%	95%	0.290	0
MiscPaN6	Misc	Packaged DX	New	6		<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.85	20	445	0.04	32	\$90.40	7%	100%	95%	0.566	0
MiscPaN7	Misc	Packaged DX	New	7		<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$3.05	20	445	0.08	59	\$180.81	13%	100%	95%	0.528	0
MiscPaN8	Misc	Packaged DX	New	8		<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$3.25	20	445	0.12	83	\$271.21	19%	100%	95%	0.495	0
MiscPaN9	Misc	Packaged DX	New	9		65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.60	20	516	0.05	34	\$55.00	7%	100%	95%	1.008	1
MiscPaN10	Misc	Packaged DX	New	10		135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.60	20	526	0.06	44	\$70.00	8%	100%	95%	1.008	1
MiscPaN11	Misc	Packaged DX	New	11		240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$2.69	20	578	0.06	43	\$115.13	7%	100%	95%	0.599	0
MiscPaN12	Misc	Packaged DX	New	12		>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$3.37	20	596	0.04	29	\$98.39	5%	100%	95%	0.478	0
MiscPaN13	Misc	Packaged DX	New	13		Ground Source HP Open - Water	Air Source Heat Pump	ton	\$4.45	15	526	0.23	169	\$ 750.00	32%	20%	95%	0.296	0
MiscPaN14	Misc	Packaged DX	New	14		Ground Source HP Closed	Air Source Heat Pump	ton	\$7.97	15	526	0.011	94	\$750.00	18%	100%	95%	0.092	0
MiscPaN15	Misc	Packaged DX	New	15		Air-side Economizer	No Economizer	ton	\$2.20	15	516	0.009	77	\$170.00	15%	75%	45%	0.333	0
MiscPaN16	Misc	Packaged DX	New	16		Energy Recovery Units	No Energy Recovery	ton	\$1.73	15	516	0.012	103	\$179.00	20%	100%	95%	0.421	0
MiscPaN17	Misc	Packaged DX	New	17		Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$4.51	15	545	0.003	25	\$110.89	5%	100%	95%	0.162	0
MiscPaT1	Misc	Packaged DX	Turnover	1		Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	516	0.05	12	\$125.00	2%	100%	95%	0.241	0
MiscPaT2	Misc	Packaged DX	Turnover	2		<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.85	20	445	0.04	32	\$90.40	7%	100%	95%	0.566	0
MiscPaT3	Misc	Packaged DX	Turnover	3		<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$3.05	20	445	0.08	59	\$180.81	13%	100%	95%	0.528	0
MiscPaT4	Misc	Packaged DX	Turnover	4		<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$3.25	20	445	0.12	83	\$271.21	19%	100%	95%	0.495	0
MiscPaT5	Misc	Packaged DX	Turnover	5		65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.60	20	516	0.05	34	\$55.00	7%	100%	95%	1.008	1
MiscPaT6	Misc	Packaged DX	Turnover	6		135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.60	20	526	0.06	44	\$70.00	8%	100%	95%	1.008	1
MiscPaT7	Misc	Packaged DX	Turnover	7		240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$2.69	20	578	0.06	43	\$115.13	7%	100%	95%	0.599	0
MiscPaT8	Misc	Packaged DX	Turnover	8		>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$3.37	20	596	0.04	29	\$98.39	5%	100%	95%	0.478	0
MiscPaT9	Misc	Packaged DX	Turnover	9		Ground Source HP Open - Water	Air Source Heat Pump	ton	\$4.45	15	526	0.23	169	\$ 750.00	32%	20%	95%	0.296	0
MiscPaT10	Misc	Packaged DX	Turnover	10		Ground Source HP Closed	Air Source Heat Pump	ton	\$7.97	15	526	0.011	94	\$750.00	18%	100%	95%	0.092	0
MiscPaT11	Misc	Packaged DX	Turnover	11		Air-side Economizer	No Economizer	ton	\$2.20	15	516	0.009	77	\$170.00	15%	75%	45%	0.333	0
MiscPaT12	Misc	Packaged DX	Turnover	12		Energy Recovery Units	No Energy Recovery	ton	\$1.73	15	516	0.012	103	\$179.00	20%	100%	95%	0.421	0
MiscPaT13	Misc	Packaged DX	Turnover	13		Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$4.51	15	545	0.003	25	\$110.89	5%	100%	95%	0.162	0
MiscPaN18	Misc	Packaged DX	New	18		Automated control system	Baseline DX	ton	\$0.92	10	545	0.003	27	\$25.00	5%	100%	65%	0.500	0
MiscPaN19	Misc	Packaged DX	New	19		PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.70	10	463	0.003	25	\$43.00	5%	100%	95%	0.269	0
MiscPaT15	Misc	Packaged DX	Turnover	15		PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.70	10	463	0.003	25	\$43.00	5%	100%	95%	0.269	0
OfficePaE1	Office	Packaged DX	Early	1		Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3.13	20	503	0.05	64	\$200.00	13%	15%	9%	0.404	0
OfficePaE2	Office	Packaged DX	Early	2		Adding window shade film	No shade film	sq ft window area	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.031	0
OfficePaE3	Office	Packaged DX	Early	3		Adding window shade screen	No shade screen	sq ft window area	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.187	0
OfficePaE4	Office	Packaged DX	Early	4		Windows U<0.40, 55 SHGC	Existing window specifications	sq ft window area	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	0.825	0
OfficePaE5	Office	Packaged DX	Early	5		Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$6.72	20	503	0.05	34	\$225.00	7%	95%	95%	0.243	0
OfficePaE7	Office	Packaged DX	Early	7		Automated control system	Baseline DX	ton	\$0.94	10	531	0.003	27	\$25.00	5%	100%	65%	0.487	0
OfficePaE8	Office	Packaged DX	Early	8		Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	503	0.05	12	\$95.00	2%	45%	80%	0.317	0
OfficePaE9	Office	Packaged DX	Early	9		Hotel Keypad Sensors	No prior controls	room Controls	\$0.29	10	484	0.041	342	\$100.00	71%	95%	80%	1.568	1
OfficePaE10	Office	Packaged DX	Early	10		DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	586	0.05	64	\$35.00	11%	100%	45%	0.093	0
OfficePaE11	Office	Packaged DX	Early	11		7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	503	0.015	125	\$55.00	25%	100%	45%	1.042	1
OfficePaE13	Office	Packaged DX	Early	13		Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.69	7	503	0.05	80	\$55.15	16%	95%	75%	0.627	0
OfficePaN1	Office	Packaged DX	New	1		Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	503	0.05	64	\$87.00	13%	100%	95%	0.929	0
OfficePaN2	Office	Packaged DX	New	2		Adding reflective roof treatment	Std color roof	ton	\$4.50	20	503	0.05	10	\$45.00	2%	100%	95%	0.766	0
OfficePaN3	Office	Packaged DX	New	3		Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$3.73	20	503	0.05	34	\$125.00	7%	100%	95%	0.437	0
OfficePaN4	Office	Packaged DX	New	4		Green Roof (New construction or roof replacement)	Std Roof	ton	\$3.80	20	503	0.05	34	\$127.43	7%	45%	95%	0.429	0
OfficePaN5	Office	Packaged DX	New	5		Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	503	0.05	12	\$125.00	2%	100%	95%	0.290	0
OfficePaN6	Office	Packaged DX	New	6		<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.92	20	433	0.04	31	\$90.40	7%	100%	95%	0.558	0
OfficePaN7	Office	Packaged DX	New	7		<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$3.13	20	433	0.08	58	\$180.81	13%	100%	95%	0.521	0
OfficePaN8	Office	Packaged DX	New	8		<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$3.34	20	433	0.12	81	\$271.21	19%	100%	95%	0.488	0
OfficePaN9	Office	Packaged DX	New	9		65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.64	20	503	0.05	34	\$55.00	7%	100%	95%	0.994	0
OfficePaN10	Office	Packaged DX	New	10		135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.64	20	512	0.06	43	\$70.00	8%	100%	95%	0.994	0
OfficePaN11	Office	Packaged DX	New	11		240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$2.76	20	563	0.06	42	\$115.13	7%	100%	95%	0.591	0
OfficePaN12	Office	Packaged DX	New	12		>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$3.46	20	580	0.04	28	\$98.39	5%	100%	95%	0.472	0
OfficePaN13	Office	Packaged DX	New	13		Ground Source HP Open - Water	Air Source Heat Pump	ton	\$4.57	15	512	0.23	164	\$ 750.00	32%	20%	95%	0.292	0
OfficePaN14	Office	Packaged DX	New	14		Ground Source HP Closed	Air Source Heat Pump	ton	\$8.18	15	512	0.011	92	\$750.00	18%	100%	95%	0.089	0
OfficePaN15	Office	Packaged DX	New	15		Air-side Economizer	No Economizer	ton	\$2.26	15	503	0.009	75	\$170.00	15%	75%	45%	0.324	0
OfficePaN16	Office	Packaged DX	New	16		Energy Recovery Units	No Energy Recovery	ton	\$1.78	15	503	0.012	101	\$179.00	20%	100%	95%	0.410	0
OfficePaN17	Office	Packaged DX	New	17		Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$4.64	15	531	0.003	24	\$110.89	5%	100%	95%	0.158	0
OfficePaT1	Office	Packaged DX	Turnover	1		Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	503	0.05	12	\$125.00	2%	100%	95%	0.241	0
OfficePaT2	Office	Packaged DX	Turnover	2		<65k 3-phase AC unit, Min 14 SEER	Equivalent size												

West Penn Commercial Measures

Measure Lookup	New Commercial	Measure	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	PJM Summer Peak KW Savings (metric)	Change case kWh Savings (metric)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
RestaPa6	Restaurant	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.73	20	464	0.04	33	\$90.40	7%	100%	95%	0.579	0	
RestaPa7	Restaurant	Packaged DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.92	20	464	0.08	62	\$180.81	13%	100%	95%	0.541	0	
RestaPa8	Restaurant	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$3.12	20	464	0.12	87	\$271.21	19%	100%	95%	0.507	0	
RestaPa9	Restaurant	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.53	20	539	0.05	36	\$55.00	7%	100%	95%	1.032	1	
RestaPa10	Restaurant	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.53	20	549	0.06	46	\$70.00	8%	100%	95%	1.032	1	
RestaPa11	Restaurant	Packaged DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$2.57	20	604	0.06	45	\$115.13	7%	100%	95%	0.613	0	
RestaPa12	Restaurant	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$3.23	20	622	0.04	31	\$98.39	5%	100%	95%	0.490	0	
RestaPa13	Restaurant	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$4.26	15	549	0.23	176	\$ 750.0	32%	20%	95%	0.302	0	
RestaPa14	Restaurant	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$7.63	15	549	0.12	98	\$750.00	18%	100%	95%	0.096	0	
RestaPa15	Restaurant	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$2.10	15	539	0.010	81	\$170.00	15%	75%	45%	0.347	0	
RestaPa16	Restaurant	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$1.66	15	539	0.013	108	\$179.00	20%	100%	95%	0.440	0	
RestaPa17	Restaurant	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$4.32	15	569	0.003	26	\$110.89	5%	100%	95%	0.169	0	
RestaPa18	Restaurant	Packaged DX	New	18	Automated control system	Baseline DX	ton	\$0.88	10	569	0.003	28	\$110.89	5%	100%	95%	0.241	0	
RestaPa19	Restaurant	Packaged DX	New	19	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.63	10	484	0.003	26	\$43.00	5%	100%	95%	0.281	0	
RestaPa20	Restaurant	Packaged DX	New	20	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.63	10	484	0.003	26	\$43.00	5%	100%	95%	0.281	0	
RestaPa21	Retail	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3.13	20	528	0.05	64	\$200.00	12%	15%	9%	0.404	0	
RestaPa22	Retail	Packaged DX	Early	2	Adding window shade film	No shade film	sq ft window area	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.031	0	
RestaPa23	Retail	Packaged DX	Early	3	Adding window shade screen	No shade screen	sq ft window area	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.187	0	
RestaPa24	Retail	Packaged DX	Early	4	Windows U<0.40, 55 SHGC	Existing window specifications	sq ft window area	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	0.825	0	
RestaPa25	Retail	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$6.39	20	528	0.05	35	\$225.00	7%	95%	95%	0.249	0	
RestaPa26	Retail	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$0.90	10	558	0.003	28	\$25.00	5%	100%	65%	0.512	0	
RestaPa27	Retail	Packaged DX	Early	8	Duct Sealing, down to 15%	Leakage of 29%	ton	\$7.92	15	528	0.05	12	\$95.00	2%	45%	80%	0.317	0	
RestaPa28	Retail	Packaged DX	Early	9	Hotel Keypad Sensors	No prior controls	oom Controls	\$0.29	10	474	0.041	342	\$100.00	72%	95%	80%	1.568	1	
RestaPa29	Retail	Packaged DX	Early	10	DX Coil Cleaning	Base DX Packaged System, EER=10.3, 10 tons	ton	\$0.55	1	574	0.05	64	\$35.00	11%	100%	45%	0.093	0	
RestaPa30	Retail	Packaged DX	Early	11	7 day, two stage setback thermostat	Manual Thermostat	ton	\$0.44	10	528	0.015	125	\$55.00	24%	100%	45%	1.042	1	
RestaPa31	Retail	Packaged DX	Early	13	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.65	7	528	0.05	65	\$55.15	16%	95%	75%	0.647	0	
RestaPa32	Retail	Packaged DX	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	ton	\$1.36	20	528	0.05	64	\$87.00	12%	100%	95%	0.299	0	
RestaPa33	Retail	Packaged DX	New	2	Adding reflective roof treatment	Std color roof	ton	\$4.50	20	528	0.05	10	\$45.00	2%	100%	95%	0.766	0	
RestaPa34	Retail	Packaged DX	New	3	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$3.55	20	528	0.05	35	\$125.00	7%	100%	95%	0.449	0	
RestaPa35	Retail	Packaged DX	New	4	Green Roof (New construction or roof replacement)	Std Roof	ton	\$3.62	20	528	0.05	35	\$127.43	7%	45%	95%	0.440	0	
RestaPa36	Retail	Packaged DX	New	5	Duct Insulation, Add R8	No Insulation	ton	\$10.42	20	528	0.05	12	\$125.00	2%	100%	95%	0.290	0	
RestaPa37	Retail	Packaged DX	New	6	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.78	20	455	0.04	33	\$90.40	7%	100%	95%	0.573	0	
RestaPa38	Retail	Packaged DX	New	7	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.98	20	455	0.08	61	\$180.81	13%	100%	95%	0.535	0	
RestaPa39	Retail	Packaged DX	New	8	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$3.18	20	455	0.12	85	\$271.21	19%	100%	95%	0.501	0	
RestaPa40	Retail	Packaged DX	New	9	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.56	20	528	0.05	35	\$55.00	7%	100%	95%	1.020	1	
RestaPa41	Retail	Packaged DX	New	10	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.56	20	538	0.06	45	\$70.00	8%	100%	95%	1.020	1	
RestaPa42	Retail	Packaged DX	New	11	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$2.63	20	592	0.06	44	\$115.13	7%	100%	95%	0.607	0	
RestaPa43	Retail	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$3.29	20	610	0.04	30	\$98.39	5%	100%	95%	0.484	0	
RestaPa44	Retail	Packaged DX	New	13	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$4.34	15	538	0.23	173	\$ 750.0	32%	20%	95%	0.299	0	
RestaPa45	Retail	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$7.79	15	538	0.011	96	\$750.00	18%	100%	95%	0.094	0	
RestaPa46	Retail	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$2.15	15	528	0.009	79	\$170.00	15%	75%	45%	0.341	0	
RestaPa47	Retail	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$1.69	15	528	0.013	106	\$179.00	20%	100%	95%	0.431	0	
RestaPa48	Retail	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$4.41	15	558	0.003	25	\$110.89	5%	100%	95%	0.166	0	
RestaPa49	Retail	Packaged DX	Turnover	1	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	528	0.05	12	\$125.00	2%	100%	95%	0.241	0	
RestaPa50	Retail	Packaged DX	Turnover	2	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.78	20	455	0.04	33	\$90.40	7%	100%	95%	0.573	0	
RestaPa51	Retail	Packaged DX	Turnover	3	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$2.98	20	455	0.08	61	\$180.81	13%	100%	95%	0.535	0	
RestaPa52	Retail	Packaged DX	Turnover	4	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$3.18	20	455	0.12	85	\$271.21	19%	100%	95%	0.501	0	
RestaPa53	Retail	Packaged DX	Turnover	5	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$1.56	20	528	0.05	35	\$55.00	7%	100%	95%	1.020	1	
RestaPa54	Retail	Packaged DX	Turnover	6	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$1.56	20	538	0.06	45	\$70.00	8%	100%	95%	1.020	1	
RestaPa55	Retail	Packaged DX	Turnover	7	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$2.63	20	592	0.06	44	\$115.13	7%	100%	95%	0.607	0	
RestaPa56	Retail	Packaged DX	Turnover	8	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$3.29	20	610	0.04	30	\$98.39	5%	100%	95%	0.484	0	
RestaPa57	Retail	Packaged DX	Turnover	9	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$4.34	15	538	0.23	173	\$ 750.0	32%	20%	95%	0.299	0	
RestaPa58	Retail	Packaged DX	Turnover	10	Ground Source HP Closed	Air Source Heat Pump	ton	\$7.79	15	538	0.011	96	\$750.00	18%	100%	95%	0.094	0	
RestaPa59	Retail	Packaged DX	Turnover	11	Air-side Economizer	No Economizer	ton	\$2.15	15	528	0.009	79	\$170.00	15%	75%	45%	0.341	0	
RestaPa60	Retail	Packaged DX	Turnover	12	Energy Recovery Units	No Energy Recovery	ton	\$1.69	15	528	0.013	106	\$179.00	20%	100%	95%	0.431	0	
RestaPa61	Retail	Packaged DX	Turnover	13	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$4.41	15	558	0.003	25	\$110.89	5%	100%	95%	0.166	0	
RestaPa62	Retail	Packaged DX	Turnover	18	Automated control system	Baseline DX	ton	\$0.90	10	558	0.003	28	\$25.00	5%	100%	65%	0.512	0	
RestaPa63	Retail	Packaged DX	Turnover	19	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.66	10	474	0.003	26	\$43.00	5%	100%	95%	0.276	0	
RestaPa64	Retail	Packaged DX	Turnover	15	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$1.66	10	474	0.003	26	\$43.00	5%	100%	95%	0.276	0	
WarehPa1	Warehouse	Packaged DX	Early	1	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$3.13	20	409	0.05	64	\$200.00	16%	15%	9%	0.404	0	
WarehPa2	Warehouse	Packaged DX	Early	2	Adding window shade film	No shade film	sq ft window area	\$7.05	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.031	0	
WarehPa3	Warehouse	Packaged DX	Early	3	Adding window shade screen	No shade screen	sq ft window area	\$3.90	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.187	0	
WarehPa4	Warehouse	Packaged DX	Early	4	Windows U<0.40, 55 SHGC	Existing window specifications	sq ft window area	\$1.40	30	2	0.000	0	\$0.28	13%	50%	95%	0.825	0	
WarehPa5	Warehouse	Packaged DX	Early	5	Roof Insulation Going to R-30	Existing insulation level = R16	ton	\$8.25	20	409	0.05	27	\$225.00	7%	95%	95%	0.249	0	
WarehPa6	Warehouse	Packaged DX	Early	7	Automated control system	Baseline DX	ton	\$1.16	10	432	0.003	26	\$25.00	5%	100%	65%	0.395	0	
WarehPa7</																			

West Penn Commercial Measures

Measure Lookup	New Commercial	Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	PJM Summer Peak KW Savings (metric)	Change case kWh Savings	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
WarehPa12	Warehouse	Packaged DX	New	12	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$4.25	20	473	0.04	23	\$ 998.39	5%	100%	95%	0.426	0	
WarehPa13	Warehouse	Packaged DX	New	15	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$5.61	15	417	0.23	134	\$ 750.00	32%	20%	95%	0.264	0	
WarehPa14	Warehouse	Packaged DX	New	14	Ground Source HP Closed	Air Source Heat Pump	ton	\$10.05	15	417	0.009	75	\$750.00	18%	100%	95%	0.073	0	
WarehPa15	Warehouse	Packaged DX	New	15	Air-side Economizer	No Economizer	ton	\$2.77	15	409	0.007	61	\$170.00	15%	75%	45%	0.264	0	
WarehPa16	Warehouse	Packaged DX	New	16	Energy Recovery Units	No Energy Recovery	ton	\$2.19	15	409	0.010	82	\$179.00	20%	100%	95%	0.334	0	
WarehPa17	Warehouse	Packaged DX	New	17	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$5.69	15	432	0.002	19	\$110.89	5%	100%	95%	0.128	0	
WarehPa18	Warehouse	Packaged DX	Turnover	1	Duct Insulation, Add R8	No Insulation	ton	\$10.42	15	409	0.05	12	\$125.00	3%	100%	95%	0.241	0	
WarehPa19	Warehouse	Packaged DX	Turnover	2	<65k 3-phase AC unit, Min 14 SEER	Equivalent size AC unit (13 SEER)	ton	\$3.59	20	353	0.04	25	\$90.40	7%	100%	95%	0.504	0	
WarehPa20	Warehouse	Packaged DX	Turnover	3	<65k 3-phase AC unit, Min 15 SEER	Equivalent size AC unit (13 SEER)	ton	\$3.85	20	353	0.08	47	\$180.81	13%	100%	95%	0.470	0	
WarehPa21	Warehouse	Packaged DX	Turnover	4	<65k 3-phase AC unit, Min 16 SEER	Equivalent size AC unit (13 SEER)	ton	\$4.10	20	353	0.12	66	\$271.21	19%	100%	95%	0.441	0	
WarehPa22	Warehouse	Packaged DX	Turnover	5	65-135k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11.2 EER)	ton	\$2.02	20	409	0.05	27	\$55.00	7%	100%	95%	0.897	0	
WarehPa23	Warehouse	Packaged DX	Turnover	6	135-240k AC unit, min 11.5 EER (Used 12 EER)	Equivalent size AC unit, existing efficiency value (11 EER)	ton	\$2.02	20	417	0.06	35	\$70.00	8%	100%	95%	0.897	0	
WarehPa24	Warehouse	Packaged DX	Turnover	7	240-760k AC unit, min 10.5 EER (Used 10.8 EER)	Equivalent size AC unit, existing efficiency value (10 EER)	ton	\$3.59	20	458	0.06	34	\$115.13	7%	100%	95%	0.533	0	
WarehPa25	Warehouse	Packaged DX	Turnover	8	>760k or more AC unit, min 9.7 EER (Used 10.2 EER)	Equivalent size AC unit, existing efficiency value (9.7 EER)	ton	\$4.25	20	473	0.04	23	\$ 998.39	5%	100%	95%	0.426	0	
WarehPa26	Warehouse	Packaged DX	Turnover	9	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$5.61	15	417	0.23	134	\$ 750.00	32%	5%	95%	0.264	0	
WarehPa27	Warehouse	Packaged DX	Turnover	10	Ground Source HP Closed	Air Source Heat Pump	ton	\$10.05	15	417	0.009	75	\$750.00	18%	100%	95%	0.073	0	
WarehPa28	Warehouse	Packaged DX	Turnover	11	Air-side Economizer	No Economizer	ton	\$2.77	15	409	0.007	61	\$170.00	15%	75%	45%	0.264	0	
WarehPa29	Warehouse	Packaged DX	Turnover	12	Energy Recovery Units	No Energy Recovery	ton	\$2.19	15	409	0.010	82	\$179.00	20%	100%	95%	0.334	0	
WarehPa30	Warehouse	Packaged DX	Turnover	13	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	ton	\$5.69	15	432	0.002	19	\$110.89	5%	100%	95%	0.128	0	
WarehPa31	Warehouse	Packaged DX	New	18	Automated control system	Baseline DX	ton	\$1.16	10	432	0.003	22	\$25.00	5%	100%	65%	0.396	0	
WarehPa32	Warehouse	Packaged DX	New	19	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$2.15	10	367	0.002	20	\$43.00	5%	100%	95%	0.214	0	
WarehPa33	Warehouse	Packaged DX	Turnover	15	PTAC (12.0 EER/10,000 BTU)	PTAC (10.4 EER/10,000 BTU)	unit	\$2.15	10	367	0.002	20	\$43.00	5%	100%	95%	0.214	0	
HealthE4	Healthcare	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$5.02	15	364	0.000	22	\$110.89	6%	100%	95%	0.136	0	
HealthE1	Healthcare	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$5.02	15	364	0.000	22	\$110.89	6%	100%	95%	0.136	0	
GroceHe1	Grocery	Heating	Early	1	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0.2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.039	1	
GroceHe2	Grocery	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$4.44	20	1,569	0.05	45	\$200.00	3%	100%	95%	0.323	0	
GroceHe3	Grocery	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.67	20	1,569	0.05	75	\$125.00	5%	100%	95%	0.724	0	
GroceHe4	Grocery	Heating	Early	4	Green Roof (New construction or roof replacement)	Sid Roof	sq ft	\$3.75	20	1,569	0.05	34	\$127.43	2%	10%	95%	0.433	0	
GroceHe5	Grocery	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0.1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	2.233	1	
GroceHe6	Grocery	Heating	Early	3	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	1,116	0.05	45	\$87.00	4%	10%	95%	0.743	0	
GroceHe7	Grocery	Heating	New	1	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0.1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	2.233	1	
GroceHe8	Grocery	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$7.89	15	1,569	0.23	95	\$ 750.00	6%	20%	95%	0.230	0	
GroceHe9	Grocery	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$7.89	15	1,569	0.001	95	\$750.00	6%	100%	95%	0.087	0	
GroceHe10	Grocery	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.17	15	1,569	0.001	95	\$110.89	6%	100%	95%	0.587	0	
GroceHe11	Grocery	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.17	15	1,569	0.001	95	\$110.89	6%	100%	95%	0.587	0	
InstiHe1	Institutional	Heating	Early	1	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0.2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.039	1	
InstiHe2	Institutional	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$4.44	20	1,116	0.05	45	\$200.00	4%	10%	95%	0.323	0	
InstiHe3	Institutional	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.67	20	1,116	0.05	75	\$125.00	5%	10%	95%	0.724	0	
InstiHe4	Institutional	Heating	Early	4	Green Roof (New construction or roof replacement)	Sid Roof	sq ft	\$3.75	20	1,116	0.05	34	\$127.43	3%	10%	95%	0.433	0	
InstiHe5	Institutional	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0.1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	2.233	1	
InstiHe6	Institutional	Heating	Early	4	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	1,116	0.05	45	\$87.00	4%	10%	95%	0.743	0	
InstiHe7	Institutional	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$11.09	15	1,116	0.23	68	\$ 750.00	6%	20%	95%	0.205	0	
InstiHe8	Institutional	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$11.09	15	1,116	0.001	68	\$750.00	6%	100%	95%	0.062	0	
InstiHe9	Institutional	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.64	15	1,116	0.001	68	\$110.89	6%	100%	95%	0.417	0	
InstiHe10	Institutional	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.64	15	1,116	0.001	68	\$110.89	6%	100%	95%	0.417	0	
LodgHe1	Lodging	Heating	Early	1	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0.2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.039	1	
LodgHe2	Lodging	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$4.44	20	1,900	0.05	45	\$200.00	2%	10%	95%	0.323	0	
LodgHe3	Lodging	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.67	20	1,900	0.05	75	\$125.00	4%	10%	95%	0.724	0	
LodgHe4	Lodging	Heating	Early	4	Green Roof (New construction or roof replacement)	Sid Roof	sq ft	\$3.75	20	1,900	0.05	34	\$127.43	2%	10%	95%	0.433	0	
LodgHe5	Lodging	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0.1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	2.233	1	
LodgHe6	Lodging	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	1,900	0.05	45	\$87.00	2%	10%	95%	0.743	0	
LodgHe7	Lodging	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$6.51	15	1,900	0.23	115	\$ 750.00	6%	20%	95%	0.248	0	
LodgHe8	Lodging	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$6.51	15	1,900	0.002	115	\$750.00	6%	100%	95%	0.015	0	
LodgHe9	Lodging	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$0.96	15	1,900	0.002	115	\$110.89	6%	100%	95%	0.711	0	
LodgHe10	Lodging	Heating	Turnover	1	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$0.96	15	1,900	0.002	115	\$110.89	6%	100%	95%	0.711	0	
MiscHe1	Misc	Heating	Early	1	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0.2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.039	1	
MiscHe2	Misc	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$4.44	20	1,300	0.05	45	\$200.00	3%	10%	95%	0.323	0	
MiscHe3	Misc	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.67	20	1,300	0.05	75	\$125.00	4%	10%	95%	0.724	0	
MiscHe4	Misc	Heating	Early	4	Green Roof (New construction or roof replacement)	Sid Roof	sq ft	\$3.75	20	1,300	0.05	34	\$127.43	3%	10%	95%	0.433	0	
MiscHe5	Misc	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Electric Resistive Elements	unit	\$0.1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	2.233	1	
MiscHe6	Misc	Heating	Early	3	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	1,300	0.05	45	\$87.00	3%	10%	95%	0.743	0	
MiscHe7	Misc	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$9.52	15	1,300	0.23	79	\$ 750.00	6%	20%	95%	0.215	0	
MiscHe8	Misc	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$9.52	15	1,300	0.001	79	\$750.00	6%	100%	95%	0.072	0	
MiscHe9	Misc	Heating	New	4	Air Source Heat Pump (11.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.41	15	1,300	0.001	79	\$110.89	6%	100%	95%	0.486	0	
MiscHe10	Misc	Heating	Turnover	1	Air Source Heat Pump (11.1 EER,														

West Penn Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	PJM Summer Peak (kW)	Change case (kW)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
WarehHe1	Warehouse	Heating	Early	1	Re-commissioning	Current Controls not working properly, setpoints not optimized,	sq ft	\$0.2710	7	125,500	0.297	20,080	\$5,441.68	16%	95%	75%	1.039	1
WarehHe2	Warehouse	Heating	Early	2	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$4.44	20	1,348	0.005	45	\$200.00	3%	100%	95%	0.323	0
WarehHe3	Warehouse	Heating	Early	3	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$1.67	20	1,348	0.005	75	\$375.00	6%	100%	95%	0.724	0
WarehHe4	Warehouse	Heating	Early	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$3.75	20	1,348	0.05	34	\$127.43	3%	100%	95%	0.433	0
WarehHe5	Warehouse	Heating	Early	5	Humidification with High pressure, Ultrasonic devices	Energy Resistive Elements	unit	\$9,1893	10	2,794	0.039	2,641	\$500.00	95%	100%	95%	2.233	1
WarehHeN1	Warehouse	Heating	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5 - Electric Heat	sq ft	\$1.93	20	1,348	0.05	45	\$87.00	3%	100%	95%	0.743	0
WarehHeN2	Warehouse	Heating	New	2	Ground Source HP Open - Water	Air Source Heat Pump	ton	\$9.18	15	1,348	0.23	82	\$ 750.00	6%	20%	95%	0.218	0
WarehHeN3	Warehouse	Heating	New	3	Ground Source HP Closed	Air Source Heat Pump	ton	\$9.18	15	1,348	0.001	82	\$750.00	6%	100%	95%	0.075	0
WarehHeN4	Warehouse	Heating	New	4	Air Source Heat Pump (1.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.36	15	1,348	0.001	82	\$110.89	6%	100%	95%	0.504	0
WarehHeN1	Warehouse	Heating	Turnover	1	Air Source Heat Pump (1.1 EER, 3.3 COP)	Standard Efficiency Air Source HP (10.6 EER, 3.2 COP)	Heating ton	\$1.36	15	1,348	0.001	82	\$110.89	6%	100%	95%	0.504	0
GroceCh1	Grocery	Chiller	Early	1	Duct Sealing, down to 15%	Leakage of 29%	ton	\$2.7686	15	3,431	0.007	34,3128	\$95.00	1%	40%	\$0.90	0.274	0
GroceCh2	Grocery	Chiller	Early	2	Duct Insulation, Add R8	No Insulation	ton	\$3.6430	15	3,431	0.007	34,3128	\$125.00	1%	50%	95%	0.209	0
GroceCh3	Grocery	Chiller	Early	3	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0.7286	15	3,431	0.034	171.5640	\$125.00	5%	75%	75%	1.043	1
GroceCh4	Grocery	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0.6557	15	3,431	0.135	686.3	\$450.00	20%	75%	75%	1.159	1
GroceCh5	Grocery	Chiller	Early	5	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.6642	7	3,431	0.108	549	\$364.67	16%	75%	75%	0.490	0
GroceCh6	Grocery	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	3,431	0.05	245	\$200.00	7%	15%	95%	0.930	0
GroceCh7	Grocery	Chiller	Early	7	Adding window shade film	No shade film	sq ft window area	\$7.0453	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.033	0
GroceCh8	Grocery	Chiller	Early	8	Adding window shade screen	No shade screen	sq ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.195	0
GroceCh9	Grocery	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$2.19	20	3,431	0.05	103	\$225.00	3%	75%	95%	0.504	0
GroceChN1	Grocery	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.72	20	3,431	0.05	120	\$87.00	4%	15%	95%	1.472	1
GroceChN2	Grocery	Chiller	New	2	Adding window shade screen	No shade screen	sq ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.195	0
GroceChN3	Grocery	Chiller	New	3	Adding reflective roof treatment	Std color roof	sq ft roof area	\$4.50	20	3,431	0.05	10	\$45.00	0%	100%	95%	0.764	0
GroceChN4	Grocery	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$3.80	20	3,431	0.05	34	\$127.43	1%	45%	95%	0.427	0
GroceChN5	Grocery	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.6158	15	3,431	0.76	414	\$255.00	12%	95%	95%	2.449	1
GroceChN6	Grocery	Chiller	New	6	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.3404	15	3,431	1.944	1,065	\$362.50	31%	95%	95%	4.429	1
GroceChN7	Grocery	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.1764	15	8,223	1.728	947	\$167.00	12%	95%	95%	8.547	1
GroceChN8	Grocery	Chiller	New	8	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.6703	15	3,431	0.034	171.5640	\$115.00	5%	95%	75%	1.134	1
GroceChN9	Grocery	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.3643	15	3,431	0.135	686.3	\$200.00	20%	95%	75%	2.086	0
GroceChN10	Grocery	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$3.6430	15	3,431	0.007	34,3128	\$125.00	1%	100%	95%	0.209	0
GroceChT1	Grocery	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.7124	15	3,431	0.76	414	\$295.00	12%	95%	95%	2.117	1
GroceChT2	Grocery	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.4343	15	3,431	1.944	1,065	\$462.50	31%	95%	95%	3.472	1
GroceChT3	Grocery	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.6928	15	3,431	1.944	600	\$416.00	18%	95%	95%	3.113	1
GroceChN11	Grocery	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.6928	15	3,431	1.944	600	\$416.00	18%	95%	95%	3.113	1
GroceChT5	Grocery	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.7402	15	3,431	0.034	171.5640	\$127.00	5%	95%	75%	1.026	1
GroceChT4	Grocery	Chiller	Turnover	4	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.2187	15	8,223	1.728	947	\$207.00	12%	95%	95%	6.895	1
InstChE1	Institutional	Chiller	Early	1	Duct Sealing, down to 15%	Leakage of 29%	ton	\$3.8998	15	2,436	0.005	24,3600	\$95.00	1%	40%	\$0.90	0.195	0
InstChE2	Institutional	Chiller	Early	2	Duct Insulation, Add R8	No Insulation	ton	\$5.1314	15	2,436	0.005	24,3600	\$125.00	1%	50%	95%	0.148	0
InstChE3	Institutional	Chiller	Early	3	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$1.0263	15	2,436	0.024	121.8000	\$125.00	5%	75%	75%	0.740	0
InstChE4	Institutional	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0.9326	15	2,436	0.096	487.2	\$450.00	20%	75%	75%	0.823	0
InstChE5	Institutional	Chiller	Early	5	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.9356	7	2,436	0.077	390	\$364.67	16%	75%	75%	0.348	0
InstChE6	Institutional	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	2,436	0.05	245	\$200.00	10%	15%	95%	0.930	0
InstChE7	Institutional	Chiller	Early	7	Adding window shade film	No shade film	sq ft window area	\$7.0453	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.033	0
InstChE8	Institutional	Chiller	Early	8	Adding window shade screen	No shade screen	sq ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.195	0
InstChE9	Institutional	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$3.08	20	2,436	0.05	73	\$225.00	3%	75%	95%	0.391	0
InstChN1	Institutional	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$1.02	20	2,436	0.05	85	\$87.00	4%	15%	95%	1.132	1
InstChN2	Institutional	Chiller	New	2	Adding window shade screen	No shade screen	sq ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.195	0
InstChN3	Institutional	Chiller	New	3	Adding reflective roof treatment	Std color roof	sq ft roof area	\$4.50	20	2,436	0.05	10	\$45.00	0%	100%	95%	0.764	0
InstChN4	Institutional	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$5.10	20	2,436	0.05	25	\$127.43	1%	45%	95%	0.370	0
InstChN5	Institutional	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.8673	15	2,436	0.76	294	\$255.00	12%	95%	95%	2.134	1
InstChN6	Institutional	Chiller	New	6	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.4795	15	2,436	1.944	756	\$362.50	31%	95%	95%	3.859	1
InstChN7	Institutional	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.2485	15	5,838	1.728	672	\$167.00	12%	95%	95%	7.446	1
InstChN8	Institutional	Chiller	New	8	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.9442	15	2,436	0.024	121.8000	\$115.00	5%	95%	75%	0.805	0
InstChN9	Institutional	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.5131	15	2,436	0.096	487.2	\$200.00	20%	95%	75%	1.481	1
InstChN10	Institutional	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$3.1314	15	2,436	0.005	24,3600	\$125.00	1%	100%	95%	0.188	0
InstChT1	Institutional	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$1.0034	15	2,436	0.76	294	\$295.00	12%	95%	95%	1.844	1
InstChT2	Institutional	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.6118	15	2,436	1.944	756	\$462.50	31%	95%	95%	3.025	1
InstChT3	Institutional	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.9758	15	2,436	1.944	426	\$416.00	18%	95%	95%	2.833	1
InstChN11	Institutional	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.9758	15	2,436	1.944	426	\$416.00	18%	95%	95%	2.833	1
InstChT5	Institutional	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$1.0427	15	2,436	0.024	121.8000	\$127.00	5%	95%	75%	0.729	0
InstChT4	Institutional	Chiller	Turnover	4	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.3080	15	5,838	1.728	672	\$207.00	12%	95%	95%	6.008	1
LodgChE1	Lodging	Chiller	Early	1	Duct Sealing, down to 15%	Leakage of 29%	ton	\$3.2654	15	2,909	0.006	29,0928	\$95.00	1%	40%	\$0.90	0.233	0
LodgChE2	Lodging	Chiller	Early	2	Duct Insulation, Add R8	No Insulation	ton	\$4.2966	15	2,909	0.006	29,0928	\$125.00	1%	50%	95%	0.177	0
LodgChE3	Lodging	Chiller	Early	3	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0.8593	15	2,909	0.029	145.4640	\$125.00	5%	75%	75%	0.884	0
LodgChE4	Lodging	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0.7734	15	2,909	0.115	581.9	\$450.00	20%	75%	75%	0.982	0
LodgChE5	Lodging	Chiller	Early	5	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.7834	7	2,909	0.092	487.2						

West Penn Commercial Measures

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	PJM Summer Peak (kwh/yr)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
MiscChN1	Misc	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.74	20	3,374	0.05	118	\$87.00	4%	15%	95%	1.453	1
MiscChN2	Misc	Chiller	New	2	Adding window shade screen	No shade screen	q ft window area	\$3,900.00	15	1,54	0.000	0.38	\$1.50	25%	70%	95%	0.195	0
MiscChN3	Misc	Chiller	New	3	Adding reflective roof treatment	Std eodor roof	sq ft roof area	\$4.50	20	3,374	0.05	40	\$44.00	0%	100%	95%	0.764	0
MiscChN4	Misc	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$3.70	20	3,374	0.05	34	\$127.43	1%	45%	95%	0.433	0
MiscChN5	Misc	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.6262	15	3,374	0.76	407	\$255.00	12%	95%	95%	2.431	1
MiscChN6	Misc	Chiller	New	6	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.3462	15	3,374	1.944	1,047	\$362.50	31%	95%	95%	4.397	1
MiscChN7	Misc	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.1794	15	8,086	1.728	931	\$167.00	12%	95%	95%	8.483	1
MiscChN8	Misc	Chiller	New	8	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.6817	15	3,374	0.033	168.6930	\$115.00	5%	95%	75%	1.115	1
MiscChN9	Misc	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.3705	15	3,374	0.133	674.8	\$250.00	20%	95%	75%	2.051	1
MiscChN10	Misc	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$3,705.00	15	3,374	0.007	33,786	\$125.00	1%	100%	95%	0.205	0
MiscChT1	Misc	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.7245	15	3,374	0.76	407	\$295.00	12%	95%	95%	2.101	1
MiscChT2	Misc	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.4417	15	3,374	1.944	1,047	\$462.50	31%	95%	95%	3.446	1
MiscChT3	Misc	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.7046	15	3,374	1.944	590	\$416.00	18%	95%	95%	3.097	1
MiscChN11	Misc	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.7046	15	3,374	1.944	590	\$416.00	18%	95%	95%	3.097	1
MiscChT5	Misc	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.7528	15	3,374	0.033	168.6930	\$127.00	5%	95%	75%	1.409	1
MiscChT4	Misc	Chiller	Turnover	4	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.2224	15	8,086	1.728	931	\$207.00	12%	95%	95%	6.844	1
OfficChE1	Office	Chiller	Early	1	Duct Sealing, down to 15%	Leakage of 29%	ton	\$2,910.3	15	3,264	0.006	32,642	\$95.00	1%	40%	\$0.90	0.261	0
OfficChE2	Office	Chiller	Early	2	Duct Insulation, Add R8	No Insulation	ton	\$3,829.4	15	3,264	0.006	32,642	\$125.00	1%	50%	95%	0.198	0
OfficChE3	Office	Chiller	Early	3	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0.7659	15	3,264	0.032	163,2120	\$125.00	5%	75%	75%	0.992	0
OfficChE4	Office	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0.6893	15	3,264	0.129	652.8	\$450.00	20%	75%	75%	1.102	1
OfficChE5	Office	Chiller	Early	5	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.6982	7	3,264	0.103	522	\$364.67	16%	75%	75%	0.466	0
OfficChE6	Office	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	3,264	0.05	245	\$200.00	8%	15%	95%	0.930	0
OfficChE7	Office	Chiller	Early	7	Adding window shade film	No shade film	q ft window area	\$7,045.3	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.033	0
OfficChE8	Office	Chiller	Early	8	Adding window shade screen	No shade screen	q ft window area	\$3,900.00	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.195	0
OfficChE9	Office	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$2.30	20	3,264	0.05	98	\$225.00	3%	75%	95%	0.485	0
OfficChN1	Office	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.76	20	3,264	0.05	114	\$87.00	4%	15%	95%	1.415	1
OfficChN2	Office	Chiller	New	2	Adding window shade screen	No shade screen	q ft window area	\$3,900.00	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.195	0
OfficChN3	Office	Chiller	New	3	Adding reflective roof treatment	Std eodor roof	sq ft roof area	\$4.50	20	3,264	0.05	40	\$44.00	0%	100%	95%	0.764	0
OfficChN4	Office	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$3.80	20	3,264	0.05	34	\$127.43	1%	45%	95%	0.427	0
OfficChN5	Office	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.6473	15	3,264	0.76	394	\$255.00	12%	95%	95%	2.396	1
OfficChN6	Office	Chiller	New	6	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.3578	15	3,264	1.944	1,013	\$362.50	31%	95%	95%	4.334	1
OfficChN7	Office	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.1855	15	7,823	1.728	900	\$167.00	12%	95%	95%	8.362	1
OfficChN8	Office	Chiller	New	8	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.7046	15	3,264	0.032	163,2120	\$115.00	5%	95%	75%	1.078	1
OfficChN9	Office	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.3829	15	3,264	0.129	652.8	\$250.00	20%	95%	75%	1.984	1
OfficChN10	Office	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$3,829.4	15	3,264	0.006	32,642	\$125.00	1%	100%	95%	0.198	0
OfficChT1	Office	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.7488	15	3,264	0.76	394	\$295.00	12%	95%	95%	2.071	1
OfficChT2	Office	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.4565	15	3,264	1.944	1,013	\$462.50	31%	95%	95%	3.397	1
OfficChT3	Office	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.7282	15	3,264	1.944	571	\$416.00	18%	95%	95%	3.066	1
OfficChN11	Office	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.7282	15	3,264	1.944	571	\$416.00	18%	95%	95%	3.066	1
OfficChT5	Office	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.7781	15	3,264	0.032	163,2120	\$127.00	5%	95%	75%	0.976	0
OfficChT4	Office	Chiller	Turnover	4	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.2299	15	7,823	1.728	900	\$207.00	12%	95%	95%	6.746	1
RestaChE1	Restaurant	Chiller	Early	1	Duct Sealing, down to 15%	Leakage of 29%	ton	\$2,713.6	15	3,501	0.007	35,088	\$95.00	1%	40%	\$0.90	0.280	0
RestaChE2	Restaurant	Chiller	Early	2	Duct Insulation, Add R8	No Insulation	ton	\$3,570.5	15	3,501	0.007	35,088	\$125.00	1%	50%	95%	0.213	0
RestaChE3	Restaurant	Chiller	Early	3	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton	ton	\$0.7141	15	3,501	0.035	175,0440	\$125.00	5%	75%	75%	1.064	1
RestaChE4	Restaurant	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0.6427	15	3,501	0.138	700.2	\$450.00	20%	75%	75%	1.182	1
RestaChE5	Restaurant	Chiller	Early	5	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.6510	7	3,501	0.111	560	\$364.67	16%	75%	75%	0.500	0
RestaChE6	Restaurant	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	3,501	0.05	245	\$200.00	7%	15%	95%	0.930	0
RestaChE7	Restaurant	Chiller	Early	7	Adding window shade film	No shade film	q ft window area	\$7,045.3	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.033	0
RestaChE8	Restaurant	Chiller	Early	8	Adding window shade screen	No shade screen	q ft window area	\$3,900.00	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.195	0
RestaChE9	Restaurant	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$2.14	20	3,501	0.05	105	\$225.00	3%	75%	95%	0.512	0
RestaChN1	Restaurant	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.71	20	3,501	0.05	123	\$87.00	4%	15%	95%	1.496	1
RestaChN2	Restaurant	Chiller	New	2	Adding window shade screen	No shade screen	q ft window area	\$3,900.00	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.195	0
RestaChN3	Restaurant	Chiller	New	3	Adding reflective roof treatment	Std eodor roof	sq ft roof area	\$4.50	20	3,501	0.05	40	\$44.00	0%	100%	95%	0.764	0
RestaChN4	Restaurant	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$3.55	20	3,501	0.05	36	\$127.43	1%	45%	95%	0.443	0
RestaChN5	Restaurant	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.6035	15	3,501	0.76	423	\$255.00	12%	95%	95%	2.471	1
RestaChN6	Restaurant	Chiller	New	6	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.3336	15	3,501	1.944	1,086	\$362.50	31%	95%	95%	4.469	1
RestaChN7	Restaurant	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.1729	15	8,390	1.728	966	\$167.00	12%	95%	95%	8.624	1
RestaChN8	Restaurant	Chiller	New	8	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.6570	15	3,501	0.035	175,0440	\$115.00	5%	95%	75%	1.157	1
RestaChN9	Restaurant	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.3571	15	3,501	0.138	700.2	\$250.00	20%	95%	75%	2.128	1
RestaChN10	Restaurant	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$3,570.5	15	3,501	0.007	35,088	\$125.00	1%	100%	95%	0.213	0
RestaChT1	Restaurant	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.6982	15	3,501	0.76	423	\$295.00	12%	95%	95%	2.136	1
RestaChT2	Restaurant	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.4257	15	3,501	1.944	1,086	\$462.50	31%	95%	95%	3.503	1
RestaChT3	Restaurant	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.6790	15	3,501	1.944	613	\$416.00	18%	95%	95%	3.132	1
RestaChN11	Restaurant	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.6790	15	3,501	1.944	613	\$416.00	18%	95%	95%	3.132	1
RestaChT5	Restaurant	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.7258	15	3,501	0.035	175,0440	\$127.00					

Measure Lookup	New Commercial Segment	New End Use	Vintage	Measure #	Measure Description	Baseline Description	Unit	Total Cost (\$/kWh Saved)	Measure Life	Baseline kWh	PJM Summer Peak KW Savings (meter)	Change case kWh Savings (meter)	Customer Cost (\$)	Savings %	Applicability	Percent Incomplete	TRC Test	Economic Flag
WarehCh4	Warehouse	Chiller	Early	4	Energy Recovery Units	No Energy Recovery	ton	\$0.8463	15	2,659	0.105	531.7	\$450.00	20%	75%	75%	0.898	0
WarehCh5	Warehouse	Chiller	Early	5	Re-commissioning	Current Controls not working properly, setpoints not optimized,	ton	\$0.8572	7	2,659	0.084	425	\$364.67	16%	75%	75%	0.300	0
WarehCh6	Warehouse	Chiller	Early	6	Wall Insulation Going to R-19	Existing insulation level = R2.375	sq ft	\$0.82	15	2,659	0.05	245	\$200.00	9%	15%	95%	0.200	0
WarehCh7	Warehouse	Chiller	Early	7	Adding window shade film	No shade film	sq ft window area	\$7.0453	5	7.58	0.000	0.38	\$2.67	5%	50%	95%	0.033	0
WarehCh8	Warehouse	Chiller	Early	8	Adding window shade screen	No shade screen	sq ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.195	0
WarehCh9	Warehouse	Chiller	Early	9	Roof Insulation Going to R-30	Existing insulation level = R16	sq ft	\$2.82	20	2,659	0.05	80	\$225.00	3%	75%	95%	0.417	0
WarehChN1	Warehouse	Chiller	New	1	Wall Insulation Going to R-19	New Construction Standard Practice = R13.5	sq ft	\$0.93	20	2,659	0.05	93	\$87.00	4%	15%	95%	1.208	1
WarehChN2	Warehouse	Chiller	New	2	Adding window shade screen	No shade screen	sq ft window area	\$3.9001	15	1.54	0.000	0.38	\$1.50	25%	70%	95%	0.195	0
WarehChN3	Warehouse	Chiller	New	3	Adding reflective roof treatment	Std color roof	sq ft roof area	\$4.50	20	2,659	0.05	10	\$45.00	0%	100%	95%	0.764	0
WarehChN4	Warehouse	Chiller	New	4	Green Roof (New construction or roof replacement)	Std Roof	sq ft	\$4.67	20	2,659	0.05	27	\$127.43	1%	45%	95%	0.385	0
WarehChN5	Warehouse	Chiller	New	5	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.7947	15	2,659	0.76	321	\$255.00	12%	95%	95%	2.204	1
WarehChN6	Warehouse	Chiller	New	6	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.4393	15	2,659	1.944	825	\$362.50	31%	95%	95%	3.987	1
WarehChN7	Warehouse	Chiller	New	7	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.2277	15	6,372	1.728	733	\$167.00	12%	95%	95%	7.693	1
WarehChN8	Warehouse	Chiller	New	8	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.8651	15	2,659	0.026	132.9360	\$115.00	5%	95%	75%	0.878	0
WarehChN9	Warehouse	Chiller	New	9	Energy Recovery Units	No Energy Recovery	ton	\$0.4702	15	2,659	0.105	531.7	\$250.00	20%	95%	75%	1.616	1
WarehChN10	Warehouse	Chiller	New	10	Duct Insulation, Add R8	No Insulation	ton	\$4.7015	15	2,659	0.005	26.5872	\$125.00	1%	100%	95%	0.162	0
WarehCh11	Warehouse	Chiller	Turnover	1	High Efficiency Chiller, 0.51 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.9193	15	2,659	0.76	321	\$295.00	12%	95%	95%	1.905	1
WarehCh12	Warehouse	Chiller	Turnover	2	VFD Centrifugal Chiller, 4 kW/ton	Std Chiller, 0.58 kW/Ton	ton	\$0.5605	15	2,659	1.944	825	\$462.50	31%	95%	95%	3.125	1
WarehCh13	Warehouse	Chiller	Turnover	3	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.8941	15	2,659	1.944	465	\$416.00	18%	95%	95%	2.895	1
WarehChN11	Warehouse	Chiller	New	11	Water-side Economizer	Std Chiller, 0.58 kW/Ton	ton	\$0.8941	15	2,659	1.944	465	\$416.00	18%	95%	95%	2.895	1
WarehCh15	Warehouse	Chiller	Turnover	5	EMS - Chiller	Base Centrifugal Chiller, 0.58 kW/ton, 500 tons	ton	\$0.9553	15	2,659	0.026	132.9360	\$127.00	5%	95%	75%	0.795	0
WarehCh14	Warehouse	Chiller	Turnover	4	Air-Cooled Chillers (1.23 kW/ton)	Std Chiller, 1.39 kW/Ton	ton	\$0.2822	15	6,372	1.728	733	\$207.00	12%	95%	95%	6.206	1
WarehCh12	Warehouse	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.08	10	4,601	0.010	690	\$55.00	15%	100%	45%	5.304	1
Grech1c12	Grocery	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.07	10	5,354	0.012	803	\$55.00	15%	100%	45%	6.172	1
Healthc12	Healthcare	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.30	10	1,243	0.003	186	\$55.00	15%	100%	45%	1.432	1
InstHc12	Institutional	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.30	10	3,809	0.008	571	\$55.00	15%	100%	45%	4.391	1
MiscHc12	Misc	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.08	10	4,434	0.010	665	\$55.00	15%	100%	45%	5.112	1
OfficHc12	Office	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.11	10	3,422	0.008	513	\$55.00	15%	100%	45%	3.945	1
RestHc12	Restaurant	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.07	10	5,210	0.012	782	\$55.00	15%	100%	45%	6.007	1
RetaHc12	Retail	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.07	10	5,354	0.012	803	\$55.00	15%	100%	45%	6.172	1
LodgHc12	Lodging	Heating	Turnover	2	7 day, two stage setback thermostat	Manual Thermostat - hp	ton	\$0.06	10	6,484	0.014	973	\$55.00	15%	100%	45%	7.475	1
OfficMoE1	Office	Motors	Early	1	Motor Retrocommissioning	Motor	Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.151	1
OfficMoT23	Office	Motors	Turnover	23	Motor Retrocommissioning	Motor	Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.151	1
RestMoE1	Restaurant	Motors	Early	1	Motor Retrocommissioning	Motor	Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.151	1
InstMoT9	Institutional	Motors	Turnover	9	VFD on Condenser Water Pump (Average 50HP)	Constant power control	Motor	\$0.6348	15	84274	12.062	20478.6	\$13,000.00	24%	90.0%	80%	1.494	1
RestMoT23	Restaurant	Motors	Turnover	23	Motor Retrocommissioning	Motor	Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.151	1
RetaMoE1	Retail	Motors	Early	1	Motor Retrocommissioning	Motor	Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.151	1
RetaMoT23	Retail	Motors	Turnover	23	Motor Retrocommissioning	Motor	Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.151	1
WarehMoE1	Warehouse	Motors	Early	1	Motor Retrocommissioning	Motor	Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.151	1
WarehMoT23	Warehouse	Motors	Turnover	23	Motor Retrocommissioning	Motor	Motor	\$0.27	7	56148	1.156	8,984	\$2,450.00	16%	95%	75%	1.151	1

Duquesne Industrial Measures

Measure Lookup	Industry	New Segment	New End-Use	Vintage	Measure Numbr	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Life	TRC Test	Economic Flag	NPV
CheCoolE1	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Existing	1	Clean Room: Change Filter Strategy	10.0%	40.0%	\$ 0.016	\$ 0.012	\$ 0.005	1	1.0398655	1	17.2065387
CheCoolE2	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Existing	2	Clean Room: Chiller Optimize	28.3%	14.8%	\$ 0.248	\$ 0.124	\$ 0.124	10	1.50397278	1	60.8677417
CheCoolT3	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Turnover	3	Clean Room: Clean Room HVAC	30.0%	9.0%	\$ 0.204	\$ 0.144	\$ 0.061	15	2.74579901	1	56.6509962
CheCoolT4	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Turnover	4	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	15	1.77300493	1	112.5552
CheCoolE5	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Existing	5	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	15	0.55089367	0	37.7673308
CheCoolT6	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Turnover	6	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	10	1.81421624	1	47.9081625
CheCoolT7	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Existing	7	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	3	0.99416877	0	16.3738382
CheCoolT8	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Turnover	8	Cold Storage Retrofit	25.6%	20.7%	\$ 0.250	\$ 0.157	\$ 0.093	10	1.49239295	1	84.9562095
CheCoolE9	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Existing	9	Cold Storage Tuneup	10.0%	15.6%	\$ 0.112	\$ 0.047	\$ 0.065	3	0.91703236	0	19.5704567
CheHeaE1	Chemical_Mfg	Mfg. Chemicals	Process Heating	Existing	1	Improved Controls	37.9%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	10	1.52182065	1	124.963312
CheHeaE2	Chemical_Mfg	Mfg. Chemicals	Process Heating	Existing	2	Process Heat O&M	63.4%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	2	0.29874933	0	24.119835
CheHT1	Chemical_Mfg	Mfg. Chemicals	HVAC	Turnover	1	Equipment Upgrades	62.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	2.00465036	1	105.4428
CheHE2	Chemical_Mfg	Mfg. Chemicals	HVAC	Existing	2	Improved Controls	32.7%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	3.30049318	1	87.8214701
CheHE3	Chemical_Mfg	Mfg. Chemicals	HVAC	Existing	3	Recommissioning	72.6%	16.0%	\$ 0.271	-	\$ 0.271	7	1.01501862	1	48.0106299
CheLT1	Chemical_Mfg	Mfg. Chemicals	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2.39141648	1	83.4951944
CheLT2	Chemical_Mfg	Mfg. Chemicals	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	1.04523497	1	142.926475
CheLE3	Chemical_Mfg	Mfg. Chemicals	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1.7675556	1	125.741767
CheMT1	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1.60579242	1	5.80264394
CheMT10	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	10	Material Handling	52.3%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0.68454605	0	20.911631
CheMT11	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	11	Air Compressor Demand Reduction	28.0%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	10	3.17235803	1	66.5345737
CheME6	Chemical_Mfg	Mfg. Chemicals	Motors	Existing	6	Material Handling VFD	52.3%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	1.02815669	1	78.1743215
CheME13	Chemical_Mfg	Mfg. Chemicals	Motors	Existing	13	Motor Management Plan	51.6%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.61969532	1	12.0520448
CheMT15	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	15	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.9063465	1	3.20428734
CheMT16	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	16	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.9063465	1	3.20428734
CheMT17	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	17	Motors: Rewind 20-50 HP	4.6%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1.39807205	1	3.6205638
CheMT18	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	18	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.9063465	1	3.20428734
CheMT19	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	19	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1.54367486	1	3.68815634
CheMT2	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0.77939569	0	2.8386344
CheMT20	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	20	Properly Sized Fans	14.7%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	10	1.83885362	1	43.5012555
CheME21	Chemical_Mfg	Mfg. Chemicals	Motors	Existing	21	Air Compressor Optimization	38.3%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	10	2.36642504	1	125.608436
CheME22	Chemical_Mfg	Mfg. Chemicals	Motors	Existing	22	Pump Energy Management	31.4%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.61969532	1	31.3075814
CheMT23	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	23	Pump Equipment Upgrade	34.0%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	10	2.30075953	1	83.4868838
CheME24	Chemical_Mfg	Mfg. Chemicals	Motors	Existing	24	Pump System Optimization	15.6%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	12	1.22319621	1	61.6248795
CheMT25	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	25	Switch from Belt drive to Direct Drive	10.4%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1.74020285	1	38.2052828
CheMT26	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	26	Synchronous Belts	20.9%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1.42602118	1	4.67233403
CheMT27	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	27	Efficient Centrifugal Fan	10.3%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	10	1.65294795	1	83.4868838
CheMT28	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0.30222341	0	5.78174445
CheMT29	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1.38322304	1	2.48820621
CheME3	Chemical_Mfg	Mfg. Chemicals	Motors	Existing	3	Fan System Optimization	28.9%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	10	1.24268169	1	32.0961096
CheMT30	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0.50040778	0	4.73540418
CheMT4	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	4	High efficiency Compressor motors	80.8%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	15	1.40201004	1	6.99754171
CheMT5	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	5	High Efficiency Motors	74.4%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	1.11900432	1	9.46187645
CheOT1	Chemical_Mfg	Mfg. Chemicals	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	15	2.3140587	1	128.957217
CheOE2	Chemical_Mfg	Mfg. Chemicals	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	11	2.4378162	1	133.091611
CheOE3	Chemical_Mfg	Mfg. Chemicals	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	11	1.60207469	1	229.468294
CheOE4	Chemical_Mfg	Mfg. Chemicals	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	10	2.51884564	1	49.5108549
CheOT5	Chemical_Mfg	Mfg. Chemicals	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	15	1.4359709	1	10.1140747
ComCoolE1	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Existing	1	Clean Room: Change Filter Strategy	10.0%	40.0%	\$ 0.016	\$ 0.012	\$ 0.005	1	1.0398655	1	17.2065387
ComCoolE10	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Existing	10	Cold Storage Tuneup	10.0%	15.6%	\$ 0.112	\$ 0.047	\$ 0.065	3	0.91703236	0	19.5704567
ComCoolE2	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Existing	2	Clean Room: Chiller Optimize	28.3%	14.8%	\$ 0.248	\$ 0.124	\$ 0.124	10	1.50397278	1	60.8677417
ComCoolT3	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Turnover	3	Clean Room: Clean Room HVAC	30.0%	9.0%	\$ 0.204	\$ 0.144	\$ 0.061	15	2.74579901	1	56.6509962
ComCoolT4	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Turnover	4	Flec Chip Fab: Solidstate Chiller	20.0%	90.0%	\$ 0.634	\$ 0.562	\$ 0.072	10	0.62318484	0	369.571476
ComCoolT5	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Turnover	5	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	15	1.77300493	1	112.5552
ComCoolE6	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Existing	6	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	15	0.55089367	0	37.7673308
ComCoolT7	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Turnover	7	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	10	1.81421624	1	47.9081625
ComCoolE8	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Existing	8	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	3	0.99416877	0	16.3738382
ComCoolT9	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Turnover	9	Cold Storage Retrofit	25.6%	20.7%	\$ 0.250	\$ 0.157	\$ 0.093	10	1.49239295	1	84.9562095
ComHeaE1	Electronic_Equipment_M	Mfg. Computers	Process Heating	Existing	1	Improved Controls	41.5%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	10	1.52182065	1	124.963312
ComHeaE2	Electronic_Equipment_M	Mfg. Computers	Process Heating	Existing	2	Process Heat O&M	69.3%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	2	0.29874933	0	24.119835
ComHT1	Electronic_Equipment_M	Mfg. Computers	HVAC	Turnover	1	Equipment Upgrades	74.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	2.00465036	1	105.4428
ComHE2	Electronic_Equipment_M	Mfg. Computers	HVAC	Existing	2	Improved Controls	38.9%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	3.30049318	1	87.8214701
ComHE3	Electronic_Equipment_M	Mfg. Computers	HVAC	Existing	3	Recommissioning	86.4%	16.0%	\$ 0.271	-	\$ 0.271	7	1.01501862	1	48.0106299
ComLT1	Electronic_Equipment_M	Mfg. Computers	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2.39141648	1	83.4951944
ComLT2	Electronic_Equipment_M	Mfg. Computers	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	1.04523497	1	142.926475
ComLE3	Electronic_Equipment_M	Mfg. Computers	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1.7675556	1	125.741767
ComMT1	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1.60579242	1	5.80264394
ComMT10	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	10	Material Handling	52.9%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0.68454605	0	20.911631
ComMT11	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	11	Air Compressor Demand Reduction	25.3%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	10	3.17235803	1	66.5345737
ComME6	Electronic_Equipment_M	Mfg. Computers	Motors	Existing	6	Material Handling VFD	52.9%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	1.02815669	1	78.1743215
ComME13	Electronic_Equipment_M	Mfg. Computers	Motors	Existing	13	Motor Management Plan	49.2%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.61969532	1	12.0520448
ComMT15	Electronic_Equipment_M														

Duquesne Industrial Measures

Measure Lookup	Industry	New Segment	New End-Use	Vintage	Measure Numbr	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Life	TRC Test	Economic Flag	NPV	
ComMT17	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	17	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1.39807205	1	5.66205638	
ComMT18	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	18	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.9063465	1	3.20428734	
ComMT19	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	19	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1.54367486	1	3.68815634	
ComMT2	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	-	15	0.77398569	0	2.8386344
ComMT20	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	20	Properly Sized Fans	14.8%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	10	1.83858362	1	43.5012555	
ComME21	Electronic_Equipment_M	Mfg. Computers	Motors	Existing	21	Air Compressor Optimization	35.0%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	10	2.36642504	1	125.608436	
ComME22	Electronic_Equipment_M	Mfg. Computers	Motors	Existing	22	Pump Energy Management	30.1%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.61969552	1	31.3075814	
ComMT23	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	23	Pump Equipment Upgrade	32.6%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	10	2.30075953	1	83.4868838	
ComME24	Electronic_Equipment_M	Mfg. Computers	Motors	Existing	24	Pump System Optimization	15.0%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	12	1.22319621	1	61.6248795	
ComMT25	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	25	Switch from Belt drive to Direct Drive	10.5%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1.74020285	1	38.2052828	
ComMT26	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	26	Synchronous Belts	20.8%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1.42602118	1	4.67233403	
ComMT27	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	27	Efficient Centrifugal Fan	10.3%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	10	1.65294795	1	83.4868838	
ComMT28	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0.30222341	0	5.78174445	
ComMT29	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1.38322304	1	2.48826021	
ComME3	Electronic_Equipment_M	Mfg. Computers	Motors	Existing	3	Fan System Optimization	29.1%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	10	1.24268169	1	32.0961096	
ComMT30	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	-	15	0.50040778	0	4.73540418
ComMT4	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	4	High efficiency Compressor motors	73.8%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	15	1.40201004	1	6.99754171	
ComMT5	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	5	High Efficiency Motors	73.8%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	1.11900432	1	9.46187645	
ComOT1	Electronic_Equipment_M	Mfg. Computers	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	15	2.3140587	1	128.957217	
ComOT2	Electronic_Equipment_M	Mfg. Computers	Other	Turnover	2	Elec Chip Fab: Eliminate Exhaust	80.1%	5.0%	\$ 0.233	\$ 0.206	\$ 0.026	10	1.6007229	1	20.6295229	
ComOT3	Electronic_Equipment_M	Mfg. Computers	Other	Turnover	3	Elec Chip Fab: Exhaust Injector	35.0%	100.0%	\$ 0.561	\$ 0.498	\$ 0.064	10	0.70363517	0	412.590458	
ComCoo111	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Turnover	11	Elec Chip Fab: Reduce Gas Pressure	5.0%	10.0%	\$ 0.063	\$ -	\$ 0.063	10	4.69139508	1	41.0634973	
ComOE5	Electronic_Equipment_M	Mfg. Computers	Other	Existing	5	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	11	2.43781682	1	133.091611	
ComOE6	Electronic_Equipment_M	Mfg. Computers	Other	Existing	6	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	11	1.60207469	1	229.468294	
ComOE7	Electronic_Equipment_M	Mfg. Computers	Other	Existing	7	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	10	2.51884564	1	49.5108549	
ComOT8	Electronic_Equipment_M	Mfg. Computers	Other	Turnover	8	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	15	1.4359709	1	10.1140747	
FooCoo11	Food_Mfg	Mfg. Food	Process Cooling	Turnover	1	Equipment: Chillers	8.3%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	15	1.77300493	1	112.5552	
FooCoo2	Food_Mfg	Mfg. Food	Process Cooling	Existing	2	Improved Controls	35.2%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	15	0.55089367	0	37.7673308	
FooCoo13	Food_Mfg	Mfg. Food	Process Cooling	Turnover	3	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.085	10	1.81421624	1	47.981625	
FooCoo14	Food_Mfg	Mfg. Food	Process Cooling	Turnover	4	Food: Cooling and Storage	15.0%	15.4%	\$ 0.258	\$ 0.162	\$ 0.096	10	1.45089123	1	63.1666436	
FooCoo15	Food_Mfg	Mfg. Food	Process Cooling	Turnover	5	Food: Refrig Storage: Tuneup	7.5%	14.4%	\$ 0.056	\$ 0.023	\$ 0.033	3	1.55049861	1	18.003519	
FooCoo16	Food_Mfg	Mfg. Food	Process Cooling	Turnover	6	Fruit Storage Refer Retrofit	60.7%	38.2%	\$ 0.214	\$ 0.135	\$ 0.079	10	1.71519072	1	156.972479	
FooCoo17	Food_Mfg	Mfg. Food	Process Cooling	Turnover	7	Fruit Storage Tuneup	10.0%	15.6%	\$ 0.056	\$ 0.023	\$ 0.033	3	1.55049861	1	19.5704567	
FooCooE8	Food_Mfg	Mfg. Food	Process Cooling	Existing	8	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	3	0.99416877	0	16.3738382	
FooHeat1	Food_Mfg	Mfg. Food	Process Heating	Existing	1	Improved Controls	38.8%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	10	1.52182065	1	124.963312	
FooHeat2	Food_Mfg	Mfg. Food	Process Heating	Existing	2	Process Heat O&M	65.0%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	2	0.29874933	0	24.119835	
FooHT1	Food_Mfg	Mfg. Food	HVAC	Turnover	1	Equipment Upgrades	62.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	2.00465036	1	105.4428	
FooHE2	Food_Mfg	Mfg. Food	HVAC	Existing	2	Improved Controls	32.7%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	3.30049318	1	87.8214701	
FooHE3	Food_Mfg	Mfg. Food	HVAC	Existing	3	Recommissioning	72.6%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	1.01501862	1	48.0106299	
FooLT1	Food_Mfg	Mfg. Food	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.103	\$ 0.047	\$ 0.047	10	2.39141648	1	83.4951944	
FooLT2	Food_Mfg	Mfg. Food	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.101	10	1.04523497	1	142.926475	
FooLE3	Food_Mfg	Mfg. Food	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1.7675556	1	125.741767	
FooME1	Food_Mfg	Mfg. Food	Motors	Existing	1	Fan System Optimization	29.6%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	10	1.24268169	1	32.0961096	
FooME4	Food_Mfg	Mfg. Food	Motors	Existing	4	Material Handling VFD	51.6%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	1.02815669	1	78.1743215	
FooME11	Food_Mfg	Mfg. Food	Motors	Existing	11	Motor Management Plan	48.9%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.61969552	1	12.0520448	
FooMT13	Food_Mfg	Mfg. Food	Motors	Turnover	13	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.9063465	1	3.20428734	
FooMT14	Food_Mfg	Mfg. Food	Motors	Turnover	14	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.9063465	1	3.20428734	
FooMT15	Food_Mfg	Mfg. Food	Motors	Turnover	15	Motors: Rewind 20-50 HP	4.6%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1.39807205	1	5.66205638	
FooMT16	Food_Mfg	Mfg. Food	Motors	Turnover	16	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.9063465	1	3.20428734	
FooMT17	Food_Mfg	Mfg. Food	Motors	Turnover	17	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1.54367486	1	3.68815634	
FooME18	Food_Mfg	Mfg. Food	Motors	Existing	18	Air Compressor Optimization	35.0%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	10	2.36642504	1	125.608436	
FooMT19	Food_Mfg	Mfg. Food	Motors	Turnover	19	Properly Sized Fans	15.0%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	10	1.83858362	1	43.5012555	
FooMT2	Food_Mfg	Mfg. Food	Motors	Turnover	2	High efficiency Compressor motors	73.8%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	15	1.40201004	1	6.99754171	
FooME20	Food_Mfg	Mfg. Food	Motors	Existing	20	Pump Energy Management	30.5%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.61969552	1	31.3075814	
FooMT21	Food_Mfg	Mfg. Food	Motors	Turnover	21	Pump Equipment Upgrade	33.0%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	10	2.30075953	1	83.4868838	
FooME22	Food_Mfg	Mfg. Food	Motors	Existing	22	Pump System Optimization	15.2%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	12	1.22319621	1	61.6248795	
FooMT23	Food_Mfg	Mfg. Food	Motors	Turnover	23	Switch from Belt drive to Direct Drive	10.2%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1.74020285	1	38.2052828	
FooMT24	Food_Mfg	Mfg. Food	Motors	Turnover	24	Synchronous Belts	20.8%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1.42602118	1	4.67233403	
FooMT25	Food_Mfg	Mfg. Food	Motors	Turnover	25	Efficient Centrifugal Fan	10.5%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	10	1.65294795	1	83.4868838	
FooMT26	Food_Mfg	Mfg. Food	Motors	Turnover	26	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0.30222341	0	5.78174445	
FooMT27	Food_Mfg	Mfg. Food	Motors	Turnover	27	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1.38322304	1	2.48826021	
FooMT28	Food_Mfg	Mfg. Food	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0.50040778	0	4.73540418	
FooMT29	Food_Mfg	Mfg. Food	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1.60579242	1	5.80264394	
FooMT3	Food_Mfg	Mfg. Food	Motors	Turnover	3	High Efficiency Motors	74.0%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	1.11900432	1	9.46187645	
FooMT30	Food_Mfg	Mfg. Food	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	-	15	0.77398569	0	2.8386344
FooMT7	Food_Mfg	Mfg. Food	Motors	Turnover	7	Air Compressor Demand Reduction	25.5%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	10	3.17235803	1	66.5345737	
FooMT9	Food_Mfg	Mfg. Food	Motors	Turnover	9	Material Handling	51.6%	5.0%	\$ 0.385	\$ 0.248	\$ 0.102	10	0.6845605	0	20.911631	
FooOT1	Food_Mfg	Mfg. Food	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	15	2.3140587	1	128.957217	
FooOE2	Food_Mfg	Mfg. Food	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	11	2.43781682	1	133.091611	
FooOE3	Food_Mfg	Mfg. Food	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	11	1.60207469	1	229.468294	

Duquesne Industrial Measures

Measure Lookup	Industry	New Segment	New End-Use	Vintage	Measure Number	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Life	TRC Test	Economic Flag	NPV
MetCooT1	Primary_Metal_Mfg	Mfg. Metals	Process Cooling	Turnover	1	Equipment Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	15	1.77300493	1	112.5552
MetCooE2	Primary_Metal_Mfg	Mfg. Metals	Process Cooling	existing	2	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	15	0.55089367	0	37.7673308
MetCooE3	Primary_Metal_Mfg	Mfg. Metals	Process Cooling	Existing	3	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	3	0.99416877	0	16.3738382
MetHeaE1	Primary_Metal_Mfg	Mfg. Metals	Process Heating	Existing	1	Improved Controls	40.1%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	10	1.52182065	1	124.963312
MetHeaE2	Primary_Metal_Mfg	Mfg. Metals	Process Heating	Turnover	2	Metal: New Arc Furnace	10.3%	45.0%	\$ 0.115	\$ 0.102	\$ 0.013	10	2.93109307	1	184.785738
MetHeaE3	Primary_Metal_Mfg	Mfg. Metals	Process Heating	Existing	3	Process Heat O&M	67.2%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	2	0.29874933	0	24.119835
MetHT1	Primary_Metal_Mfg	Mfg. Metals	HVAC	Turnover	1	Equipment Upgrades	64.7%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	2.00465036	1	105.4428
MetHE2	Primary_Metal_Mfg	Mfg. Metals	HVAC	Existing	2	Improved Controls	33.4%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	3.30049318	1	87.8214701
MetHE3	Primary_Metal_Mfg	Mfg. Metals	HVAC	Existing	3	Recommissioning	74.3%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	1.01501862	1	48.0106299
MetLT1	Primary_Metal_Mfg	Mfg. Metals	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2.39141648	1	83.4951944
MetLT2	Primary_Metal_Mfg	Mfg. Metals	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	1.04523497	1	142.926475
MetLE3	Primary_Metal_Mfg	Mfg. Metals	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1.7675556	1	125.741767
MetMT1	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	1	Air Compressor Demand Reduction	25.3%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	10	3.17235803	1	66.5345737
MetME10	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	10	Motor Management Plan	49.1%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.61969552	1	12.0520448
MetME12	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	12	Air Compressor Optimization	34.7%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	10	2.36642504	1	125.608346
MetMT13	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	13	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.9063465	1	3.20428734
MetMT14	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	14	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.9063465	1	3.20428734
MetMT15	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	15	Motors: Rewind 20-50 HP	4.6%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1.39807205	1	5.66205638
MetMT16	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	16	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.9063465	1	3.20428734
MetMT17	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	17	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1.54367486	1	3.68815634
MetMT18	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	18	Properly Sized Fans	14.7%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	10	1.83858362	1	43.5012555
MetME19	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	19	Pump Energy Management	29.8%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.61969552	1	31.3075814
MetMT2	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	2	High efficiency Compressor motors	73.1%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	15	1.40201004	1	6.99754171
MetMT20	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	20	Pump Equipment Upgrade	32.3%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	10	2.30075953	1	83.4868838
MetME21	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	21	Pump System Optimization	14.9%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	12	1.22319621	1	61.6248795
MetMT22	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	22	Efficient Centrifugal Fan	10.3%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	10	1.65294795	1	83.4868838
MetMT23	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	23	Switch from Belt drive to Direct Drive	10.4%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1.74020285	1	38.2052828
MetMT24	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	24	Synchronous Belts	20.6%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1.42602118	1	4.67233403
MetMT25	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	25	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0.30222341	0	5.78174445
MetMT26	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	26	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1.38323204	1	2.48826021
MetMT27	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	27	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0.50040778	0	4.73540418
MetMT28	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1.60579242	1	5.80264394
MetMT29	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0.77398569	0	2.8386344
MetMT3	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	3	High Efficiency Motors	73.3%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	1.11900432	1	9.46187645
MetME30	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	30	Fan System Optimization	29.0%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	10	1.24268169	1	32.0961096
MetMT8	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	8	Material Handling	52.4%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0.68454605	0	20.911631
MetME4	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	4	Material Handling VFD	52.4%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	1.02815669	1	78.1743215
MetOT1	Primary_Metal_Mfg	Mfg. Metals	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	15	2.3140587	1	128.957217
MetOE2	Primary_Metal_Mfg	Mfg. Metals	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	11	2.43781682	1	133.091611
MetOE3	Primary_Metal_Mfg	Mfg. Metals	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	11	1.60207469	1	229.468294
MetOE4	Primary_Metal_Mfg	Mfg. Metals	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	10	2.51884564	1	49.5108549
MetOT5	Primary_Metal_Mfg	Mfg. Metals	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	15	1.4359709	1	10.1140747
OhCooT1	Miscellaneous_Mfg	Mfg. Other	Process Cooling	Turnover	1	Equipment Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	15	1.77300493	1	112.5552
OhCooE2	Miscellaneous_Mfg	Mfg. Other	Process Cooling	Existing	2	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	15	0.55089367	0	37.7673308
OhCooT3	one_Clay_Glass_Product	Mfg. Other	Process Cooling	Turnover	3	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	10	1.81421624	1	47.9081625
OhCooE4	Miscellaneous_Mfg	Mfg. Other	Process Cooling	Existing	4	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	3	0.99416877	0	16.3738382
OhCooT5	Miscellaneous_Mfg	Mfg. Other	Process Cooling	Turnover	5	Cold Storage Retrofit	25.6%	20.7%	\$ 0.250	\$ 0.157	\$ 0.093	10	1.49239295	1	84.9562095
OhCooE6	Miscellaneous_Mfg	Mfg. Other	Process Cooling	Existing	6	Cold Storage Tuneup	10.0%	15.6%	\$ 0.112	\$ 0.047	\$ 0.065	3	0.91703236	0	19.5704567
OhHeaE1	Miscellaneous_Mfg	Mfg. Other	Process Heating	existing	1	Improved Controls	41.7%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	10	1.52182065	1	124.963312
OhHeaE2	Miscellaneous_Mfg	Mfg. Other	Process Heating	existing	2	Process Heat O&M	69.8%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	2	0.29874933	0	24.119835
OhHT1	Miscellaneous_Mfg	Mfg. Other	HVAC	Turnover	1	Equipment Upgrades	64.4%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	2.00465036	1	105.4428
OhHE2	Miscellaneous_Mfg	Mfg. Other	HVAC	Existing	2	Improved Controls	33.4%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	3.30049318	1	87.8214701
OhHE3	Miscellaneous_Mfg	Mfg. Other	HVAC	Existing	3	Recommissioning	74.3%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	1.01501862	1	48.0106299
OhLT1	Miscellaneous_Mfg	Mfg. Other	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2.39141648	1	83.4951944
OhLT2	Miscellaneous_Mfg	Mfg. Other	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	1.04523497	1	142.926475
OhLE3	Miscellaneous_Mfg	Mfg. Other	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1.7675556	1	125.741767
OhMT1	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0.50040778	0	4.73540418
OhMT11	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	11	Air Compressor Demand Reduction	26.0%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	10	3.17235803	1	66.5345737
OhMT12	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	12	Material Handling	52.9%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0.68454605	0	20.911631
OhME13	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	13	Material Handling VFD	52.9%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	1.02815669	1	78.1743215
OhME14	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	14	Motor Management Plan	50.0%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.61969552	1	12.0520448
OhMT16	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	16	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.9063465	1	3.20428734
OhMT17	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	17	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.9063465	1	3.20428734
OhMT18	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	18	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1.39807205	1	5.66205638
OhMT19	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	19	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.9063465	1	3.20428734
OhMT2	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1.60579242	1	5.80264394
OhMT20	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	20	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1.54367486	1	3.68815634
OhMT21	one_Clay_Glass_Product	Mfg. Other	Motors	Turnover	21	Air Compressor Equipment	17.0%	8.8%	\$ 0.157	\$ 0.130	\$ 0.027	10	2.29094977	1	36.6067622
OhMT22	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	22	Properly Sized Fans	15.3%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	10	1.83858362	1	43.5012555
OhME23	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	23	Pump Energy Management	31.2%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	10			

Duquesne Industrial Measures

Measure Lookup	Industry	New Segment	New End-Use	Vintage	Measure Numbr	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Life	TRC Test	Economic Flag	NPV
OhMT26	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	26	Switch from Belt drive to Direct Drive	10.5%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1.74020285	1	38.2052828
OhMT27	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	27	Synchronous Belts	21.4%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1.42602118	1	4.67233403
OhME28	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	28	Air Compressor Optimization	35.6%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	10	2.36642504	1	125.608346
OhMT29	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	29	Efficient Centrifugal Fan	10.7%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	10	1.65294795	1	83.4868838
OhMT3		Mfg. Other	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0.77398569	0	2.8386344
OhMT30		Mfg. Other	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0.30222341	0	5.78174445
OhMT31		Mfg. Other	Motors	Turnover	31	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1.38322304	1	2.4882021
OhME4	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	4	Fan System Optimization	30.1%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	10	1.24268169	1	32.0961096
OhMT5	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	5	High efficiency Compressor motors	75.1%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	15	1.40201004	1	6.99754171
OhMT6	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	6	High Efficiency Motors	75.6%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	1.1900432	1	9.46187645
OhOT1	Miscellaneous_Mfg	Mfg. Other	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	15	2.3140587	1	128.957217
OhOE2	Miscellaneous_Mfg	Mfg. Other	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	11	2.43781682	1	133.091611
OhOE3	Miscellaneous_Mfg	Mfg. Other	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	11	1.60207469	1	229.468294
OhOE4	Miscellaneous_Mfg	Mfg. Other	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	10	2.51884564	1	49.5108549
OhOT5	Miscellaneous_Mfg	Mfg. Other	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	15	1.4359709	1	10.1140747
PapCoo1	Paper_Mfg	Mfg. Paper	Process Cooling	Turnover	1	Equipment Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	15	1.77300493	1	112.5552
PapCooE2	Paper_Mfg	Mfg. Paper	Process Cooling	Existing	2	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	15	0.55089367	0	37.7673308
PapCoo3	Paper_Mfg	Mfg. Paper	Process Cooling	Turnover	3	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	10	1.81421624	1	47.9081625
PapCoo4	Paper_Mfg	Mfg. Paper	Process Cooling	Existing	4	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	3	0.99416877	0	16.3738382
PapHea1	Paper_Mfg	Mfg. Paper	Process Heating	Existing	1	Improved Controls	38.1%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	10	1.52182065	1	124.963312
PapHea2	Paper_Mfg	Mfg. Paper	Process Heating	Existing	2	Process Heat O&M	63.9%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	2	0.29874933	0	24.198835
PapHT1	Paper_Mfg	Mfg. Paper	HVAC	Turnover	1	Equipment Upgrades	62.4%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	2.00465036	1	105.4428
PapHE2	Paper_Mfg	Mfg. Paper	HVAC	Existing	2	Improved Controls	32.4%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	3.30049318	1	87.8214701
PapHE3	Paper_Mfg	Mfg. Paper	HVAC	Existing	3	Recommissioning	72.0%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	1.01501862	1	48.0106299
PapLT1	Paper_Mfg	Mfg. Paper	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2.39141648	1	83.4951944
PapLT2	Paper_Mfg	Mfg. Paper	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	1.04523497	1	142.926475
PapLE3	Paper_Mfg	Mfg. Paper	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1.7675536	1	125.741767
PapME1	Paper_Mfg	Mfg. Paper	Motors	Existing	1	Fan System Optimization	30.2%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	10	1.24268169	1	32.0961096
PapME10	Paper_Mfg	Mfg. Paper	Motors	Existing	10	Motor Management Plan	50.1%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.61969552	1	12.0520448
PapMT11	Paper_Mfg	Mfg. Paper	Motors	Turnover	11	Air Compressor Demand Reduction	25.8%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	10	3.17235803	1	66.534737
PapMT13	Paper_Mfg	Mfg. Paper	Motors	Turnover	13	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.9063465	1	3.20428734
PapMT14	Paper_Mfg	Mfg. Paper	Motors	Turnover	14	Motors: Rewind 201-500 HP	35.6%	0.9%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.9063465	1	3.20428734
PapMT15	Paper_Mfg	Mfg. Paper	Motors	Turnover	15	Motors: Rewind 20-50 HP	4.7%	0.5%	\$ 0.431	\$ 0.356	\$ 0.075	15	1.39807205	1	5.66205638
PapMT16	Paper_Mfg	Mfg. Paper	Motors	Turnover	16	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.9063465	1	3.20428734
PapMT17	Paper_Mfg	Mfg. Paper	Motors	Turnover	17	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1.54367486	1	3.68815634
PapMT18	Paper_Mfg	Mfg. Paper	Motors	Turnover	18	Paper: Large Material Handling	25.2%	9.7%	\$ 0.959	\$ 0.850	\$ 0.109	10	0.42425277	0	40.6506472
PapMT19	Paper_Mfg	Mfg. Paper	Motors	Turnover	19	Paper: Material Handling	25.2%	13.1%	\$ 0.801	\$ 0.710	\$ 0.091	10	0.50512986	0	54.7220251
PapMT2	Paper_Mfg	Mfg. Paper	Motors	Turnover	2	High efficiency Compressor motors	74.7%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	15	1.40201004	1	6.99754171
PapMT20	Paper_Mfg	Mfg. Paper	Motors	Turnover	20	Paper: Premium Control Large Material	25.2%	18.7%	\$ 0.549	\$ 0.486	\$ 0.063	10	0.72786263	0	78.1743215
PapME21	Paper_Mfg	Mfg. Paper	Motors	Existing	21	Air Compressor Optimization	35.4%	30.1%	\$ 0.151	\$ 0.058	\$ 0.092	10	2.36642504	1	125.608346
PapMT22	Paper_Mfg	Mfg. Paper	Motors	Turnover	22	Paper: Premium Fan	25.5%	20.0%	\$ 0.227	\$ 0.201	\$ 0.026	10	1.65875114	1	83.4868838
PapMT23	Paper_Mfg	Mfg. Paper	Motors	Turnover	23	Properly Sized Fans	15.3%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	10	1.83858362	1	43.5012555
PapME24	Paper_Mfg	Mfg. Paper	Motors	Existing	24	Pump Energy Management	32.3%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.61969552	1	31.3075814
PapMT25	Paper_Mfg	Mfg. Paper	Motors	Turnover	25	Pump Equipment Upgrade	34.9%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	10	2.30075953	1	83.4868838
PapME26	Paper_Mfg	Mfg. Paper	Motors	Existing	26	Pump System Optimization	16.1%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	12	1.22319621	1	61.6248795
PapMT27	Paper_Mfg	Mfg. Paper	Motors	Turnover	27	Switch from Belt drive to Direct Drive	10.6%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1.74020285	1	38.2052828
PapMT28	Paper_Mfg	Mfg. Paper	Motors	Turnover	28	Synchronous Belts	21.4%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1.42602118	1	4.67233403
PapMT29	Paper_Mfg	Mfg. Paper	Motors	Turnover	29	Efficient Centrifugal Fan	10.7%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	10	1.65294795	1	83.4868838
PapMT3	Paper_Mfg	Mfg. Paper	Motors	Turnover	3	High Efficiency Motors	76.7%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	1.1900432	1	9.46187645
PapMT30		Mfg. Paper	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0.30222341	0	5.78174445
PapMT31		Mfg. Paper	Motors	Turnover	31	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1.38322304	1	2.4882021
PapMT32		Mfg. Paper	Motors	Turnover	32	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0.50040778	0	4.73540418
PapMT33		Mfg. Paper	Motors	Turnover	33	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1.60579242	1	5.80264394
PapMT34		Mfg. Paper	Motors	Turnover	34	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0.77398569	0	2.8386344
PapMT8	Paper_Mfg	Mfg. Paper	Motors	Turnover	8	Material Handling	53.4%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0.68454605	0	20.911631
PapME9	Paper_Mfg	Mfg. Paper	Motors	Existing	9	Material Handling VFD	53.4%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	1.02815669	1	78.1743215
PapOT1	Paper_Mfg	Mfg. Paper	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	15	2.3140587	1	128.957217
PapOE10	Paper_Mfg	Mfg. Paper	Other	Existing	10	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	10	2.51884564	1	49.5108549
PapOT11	Paper_Mfg	Mfg. Paper	Other	Turnover	11	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	15	1.4359709	1	10.1140747
PapOE2	Paper_Mfg	Mfg. Paper	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	11	2.43781682	1	133.091611
PapOE3	Paper_Mfg	Mfg. Paper	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	11	1.60207469	1	229.468294
PapOT4	Paper_Mfg	Mfg. Paper	Other	Turnover	4	Kraft: Efficient Agitator	13.8%	50.0%	\$ 0.104	\$ 0.093	\$ 0.012	10	3.18095051	1	206.295229
PapOT5	Paper_Mfg	Mfg. Paper	Other	Turnover	5	Kraft: Effluent Treatment System	9.2%	15.0%	\$ 0.092	\$ 0.082	\$ 0.011	10	3.51198328	1	61.8885687
PapOT6	Paper_Mfg	Mfg. Paper	Other	Turnover	6	Mech Pulp: Premium Process	22.5%	0.2%	\$ 0.141	\$ 0.125	\$ 0.016	5	1.24341141	1	0.34728702
PapOT7	Paper_Mfg	Mfg. Paper	Other	Turnover	7	Mech Pulp: Refiner Plate Improvement	35.5%	0.4%	\$ 0.045	\$ 0.040	\$ 0.005	1	0.62033619	0	0.19281786
PapOT8	Paper_Mfg	Mfg. Paper	Other	Turnover	8	Mech Pulp: Refiner Replacement	23.7%	10.0%	\$ 0.735	\$ 0.652	\$ 0.084	12	0.66313488	0	50.4278305
PapOT9	Paper_Mfg	Mfg. Paper	Other	Turnover	9	Paper: Efficient Pulp Screen	13.8%	15.0%	\$ 0.226	\$ 0.200	\$ 0.026	10	1.64656465	1	61.8885687
PlaCooE1	Chemical_Mfg	Mfg. Plastics	Process Cooling	Existing	1	Clean Room: Change Filter Strategy	10.0%	40.0%	\$ 0.016	\$ 0.012	\$ 0.005	1	1.0398655	1	17.2065387
PlaCooE2	Chemical_Mfg	Mfg. Plastics	Process Cooling	Existing	2	Clean Room: Chiller Optimize	28.3%	14.8%	\$ 0.248	\$ 0.124	\$ 0.124	10	1.50397278	1	60.8677417
PlaCoo13	Chemical_Mfg	Mfg. Plastics	Process Cooling	Turnover	3	Clean Room: Clean Room HVAC	30.3%	9.0%	\$ 0.204	\$ 0.144	\$ 0.061	15	2.74579901	1	56.6509962
PlaCoo14	Chemical_Mfg	Mfg. Plastics	Process Cooling	Turnover	4	Equipment Chillers	8.0%	17.9%	\$ 0.330						

Duquesne Industrial Measures

Measure Lookup	Industry	New Segment	New End-Use	Vintage	Measure Numbr	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Life	TRC Test	Economic Flag	NPV
PlaCoo16	Chemical_Mfg	Mfg. Plastics	Process Cooling	Turnover	6	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	10	1,814,216.24	1	47,9081625
PlaCoo17	Chemical_Mfg	Mfg. Plastics	Process Cooling	Existing	7	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	3	0,99416877	0	16,3738382
PlaCoo18	Chemical_Mfg	Mfg. Plastics	Process Cooling	Turnover	8	Cold Storage Retrofit	25.6%	20.7%	\$ 0.250	\$ 0.157	\$ 0.093	10	1,492,390.29	1	84,9562095
PlaCoo19	Chemical_Mfg	Mfg. Plastics	Process Cooling	Existing	9	Cold Storage Tuneup	10.0%	15.6%	\$ 0.112	\$ 0.047	\$ 0.065	3	0,91703236	0	19,5704867
PlaHea11	Chemical_Mfg	Mfg. Plastics	Process Heating	Existing	1	Improved Controls	37.9%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	10	1,521,820.65	1	124,963312
PlaHea12	Chemical_Mfg	Mfg. Plastics	Process Heating	Existing	2	Process Heat O&M	63.4%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	2	0,29874933	0	24,119835
PlaHT1	Chemical_Mfg	Mfg. Plastics	HVAC	Turnover	1	Equipment Upgrades	62.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	2,004,650.36	1	105,4428
PlaHE2	Chemical_Mfg	Mfg. Plastics	HVAC	Existing	2	Improved Controls	32.7%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	3,300,493.18	1	87,8214701
PlaHE3	Chemical_Mfg	Mfg. Plastics	HVAC	Existing	3	Recommissioning	72.6%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	1,015,018.62	1	48,0106299
PlaLT1	Chemical_Mfg	Mfg. Plastics	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2,391,416.48	1	83,4951944
PlaLT2	Chemical_Mfg	Mfg. Plastics	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	1,045,234.97	1	142,926475
PlaLE3	Chemical_Mfg	Mfg. Plastics	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1,767,555.56	1	125,741767
PlaMT1	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1,605,792.42	1	5,80264394
PlaMT10	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	10	Material Handling	52.3%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0,68454605	0	20,911631
PlaMT11	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	11	Air Compressor Demand Reduction	28.0%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	10	3,172,358.03	1	66,5345737
PlaME12	Chemical_Mfg	Mfg. Plastics	Motors	Existing	12	Material Handling VFD	52.3%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	1,028,156.69	1	78,1743215
PlaME13	Chemical_Mfg	Mfg. Plastics	Motors	Existing	13	Motor Management Plan	51.6%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2,619,695.52	1	12,0520448
PlaMT15	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	15	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1,906,346.5	1	3,20428734
PlaMT16	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	16	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1,906,346.5	1	3,20428734
PlaMT17	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	17	Motors: Rewind 20-50 HP	4.6%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1,398,072.05	1	5,66205638
PlaMT18	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	18	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1,906,346.5	1	3,20428734
PlaMT19	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	19	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1,543,674.86	1	3,68815634
PlaMT2	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0,77398569	0	2,8386344
PlaMT20	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	20	Properly Sized Fans	14.7%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	10	1,838,583.62	1	43,5012555
PlaME21	Chemical_Mfg	Mfg. Plastics	Motors	Existing	21	Air Compressor Optimization	38.3%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	10	2,364,423.04	1	125,608436
PlaME22	Chemical_Mfg	Mfg. Plastics	Motors	Existing	22	Pump Energy Management	31.4%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	10	2,619,695.52	1	31,3075814
PlaMT23	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	23	Pump Equipment Upgrade	34.0%	20.0%	\$ 0.129	\$ 0.129	\$ 0.027	10	2,300,759.53	1	83,4868838
PlaME24	Chemical_Mfg	Mfg. Plastics	Motors	Existing	24	Pump System Optimization	15.6%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	12	1,223,196.21	1	61,6248795
PlaMT25	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	25	Switch from Belt drive to Direct Drive	10.4%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1,740,202.85	1	38,2052828
PlaMT26	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	26	Synchronous Belts	20.9%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1,426,021.18	1	4,67233403
PlaMT27	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	27	Efficient Centrifugal Fan	10.3%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	10	1,652,947.95	1	83,4868838
PlaMT28	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0,30222341	0	5,78174445
PlaMT29	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1,383,223.04	1	2,48826021
PlaME3	Chemical_Mfg	Mfg. Plastics	Motors	Existing	3	Fan System Optimization	28.9%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	10	1,242,681.09	1	32,0961096
PlaMT30	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0,50040778	0	4,73540418
PlaMT4	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	4	High Efficiency Compressor Motors	80.8%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	15	1,402,010.04	1	6,99754171
PlaMT5	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	5	High Efficiency Motors	74.4%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	1,119,004.32	1	9,46187645
PlaOT1	Chemical_Mfg	Mfg. Plastics	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	15	2,314,058.7	1	128,952712
PlaOE2	Chemical_Mfg	Mfg. Plastics	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	11	2,437,816.82	1	133,091611
PlaOE3	Chemical_Mfg	Mfg. Plastics	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	11	1,602,074.69	1	229,468294
PlaOE4	Chemical_Mfg	Mfg. Plastics	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	10	2,518,845.64	1	49,5108549
PlaOT5	Chemical_Mfg	Mfg. Plastics	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	15	1,435,970.9	1	10,1140747
MinMT1	Mining	Mining	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0,30222341	0	5,78174445
MinME10	Mining	Mining	Motors	Existing	10	Motor Management Plan	50.0%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2,619,695.52	1	12,0520448
MinMT12	Mining	Mining	Motors	Turnover	12	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1,906,346.5	1	3,20428734
MinMT13	Mining	Mining	Motors	Turnover	13	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1,906,346.5	1	3,20428734
MinMT14	Mining	Mining	Motors	Turnover	14	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1,398,072.05	1	5,66205638
MinMT15	Mining	Mining	Motors	Turnover	15	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1,906,346.5	1	3,20428734
MinMT16	Mining	Mining	Motors	Turnover	16	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1,543,674.86	1	3,68815634
MinMT17	Mining	Mining	Motors	Turnover	17	Switch from Belt drive to Direct Drive	10.5%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1,740,202.85	1	38,2052828
MinMT18	Mining	Mining	Motors	Turnover	18	Synchronous Belts	21.0%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1,426,021.18	1	4,67233403
MinMT2	Mining	Mining	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1,383,223.04	1	2,48826021
MinMT3	Mining	Mining	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0,50040778	0	4,73540418
MinMT4	Mining	Mining	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1,605,792.42	1	5,80264394
MinMT5	Mining	Mining	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0,77398569	0	2,8386344
MinMT6	Mining	Mining	Motors	Turnover	6	High Efficiency Motors	75.0%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	1,119,004.32	1	9,46187645
MinMT8	Mining	Mining	Motors	Turnover	8	Material Handling	53.0%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0,68454605	0	20,911631
MinME9	Mining	Mining	Motors	Existing	9	Material Handling VFD	53.0%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	1,028,156.69	1	78,1743215
NonCooT1	umber_Wood_Product	Other Non Mfg.	Process Cooling	Turnover	1	Equipment Chillers	7.7%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	15	1,773,900.49	1	112,5552
NonCooE2	umber_Wood_Product	Other Non Mfg.	Process Cooling	Existing	2	Improved Controls	32.3%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	15	0,55089367	0	37,7673308
NonCoo13	Agriculture	Other Non Mfg.	Process Cooling	Turnover	3	Milk Pre-cooler - Dairy Plate Cooler	1.7%	3.24%	\$ 0.660	\$ 0.487	\$ 0.173	15	0,91875546	0	20,4004769
NonCooT4	umber_Wood_Product	Other Non Mfg.	Process Cooling	Turnover	4	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	10	1,814,216.24	1	47,9081625
NonCooE5	umber_Wood_Product	Other Non Mfg.	Process Cooling	Existing	5	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	3	0,99416877	0	16,3738382
NonHeaT1	Agriculture	Other Non Mfg.	Process Heating	Turnover	1	Crate Heating Pads	22.9%	17.51%	\$ 0.181	\$ 0.162	\$ 0.019	15	3,058,859.06	1	110,24084
NonHeaT2	Agriculture	Other Non Mfg.	Process Heating	Turnover	2	Grain dryers	24.8%	23.52%	\$ 8.260	\$ 6.090	\$ 2.169	15	0,07597977	0	148,038589
NonHeaE3	Agriculture	Other Non Mfg.	Process Heating	Existing	3	Heat Lamp Setback (Microzone)	22.9%	0.45%	\$ 0.210	\$ 0.210	\$ -	15	2,674,266.65	1	2,83254981
NonHeaE4	Agriculture	Other Non Mfg.	Process Heating	Existing	4	Heat Lamp/Heating Pad Controller	22.9%	1.75%	\$ 0.129	\$ 0.129	\$ -	15	4,077,446.4	1	11,0154715
NonHeaT5	Agriculture	Other Non Mfg.	Process Heating	Turnover	5	Heat Lamps	22.9%	3.38%	\$ 0.023	\$ 0.023	\$ -	10	8,488,578.44	1	13,8589303
NonHeaE6	umber_Wood_Product	Other Non Mfg.	Process Heating	Existing	6	Improved Controls	37.9%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	10	1,521,820.65	1	124,963312
NonHeaE7	umber_Wood_Product	Other Non Mfg.													

Duquesne Industrial Measures

Measure Lookup	Industry	New Segment	New End-Use	Vintage	Measure Numbr	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Life	TRC Test	Economic Flag	NPV
NonHT3	Agriculture	Other Non Mfg.	HVAC	Turnover	3	Heat Reclaimer	1.7%	42.00%	\$ 0.171	\$ 0.126	\$ 0.045	15	3.27241269	1	269.982377
NonHT4	Agriculture	Other Non Mfg.	HVAC	Turnover	4	Heat Recovery Ventilators	49.7%	4.13%	\$ 0.448	\$ 0.330	\$ 0.118	10	0.88974442	0	17.8437113
NonHE5	umber_Wood_Product	Other Non Mfg.	HVAC	Existing	5	Improved Controls	32.8%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	3.30049318	1	87.8214701
NonHT6	Agriculture	Other Non Mfg.	HVAC	Turnover	6	Infrared Film for Greenhouses	0.3%	11.06%	\$ 0.261	\$ 0.234	\$ 0.028	4	0.59646653	0	18.8982493
NonHT7	Agriculture	Other Non Mfg.	HVAC	Turnover	7	Programmable Ventilation Controller	49.7%	0.10%	\$ 0.140	\$ 0.140	\$ -	10	2.55560817	1	0.42045361
NonHE8	umber_Wood_Product	Other Non Mfg.	HVAC	Existing	8	Commissioning	72.9%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	1.01501862	1	48.0106299
NonHT9	Agriculture	Other Non Mfg.	HVAC	Turnover	9	Scroll Compressor	1.7%	7.50%	\$ 1.006	\$ 0.809	\$ 0.107	15	0.62361578	0	48.2114027
NonLT1	umber_Wood_Product	Other Non Mfg.	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2.39141648	1	83.4951944
NonLT2	umber_Wood_Product	Other Non Mfg.	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	1.04523497	1	142.926475
NonLE3	umber_Wood_Product	Other Non Mfg.	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1.7675556	1	125.741767
NonMT1	Agriculture	Other Non Mfg.	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1.38322304	1	2.48826021
NonMT11	Agriculture	Other Non Mfg.	Motors	Turnover	11	Agricultural Exhaust Fans (Rate 21 CFM/Watt+)	49.7%	5.00%	\$ 0.316	\$ 0.283	\$ 0.034	15	1.86861554	1	31.882659
NonMT15	Agriculture	Other Non Mfg.	Motors	Turnover	15	Low Pressure Irrigation	0.4%	50.00%	\$ 0.993	\$ 0.732	\$ 0.261	10	0.41020888	0	208.71721
NonMT16	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	16	Material Handling	53.2%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0.68454605	0	20.911631
NonME17	umber_Wood_Product	Other Non Mfg.	Motors	Existing	17	Material Handling VFD	53.2%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	1.02815669	1	78.1743215
NonME18	umber_Wood_Product	Other Non Mfg.	Motors	Existing	18	Motor Management Plan	50.9%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.61969552	1	12.0520448
NonMT2	Other Non Mfg.	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0.50040778	0	4.73540418	
NonMT21	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	21	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.9063465	1	3.20428734
NonMT22	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	22	Air Compressor Demand Reduction	26.8%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	10	3.17235803	1	66.5345737
NonMT23	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	23	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.9063465	1	3.20428734
NonMT24	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	24	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1.39807205	1	5.62205638
NonMT25	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	25	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.9063465	1	3.20428734
NonMT26	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	26	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1.54367486	1	3.68815654
NonMT27	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	27	Properly Sized Fans	15.3%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	10	1.83858362	1	43.5012555
NonME28	umber_Wood_Product	Other Non Mfg.	Motors	Existing	28	Pump Energy Management	29.8%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.61969552	1	31.3075814
NonMT29	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	29	Pump Equipment Upgrade	32.3%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	10	2.30075953	1	83.4868838
NonMT3	Other Non Mfg.	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1.60579242	1	5.80264394	
NonME30	umber_Wood_Product	Other Non Mfg.	Motors	Existing	30	Pump System Optimization	14.9%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	12	1.22319621	1	61.6248795
NonMT31	Irrigation	Other Non Mfg.	Motors	Turnover	31	SIS	76.5%	7.5%	\$ 1.051	\$ 0.869	\$ 0.183	7	0.27710687	0	22.3673427
NonMT32	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	32	Air Compressor Equipment	17.6%	8.8%	\$ 0.157	\$ 0.130	\$ 0.027	10	2.29094977	1	36.6067622
NonMT33	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	33	Switch from Belt drive to Direct Drive	10.5%	7.5%	\$ 0.268	\$ 0.231	\$ 0.046	12	1.74020285	1	38.2052828
NonMT34	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	34	Synchronous Belts	20.9%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1.42021118	1	4.67233403
NonMT35	Irrigation	Other Non Mfg.	Motors	Turnover	35	System Improvements	85.0%	8.0%	\$ 0.416	\$ 0.344	\$ 0.072	5	0.47799704	0	16.8642743
NonMT36	Agriculture	Other Non Mfg.	Motors	Turnover	36	Variable Speed Drives for Dairy Vacuum Pumps	1.7%	36.89%	\$ 0.169	\$ 0.151	\$ 0.018	15	3.28487894	1	235.237336
NonMT37	Agriculture	Other Non Mfg.	Motors	Turnover	37	VFDs on Small Milking Machines	1.7%	3.22%	\$ 0.832	\$ 0.614	\$ 0.219	15	0.74390011	0	20.5634224
NonMT38	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	38	Wood: Replace Pneumatic Conveyor	50.2%	29.0%	\$ 0.018	\$ 0.016	\$ 0.002	10	9.69069372	1	121.055982
NonME39	umber_Wood_Product	Other Non Mfg.	Motors	Existing	39	Air Compressor Optimization	36.8%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	10	2.36642504	1	125.608434
NonMT4	Other Non Mfg.	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0.7398569	0	2.8386344	
NonMT40	Agriculture	Other Non Mfg.	Motors	Turnover	40	Automatic Milker Takeoff	1.7%	3.00%	\$ 0.763	\$ 0.563	\$ 0.200	15	0.80913281	0	19.1295954
NonMT41	Agriculture	Other Non Mfg.	Motors	Turnover	41	Circulating Fans	49.7%	5.00%	\$ 0.152	\$ 0.136	\$ 0.016	10	2.36236726	1	20.871721
NonMT42	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	42	Efficient Centrifugal Fan	10.7%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	10	1.65294795	1	83.4868838
NonMT43	Other Non Mfg.	Motors	Turnover	43	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0.30222341	0	5.78174445	
NonME5	umber_Wood_Product	Other Non Mfg.	Motors	Existing	5	Fan System Optimization	30.2%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	10	1.24268169	1	32.0961096
NonMT6	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	6	High efficiency Compressor motors	77.5%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	15	1.40201004	1	6.99754171
NonMT7	Irrigation	Other Non Mfg.	Motors	Turnover	7	High Efficiency Motors	74.7%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	1.11900432	1	9.46187645
NonMT8	Agriculture	Other Non Mfg.	Motors	Turnover	8	High Volume Low Speed Fans	49.7%	46.61%	\$ 2.004	\$ 1.883	\$ 0.120	15	0.31433787	0	297.223432
NonMT19	Agriculture	Other Non Mfg.	Motors	Turnover	9	High-Efficiency Ventilation System	49.7%	5.66%	\$ 1.366	\$ 1.366	\$ -	10	0.30010678	0	23.6331704
NonOT1	umber_Wood_Product	Other Non Mfg.	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	15	2.3140587	1	128.957217
NonOT10	umber_Wood_Product	Other Non Mfg.	Other	Turnover	10	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	15	1.4359709	1	10.1140747
NonOT12	Agriculture	Other Non Mfg.	Other	Turnover	2	Block Heater Timer	25.0%	2.50%	\$ 0.048	\$ 0.048	\$ -	10	5.62573407	1	10.3147614
NonOE3	umber_Wood_Product	Other Non Mfg.	Other	Existing	3	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	11	2.43781682	1	133.091611
NonOT4	Agriculture	Other Non Mfg.	Other	Turnover	4	Grain bin aeration control systems	24.8%	2.25%	\$ 0.168	\$ 0.124	\$ 0.044	15	3.28204184	1	14.2229175
NonOT5	Agriculture	Other Non Mfg.	Other	Turnover	5	Greenhouse Heat Curtain	0.3%	16.76%	\$ 0.056	\$ 0.056	\$ -	5	2.54134671	1	34.6689462
NonOT6	Agriculture	Other Non Mfg.	Other	Turnover	6	High Efficiency Stock tank	22.9%	3.75%	\$ 0.412	\$ 0.368	\$ 0.044	10	0.94362152	0	15.4721422
NonOE7	umber_Wood_Product	Other Non Mfg.	Other	Existing	7	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	11	1.60297469	1	229.468294
NonOT8	Agriculture	Other Non Mfg.	Other	Turnover	8	Livestock Waterers	22.9%	11.25%	\$ 0.327	\$ 0.292	\$ 0.035	10	1.17252299	1	46.4164265
NonOE9	umber_Wood_Product	Other Non Mfg.	Other	Existing	9	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	10	2.51884564	1	49.5108549
MetPT1	Mfg Metals	Process EC	Process EC	Turnover	1	Electrical-Chemical Plating Bundle, Tank and Rectifier	65.0%	18.5%	\$ 0.550	\$ 0.450	\$ 0.100	15	1.09470524	1	116.44927
MinHT1	Mining	Mining	HVAC	Turnover	1	Equipment Upgrades	62.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	2.00465036	1	105.4428
MinHE2	Mining	Mining	HVAC	Existing	2	Improved Controls	32.7%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	3.30049318	1	87.8214701
MinHE3	Mining	Mining	HVAC	Existing	3	Commissioning	72.6%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	1.01501862	1	48.0106299
MinLT1	Mining	Mining	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2.39141648	1	83.4951944
MinLT2	Mining	Mining	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	1.04523497	1	142.926475
MinLE3	Mining	Mining	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1.7675556	1	125.741767

Met-Ed Industrial Measures

Measure Lookup	New Segment	New End-Use	Vintage	Measure Number	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Co	Labor Cost	Life	TRC Test	Economic Flag
CheCooE1	Mfg. Chemicals	Process Cooling	Existing	1	Clean Room: Change Filter Strategy	10.0%	40.0%	\$ 0.016	\$ 0.012	\$ 0.005	1	0.845229031	0
CheCooE2	Mfg. Chemicals	Process Cooling	Existing	2	Clean Room: Chiller Optimize	28.3%	14.8%	\$ 0.248	\$ 0.124	\$ 0.124	10	1.277089473	1
CheCooE3	Mfg. Chemicals	Process Cooling	Turnover	3	Clean Room: Clean Room HVAC	30.0%	9.0%	\$ 0.204	\$ 0.144	\$ 0.061	15	2.61155315	1
CheCooE4	Mfg. Chemicals	Process Cooling	Turnover	4	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	15	1.686320303	0
CheCooE5	Mfg. Chemicals	Process Cooling	Existing	5	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	15	0.523959727	0
CheCooE6	Mfg. Chemicals	Process Cooling	Turnover	6	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	10	1.540530847	1
CheCooE7	Mfg. Chemicals	Process Cooling	Existing	7	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	3	0.863115423	0
CheCooE8	Mfg. Chemicals	Process Cooling	Turnover	8	Cold Storage Retrofit	25.6%	20.7%	\$ 0.250	\$ 0.157	\$ 0.093	10	1.267256532	1
CheCooE9	Mfg. Chemicals	Process Cooling	Existing	9	Cold Storage Tuneup	10.0%	15.6%	\$ 0.112	\$ 0.047	\$ 0.065	3	0.796147294	0
CheHeaE1	Mfg. Chemicals	Process Heating	Existing	1	Improved Controls	37.9%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	10	1.29224488	1
CheHeaE2	Mfg. Chemicals	Process Heating	Existing	2	Process Heat O&M	63.4%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	2	0.260593322	0
CheHT1	Mfg. Chemicals	HVAC	Turnover	1	Equipment Upgrades	62.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	1.936604358	1
CheHE2	Mfg. Chemicals	HVAC	Existing	2	Improved Controls	32.7%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	2.879820182	1
CheHE3	Mfg. Chemicals	HVAC	Existing	3	Recommissioning	72.6%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	0.882497463	0
CheLT1	Mfg. Chemicals	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2.083103268	1
CheLT2	Mfg. Chemicals	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	0.910478121	0
CheLE3	Mfg. Chemicals	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1.539673616	1
CheMT1	Mfg. Chemicals	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1.536529688	1
CheMT10	Mfg. Chemicals	Motors	Turnover	10	Material Handling	52.3%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0.587742834	0
CheMT11	Mfg. Chemicals	Motors	Turnover	11	Air Compressor Demand Reduction	28.0%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	10	2.723747645	1
CheME6	Mfg. Chemicals	Motors	Existing	6	Material Handling VFD	52.3%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	0.882762707	0
CheME13	Mfg. Chemicals	Motors	Existing	13	Motor Management Plan	51.6%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.249238401	1
CheMT15	Mfg. Chemicals	Motors	Turnover	15	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.824119948	1
CheMT16	Mfg. Chemicals	Motors	Turnover	16	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.824119948	1
CheMT17	Mfg. Chemicals	Motors	Turnover	17	Motors: Rewind 20-50 HP	4.6%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1.337768929	1
CheMT18	Mfg. Chemicals	Motors	Turnover	18	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.824119948	1
CheMT19	Mfg. Chemicals	Motors	Turnover	19	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1.477091452	1
CheMT2	Mfg. Chemicals	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0.740601322	0
CheMT20	Mfg. Chemicals	Motors	Turnover	20	Properly Sized Fans	14.7%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	10	1.578585319	1
CheME21	Mfg. Chemicals	Motors	Existing	21	Air Compressor Optimization	38.3%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	10	2.031783478	1
CheME22	Mfg. Chemicals	Motors	Existing	22	Pump Energy Management	31.4%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.249238401	1
CheMT23	Mfg. Chemicals	Motors	Turnover	23	Pump Equipment Upgrade	34.0%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	10	1.975403878	1
CheME24	Mfg. Chemicals	Motors	Existing	24	Pump System Optimization	15.6%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	12	1.123671222	1
CheMT25	Mfg. Chemicals	Motors	Turnover	25	Switch from Belt drive to Direct Drive	10.4%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1.59861177	1
CheMT26	Mfg. Chemicals	Motors	Turnover	26	Synchronous Belts	20.9%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1.224364273	1
CheMT27	Mfg. Chemicals	Motors	Turnover	27	Efficient Centrifugal Fan	10.3%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	10	1.419200809	1
CheMT28	Mfg. Chemicals	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0.289187588	0
CheMT29	Mfg. Chemicals	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1.32356041	1
CheME3	Mfg. Chemicals	Motors	Existing	3	Fan System Optimization	28.9%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	10	1.06695124	1
CheMT30	Mfg. Chemicals	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0.478823669	0
CheMT4	Mfg. Chemicals	Motors	Turnover	4	High efficiency Compressor motors	80.8%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	15	1.341537069	1
CheMT5	Mfg. Chemicals	Motors	Turnover	5	High Efficiency Motors	74.4%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	1.070738247	1
CheOT1	Mfg. Chemicals	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	15	2.208192407	1
CheOE2	Mfg. Chemicals	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	11	2.170338024	1
CheOE3	Mfg. Chemicals	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	11	1.426294042	1
CheOE4	Mfg. Chemicals	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	10	2.151371761	1
CheOT5	Mfg. Chemicals	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	15	1.370276408	1
ComCooE1	Mfg. Computers	Process Cooling	Existing	1	Clean Room: Change Filter Strategy	10.0%	40.0%	\$ 0.016	\$ 0.012	\$ 0.005	1	0.845229031	0
ComCooE10	Mfg. Computers	Process Cooling	Existing	10	Cold Storage Tuneup	10.0%	15.6%	\$ 0.112	\$ 0.047	\$ 0.065	3	0.796147294	0
ComCooE2	Mfg. Computers	Process Cooling	Existing	2	Clean Room: Chiller Optimize	28.3%	14.8%	\$ 0.248	\$ 0.124	\$ 0.124	10	1.277089473	1
ComCooT3	Mfg. Computers	Process Cooling	Turnover	3	Clean Room: Clean Room HVAC	30.0%	9.0%	\$ 0.204	\$ 0.144	\$ 0.061	15	2.61155315	1
ComCooT4	Mfg. Computers	Process Cooling	Turnover	4	Elec Chip Fab: Solidstate Chiller	20.0%	90.0%	\$ 0.634	\$ 0.562	\$ 0.072	10	0.529173671	0
ComCooT5	Mfg. Computers	Process Cooling	Turnover	5	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	15	1.686320303	1
ComCooE6	Mfg. Computers	Process Cooling	Existing	6	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	15	0.523959727	0
ComCooT7	Mfg. Computers	Process Cooling	Turnover	7	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	10	1.540530847	1
ComCooE8	Mfg. Computers	Process Cooling	Existing	8	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	3	0.863115423	0
ComCooT9	Mfg. Computers	Process Cooling	Turnover	9	Cold Storage Retrofit	25.6%	20.7%	\$ 0.250	\$ 0.157	\$ 0.093	10	1.267256532	1
ComHeaE1	Mfg. Computers	Process Heating	Existing	1	Improved Controls	41.5%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	10	1.29224488	1
ComHeaE2	Mfg. Computers	Process Heating	Existing	2	Process Heat O&M	69.5%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	2	0.260593322	0
ComHT1	Mfg. Computers	HVAC	Turnover	1	Equipment Upgrades	74.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	1.936604358	1
ComHE2	Mfg. Computers	HVAC	Existing	2	Improved Controls	38.9%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	2.879820182	1
ComHE3	Mfg. Computers	HVAC	Existing	3	Recommissioning	86.4%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	0.882497463	0
ComLT1	Mfg. Computers	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2.083103268	1

Met-Ed Industrial Measures

Measure Lookup	New Segment	New End-Use	Vintage	Measure Number	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Co	Labor Cost	Life	TRC Test	Economic Pay
ComLT2	Mfg. Computers	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	0.910478121	0
ComLE3	Mfg. Computers	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1.539673616	1
ComMT1	Mfg. Computers	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1.536529688	1
ComMT10	Mfg. Computers	Motors	Turnover	10	Material Handling	52.9%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0.587742834	0
ComMT11	Mfg. Computers	Motors	Turnover	11	Air Compressor Demand Reduction	25.5%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	10	2.723747645	1
ComME6	Mfg. Computers	Motors	Existing	6	Material Handling VFD	52.9%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	0.882762707	0
ComME13	Mfg. Computers	Motors	Existing	13	Motor Management Plan	49.2%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.249238401	1
ComMT15	Mfg. Computers	Motors	Turnover	15	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.824119948	1
ComMT16	Mfg. Computers	Motors	Turnover	16	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.824119948	1
ComMT17	Mfg. Computers	Motors	Turnover	17	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1.337768929	1
ComMT18	Mfg. Computers	Motors	Turnover	18	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.824119948	1
ComMT19	Mfg. Computers	Motors	Turnover	19	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1.477091452	1
ComMT2	Mfg. Computers	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0.740601322	0
ComMT20	Mfg. Computers	Motors	Turnover	20	Properly Sized Fans	14.8%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	10	1.578585319	1
ComME21	Mfg. Computers	Motors	Existing	21	Air Compressor Optimization	35.0%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	10	2.031783478	1
ComME22	Mfg. Computers	Motors	Existing	22	Pump Energy Management	30.1%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.249238401	1
ComMT23	Mfg. Computers	Motors	Turnover	23	Pump Equipment Upgrade	32.6%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	10	1.975403878	1
ComME24	Mfg. Computers	Motors	Existing	24	Pump System Optimization	15.0%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	12	1.123671222	1
ComMT25	Mfg. Computers	Motors	Turnover	25	Switch from Belt drive to Direct Drive	10.5%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	10	1.59861177	1
ComMT26	Mfg. Computers	Motors	Turnover	26	Synchronous Belts	20.8%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1.224364273	1
ComMT27	Mfg. Computers	Motors	Turnover	27	Efficient Centrifugal Fan	10.3%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	10	1.419200809	1
ComMT28	Mfg. Computers	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.9%	\$ 2.085	\$ 2.085	\$ -	15	0.289187588	0
ComMT29	Mfg. Computers	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1.32356041	1
ComME3	Mfg. Computers	Motors	Existing	3	Fan System Optimization	29.1%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	10	1.06695124	1
ComMT30	Mfg. Computers	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0.478823669	0
ComMT4	Mfg. Computers	Motors	Turnover	4	High efficiency Compressor motors	73.8%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	15	1.341537069	1
ComMT5	Mfg. Computers	Motors	Turnover	5	High Efficiency Motors	73.8%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	1.070738247	1
ComOT1	Mfg. Computers	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	15	2.208192407	1
ComOT2	Mfg. Computers	Other	Turnover	2	Elec Chip Fab: Eliminate Exhaust	80.1%	5.0%	\$ 0.233	\$ 0.206	\$ 0.026	10	1.36719376	1
ComOT3	Mfg. Computers	Other	Turnover	3	Elec Chip Fab: Exhaust Injector	35.0%	100.0%	\$ 0.561	\$ 0.498	\$ 0.064	10	0.60098198	0
ComCooT11	Mfg. Computers	Process Cooling	Turnover	11	Elec Chip Fab: Reduce Gas Pressure	5.0%	10.0%	\$ 0.063	\$ -	\$ 0.063	10	3.983670017	1
ComOE5	Mfg. Computers	Other	Existing	5	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	11	2.170338024	1
ComOE6	Mfg. Computers	Other	Existing	6	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	11	1.426294042	1
ComOE7	Mfg. Computers	Other	Existing	7	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	10	2.151371761	1
ComOT8	Mfg. Computers	Other	Turnover	8	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	15	1.370276408	1
FooCooT1	Mfg. Food	Process Cooling	Turnover	1	Equipment: Chillers	8.3%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	15	1.686320303	1
FooCooE2	Mfg. Food	Process Cooling	Existing	2	Improved Controls	35.2%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	15	0.523959727	0
FooCooT3	Mfg. Food	Process Cooling	Turnover	3	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	10	1.540530847	1
FooCooT4	Mfg. Food	Process Cooling	Turnover	4	Food: Cooling and Storage	15.0%	15.4%	\$ 0.258	\$ 0.162	\$ 0.096	10	1.232015596	1
FooCooT5	Mfg. Food	Process Cooling	Turnover	5	Food: Refrig Storage Tuneup	7.5%	14.4%	\$ 0.056	\$ 0.023	\$ 0.033	3	1.346108735	1
FooCooT6	Mfg. Food	Process Cooling	Turnover	6	Fruit Storage Refer Retrofit	60.7%	38.2%	\$ 0.214	\$ 0.135	\$ 0.079	10	1.456443919	1
FooCooT7	Mfg. Food	Process Cooling	Turnover	7	Fruit Storage Tuneup	10.0%	15.6%	\$ 0.056	\$ 0.023	\$ 0.033	3	1.346108735	1
FooCooE8	Mfg. Food	Process Cooling	Existing	8	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	3	0.863115423	0
FooHeaE1	Mfg. Food	Process Heating	Existing	1	Improved Controls	38.8%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	10	1.29224488	1
FooHeaE2	Mfg. Food	Process Heating	Existing	2	Process Heat O&M	65.0%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	2	0.260593322	0
FooHT1	Mfg. Food	HVAC	Turnover	1	Equipment Upgrades	62.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	1.936604358	1
FooHE2	Mfg. Food	HVAC	Existing	2	Improved Controls	32.7%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	2.879820182	1
FooHE3	Mfg. Food	HVAC	Existing	3	Recommissioning	72.6%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	0.882497463	0
FooLT1	Mfg. Food	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2.083103268	1
FooLT2	Mfg. Food	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	0.910478121	0
FooLE3	Mfg. Food	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1.539673616	1
FooME1	Mfg. Food	Motors	Existing	1	Fan System Optimization	29.6%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	10	1.06695124	1
FooME4	Mfg. Food	Motors	Existing	4	Material Handling VFD	51.6%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	0.882762707	0
FooME11	Mfg. Food	Motors	Existing	11	Motor Management Plan	48.9%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.249238401	1
FooMT13	Mfg. Food	Motors	Turnover	13	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.824119948	1
FooMT14	Mfg. Food	Motors	Turnover	14	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.824119948	1
FooMT15	Mfg. Food	Motors	Turnover	15	Motors: Rewind 20-50 HP	4.6%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1.337768929	1
FooMT16	Mfg. Food	Motors	Turnover	16	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.824119948	1
FooMT17	Mfg. Food	Motors	Turnover	17	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1.477091452	1
FooME18	Mfg. Food	Motors	Existing	18	Air Compressor Optimization	35.0%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	10	2.031783478	1
FooMT19	Mfg. Food	Motors	Turnover	19	Properly Sized Fans	15.0%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	10	1.578585319	1
FooMT2	Mfg. Food	Motors	Turnover	2	High efficiency Compressor motors	73.8%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	15	1.341537069	1
FooME20	Mfg. Food	Motors	Existing	20	Pump Energy Management	30.5%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.249238401	1

Met-Ed Industrial Measures

Measure Lookup	New Segment	New End-Use	Vintage	Measure Number	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Co	Labor Cost	Life	TRC Test	Economic Pay
FooMT121	Mfg. Food	Motors	Turnover	21	Pump Equipment Upgrade	33.0%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	10	1.975403878	1
FooME22	Mfg. Food	Motors	Existing	22	Pump System Optimization	15.2%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	12	1.123671222	1
FooMT23	Mfg. Food	Motors	Turnover	23	Switch from Belt drive to Direct Drive	10.2%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1.59861177	1
FooMT24	Mfg. Food	Motors	Turnover	24	Synchronous Belts	20.8%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1.224364273	1
FooMT25	Mfg. Food	Motors	Turnover	25	Efficient Centrifugal Fan	10.5%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	10	1.419200809	1
FooMT26	Mfg. Food	Motors	Turnover	26	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0.289187588	0
FooMT27	Mfg. Food	Motors	Turnover	27	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1.32356041	1
FooMT28	Mfg. Food	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0.478823669	0
FooMT29	Mfg. Food	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1.536529688	1
FooMT3	Mfg. Food	Motors	Turnover	3	High Efficiency Motors	74.0%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	1.070738247	1
FooMT30	Mfg. Food	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0.740601322	0
FooMT7	Mfg. Food	Motors	Turnover	7	Air Compressor Demand Reduction	25.5%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	10	2.723747645	1
FooMT9	Mfg. Food	Motors	Turnover	9	Material Handling	51.6%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0.587742834	0
FooOT1	Mfg. Food	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	15	2.208192407	1
FooOE2	Mfg. Food	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	11	2.170338024	1
FooOE3	Mfg. Food	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	11	1.426294042	1
FooOE4	Mfg. Food	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	10	2.151371761	1
FooOT5	Mfg. Food	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	15	1.370276408	1
MetCooT1	Mfg. Metals	Process Cooling	Turnover	1	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	15	1.686320303	1
MetCooE2	Mfg. Metals	Process Cooling	Existing	2	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	15	0.523959727	0
MetCooE3	Mfg. Metals	Process Cooling	Existing	3	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	3	0.863115423	0
MetHeaE1	Mfg. Metals	Process Heating	Existing	1	Improved Controls	40.1%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	10	1.29224488	1
MetHeaT2	Mfg. Metals	Process Heating	Turnover	2	Metal: New Arc Furnace	10.3%	45.0%	\$ 0.115	\$ 0.102	\$ 0.013	10	2.488920113	1
MetHeaE3	Mfg. Metals	Process Heating	Existing	3	Process Heat O&M	67.2%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	2	0.260593322	0
MetHT1	Mfg. Metals	HVAC	Turnover	1	Equipment Upgrades	64.7%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	1.936604358	1
MetHE2	Mfg. Metals	HVAC	Existing	2	Improved Controls	33.6%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	2.879820182	1
MetHE3	Mfg. Metals	HVAC	Existing	3	Recommissioning	74.7%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	0.882497463	0
MetLT1	Mfg. Metals	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2.083103268	1
MetLT2	Mfg. Metals	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	0.910478121	0
MetLE3	Mfg. Metals	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1.539673616	1
MetMT1	Mfg. Metals	Motors	Turnover	1	Air Compressor Demand Reduction	25.3%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	10	2.723747645	1
MetME10	Mfg. Metals	Motors	Existing	10	Motor Management Plan	49.1%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.249238401	1
MetME12	Mfg. Metals	Motors	Existing	12	Air Compressor Optimization	34.7%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	10	2.031783478	1
MetMT13	Mfg. Metals	Motors	Turnover	13	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.824119948	1
MetMT14	Mfg. Metals	Motors	Turnover	14	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.824119948	1
MetMT15	Mfg. Metals	Motors	Turnover	15	Motors: Rewind 20-50 HP	4.6%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1.337768929	1
MetMT16	Mfg. Metals	Motors	Turnover	16	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.824119948	1
MetMT17	Mfg. Metals	Motors	Turnover	17	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1.477091452	1
MetMT18	Mfg. Metals	Motors	Turnover	18	Properly Sized Fans	14.7%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	10	1.578585319	1
MetME19	Mfg. Metals	Motors	Existing	19	Pump Energy Management	29.8%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.249238401	1
MetMT2	Mfg. Metals	Motors	Turnover	2	High efficiency Compressor motors	73.1%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	15	1.341537069	1
MetMT20	Mfg. Metals	Motors	Turnover	20	Pump Equipment Upgrade	32.3%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	10	1.975403878	1
MetME21	Mfg. Metals	Motors	Existing	21	Pump System Optimization	14.9%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	12	1.123671222	1
MetMT22	Mfg. Metals	Motors	Turnover	22	Efficient Centrifugal Fan	10.3%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	10	1.419200809	1
MetMT23	Mfg. Metals	Motors	Turnover	23	Switch from Belt drive to Direct Drive	10.4%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1.59861177	1
MetMT24	Mfg. Metals	Motors	Turnover	24	Synchronous Belts	20.6%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1.224364273	1
MetMT25	Mfg. Metals	Motors	Turnover	25	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0.289187588	0
MetMT26	Mfg. Metals	Motors	Turnover	26	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1.32356041	1
MetMT27	Mfg. Metals	Motors	Turnover	27	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0.478823669	0
MetMT28	Mfg. Metals	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1.536529688	1
MetMT29	Mfg. Metals	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0.740601322	0
MetMT3	Mfg. Metals	Motors	Turnover	3	High Efficiency Motors	73.3%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	1.070738247	1
MetME30	Mfg. Metals	Motors	Existing	30	Fan System Optimization	29.0%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	10	1.06695124	1
MetMT8	Mfg. Metals	Motors	Turnover	8	Material Handling	52.4%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0.587742834	0
MetME4	Mfg. Metals	Motors	Existing	4	Material Handling VFD	18.7%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	0.882762707	0
MetOT1	Mfg. Metals	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	15	2.208192407	1
MetOE2	Mfg. Metals	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	11	2.170338024	1
MetOE3	Mfg. Metals	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	11	1.426294042	1
MetOE4	Mfg. Metals	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	10	2.151371761	1
MetOT5	Mfg. Metals	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	15	1.370276408	1
OrthCooT1	Mfg. Other	Process Cooling	Turnover	1	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	15	1.686320303	1
OrthCooE2	Mfg. Other	Process Cooling	Existing	2	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	15	0.523959727	0
OrthCooT3	Mfg. Other	Process Cooling	Turnover	3	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	10	1.540530847	1

Met-Ed Industrial Measures

Measure Lookup	New Segment	New End-Use	Vintage	Measure Number	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Co	Labor Cost	Life	TRC Test	Economic Flag
OthCooE4	Mfg. Other	Process Cooling	Existing	4	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	3	0.863115423	0
OthCooE5	Mfg. Other	Process Cooling	Turnover	5	Cold Storage Retrofit	25.6%	20.7%	\$ 0.250	\$ 0.157	\$ 0.093	10	1.267256532	1
OthCooE6	Mfg. Other	Process Cooling	Existing	6	Cold Storage Tuneup	10.0%	15.6%	\$ 0.112	\$ 0.047	\$ 0.065	3	0.796147294	0
OthHea1	Mfg. Other	Process Heating	existing	1	Improved Controls	41.7%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	10	1.29224488	1
OthHea2	Mfg. Other	Process Heating	existing	2	Process Heat O&M	69.8%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	2	0.260593322	0
OthHT1	Mfg. Other	HVAC	Turnover	1	Equipment Upgrades	64.4%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	1.936604358	1
OthHE2	Mfg. Other	HVAC	Existing	2	Improved Controls	33.4%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	2.879820182	1
OthHE3	Mfg. Other	HVAC	Existing	3	Recommissioning	74.3%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	0.882497463	0
OthLT1	Mfg. Other	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2.083103268	1
OthLT2	Mfg. Other	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	0.910478121	0
OthLE3	Mfg. Other	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1.539673616	1
OthMT1	Mfg. Other	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0.478823669	0
OthMT11	Mfg. Other	Motors	Turnover	11	Air Compressor Demand Reduction	26.0%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	10	2.723747645	1
OthMT12	Mfg. Other	Motors	Turnover	12	Material Handling	52.9%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0.587742834	0
OthME13	Mfg. Other	Motors	Existing	13	Material Handling VFD	52.9%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	0.882762707	0
OthME14	Mfg. Other	Motors	Existing	14	Motor Management Plan	50.0%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.249238401	1
OthMT16	Mfg. Other	Motors	Turnover	16	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.824119948	1
OthMT17	Mfg. Other	Motors	Turnover	17	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.824119948	1
OthMT18	Mfg. Other	Motors	Turnover	18	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1.337768929	1
OthMT19	Mfg. Other	Motors	Turnover	19	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.824119948	1
OthMT2	Mfg. Other	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1.536529688	1
OthMT20	Mfg. Other	Motors	Turnover	20	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1.477091452	1
OthMT21	Mfg. Other	Motors	Turnover	21	Air Compressor Equipment	17.0%	8.8%	\$ 0.157	\$ 0.130	\$ 0.027	10	1.966981338	1
OthMT22	Mfg. Other	Motors	Turnover	22	Properly Sized Fans	15.3%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	10	1.578585319	1
OthME23	Mfg. Other	Motors	Existing	23	Pump Energy Management	31.2%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.249238401	1
OthMT24	Mfg. Other	Motors	Turnover	24	Pump Equipment Upgrade	33.8%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	10	1.975403878	1
OthME25	Mfg. Other	Motors	Existing	25	Pump System Optimization	15.5%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	12	1.123671222	1
OthMT26	Mfg. Other	Motors	Turnover	26	Switch from Belt drive to Direct Drive	10.5%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1.59861177	1
OthMT27	Mfg. Other	Motors	Turnover	27	Synchronous Belts	21.4%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1.224364273	1
OthME28	Mfg. Other	Motors	Existing	28	Air Compressor Optimization	35.6%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	10	2.031783478	1
OthMT29	Mfg. Other	Motors	Turnover	29	Efficient Centrifugal Fan	10.7%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	10	1.419200809	1
OthMT3	Mfg. Other	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0.740601322	0
OthMT30	Mfg. Other	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0.289187588	0
OthMT31	Mfg. Other	Motors	Turnover	31	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1.32356041	1
OthME4	Mfg. Other	Motors	Existing	4	Fan System Optimization	30.1%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	10	1.06695124	1
OthMT5	Mfg. Other	Motors	Turnover	5	High efficiency Compressor motors	75.1%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	15	1.341537069	1
OthMT6	Mfg. Other	Motors	Turnover	6	High Efficiency Motors	75.6%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	1.070738247	1
OthOT1	Mfg. Other	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	15	2.208192407	1
OthOE2	Mfg. Other	Other	Existing	2	Energy Project Management	29.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	11	2.170338024	1
OthOE3	Mfg. Other	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	11	1.426294042	1
OthOE4	Mfg. Other	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	10	2.151371761	1
OthOT5	Mfg. Other	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	15	1.370276408	1
PapCooT1	Mfg. Paper	Process Cooling	Turnover	1	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	15	1.686320303	1
PapCooE2	Mfg. Paper	Process Cooling	Existing	2	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	15	0.523959727	0
PapCooT3	Mfg. Paper	Process Cooling	Turnover	3	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	10	1.540530847	1
PapCooE4	Mfg. Paper	Process Cooling	Existing	4	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	3	0.863115423	0
PapHeaE1	Mfg. Paper	Process Heating	Existing	1	Improved Controls	38.1%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	10	1.29224488	1
PapHeaE2	Mfg. Paper	Process Heating	Existing	2	Process Heat O&M	63.9%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	2	0.260593322	0
PapHT1	Mfg. Paper	HVAC	Turnover	1	Equipment Upgrades	62.4%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	1.936604358	1
PapHE2	Mfg. Paper	HVAC	Existing	2	Improved Controls	32.4%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	2.879820182	1
PapHE3	Mfg. Paper	HVAC	Existing	3	Recommissioning	72.0%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	0.882497463	0
PapLT1	Mfg. Paper	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2.083103268	1
PapLT2	Mfg. Paper	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	0.910478121	0
PapLE3	Mfg. Paper	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1.539673616	1
PapME1	Mfg. Paper	Motors	Existing	1	Fan System Optimization	30.2%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	10	1.06695124	1
PapME10	Mfg. Paper	Motors	Existing	10	Motor Management Plan	50.1%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.249238401	1
PapMT11	Mfg. Paper	Motors	Turnover	11	Air Compressor Demand Reduction	25.8%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	10	2.723747645	1
PapMT13	Mfg. Paper	Motors	Turnover	13	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.824119948	1
PapMT14	Mfg. Paper	Motors	Turnover	14	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.824119948	1
PapMT15	Mfg. Paper	Motors	Turnover	15	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1.337768929	1
PapMT16	Mfg. Paper	Motors	Turnover	16	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.824119948	1
PapMT17	Mfg. Paper	Motors	Turnover	17	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1.477091452	1
PapMT18	Mfg. Paper	Motors	Turnover	18	Paper: Large Material Handling	25.2%	9.7%	\$ 0.959	\$ 0.850	\$ 0.109	10	0.364258216	0

Met-Ed Industrial Measures

Measure Lookup	New Segment	New End-Use	Vintage	Measure Number	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Co	Labor Cost	Life	TRC Test	Economic Flag
PapMT19	Mfg. Paper	Motors	Turnover	19	Paper: Material Handling	25.2%	13.1%	\$ 0.801	\$ 0.710	\$ 0.091	10	0.433698294	0
PapMT2	Mfg. Paper	Motors	Turnover	2	High efficiency Compressor motors	74.7%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	15	1.341537069	1
PapMT20	Mfg. Paper	Motors	Turnover	20	Paper: Premium Control Large Material	25.2%	18.7%	\$ 0.549	\$ 0.486	\$ 0.062	10	0.624933918	0
PapME21	Mfg. Paper	Motors	Existing	21	Air Compressor Optimization	35.4%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	10	2.031783478	1
PapMT22	Mfg. Paper	Motors	Turnover	22	Paper: Premium Fan	25.5%	20.0%	\$ 0.227	\$ 0.201	\$ 0.026	10	1.424183361	1
PapMT23	Mfg. Paper	Motors	Turnover	23	Properly Sized Fans	15.3%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	10	1.578585319	1
PapME24	Mfg. Paper	Motors	Existing	24	Pump Energy Management	32.3%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.249238401	1
PapMT25	Mfg. Paper	Motors	Turnover	25	Pump Equipment Upgrade	34.9%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	10	1.975403878	1
PapME26	Mfg. Paper	Motors	Existing	26	Pump System Optimization	16.1%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	12	1.123671222	1
PapMT27	Mfg. Paper	Motors	Turnover	27	Switch from Belt drive to Direct Drive	10.6%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1.59861177	1
PapMT28	Mfg. Paper	Motors	Turnover	28	Synchronous Belts	21.4%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1.224364273	1
PapMT29	Mfg. Paper	Motors	Turnover	29	Efficient Centrifugal Fan	10.7%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	10	1.419200809	1
PapMT3	Mfg. Paper	Motors	Turnover	3	High Efficiency Motors	76.7%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	1.070738247	1
PapMT30	Mfg. Paper	Motors	Turnover	30	enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0.289187588	0
PapMT31	Mfg. Paper	Motors	Turnover	31	enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1.32356041	1
PapMT32	Mfg. Paper	Motors	Turnover	32	enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0.478823669	0
PapMT33	Mfg. Paper	Motors	Turnover	33	enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1.536529688	1
PapMT34	Mfg. Paper	Motors	Turnover	34	enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0.740601322	0
PapMT8	Mfg. Paper	Motors	Turnover	8	Material Handling	53.4%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0.587742834	0
PapME9	Mfg. Paper	Motors	Existing	9	Material Handling VFD	53.4%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	0.882762707	0
PapOT1	Mfg. Paper	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	15	2.208192407	1
PapOE10	Mfg. Paper	Other	Existing	10	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	10	2.151371761	1
PapOT11	Mfg. Paper	Other	Turnover	11	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	15	1.370276408	1
PapOE2	Mfg. Paper	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	11	2.170338024	1
PapOE3	Mfg. Paper	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	11	1.426294042	1
PapOT4	Mfg. Paper	Other	Turnover	4	Kraft: Efficient Agitator	13.8%	50.0%	\$ 0.104	\$ 0.093	\$ 0.012	10	2.721968594	1
PapOT5	Mfg. Paper	Other	Turnover	5	Kraft: Effluent Treatment System	9.2%	15.0%	\$ 0.092	\$ 0.082	\$ 0.011	10	2.999620748	1
PapOT6	Mfg. Paper	Other	Turnover	6	Mech Pulp: Premium Process	22.5%	0.2%	\$ 0.141	\$ 0.125	\$ 0.016	5	1.048487796	1
PapOT7	Mfg. Paper	Other	Turnover	7	Mech Pulp: Refiner Plate Improvement	35.5%	0.4%	\$ 0.045	\$ 0.040	\$ 0.005	1	0.511034625	0
PapOT8	Mfg. Paper	Other	Turnover	8	Mech Pulp: Refiner Replacement	23.7%	10.0%	\$ 0.735	\$ 0.652	\$ 0.084	12	0.606926984	0
PapOT9	Mfg. Paper	Other	Turnover	9	Paper: Efficient Pulp Screen	13.8%	15.0%	\$ 0.226	\$ 0.200	\$ 0.026	10	1.406347669	1
PlaCooE1	Mfg. Plastics	Process Cooling	Existing	1	Clean Room: Change Filter Strategy	10.0%	40.0%	\$ 0.016	\$ 0.012	\$ 0.005	1	0.845229031	0
PlaCooE2	Mfg. Plastics	Process Cooling	Existing	2	Clean Room: Chiller Optimize	28.3%	14.8%	\$ 0.248	\$ 0.124	\$ 0.124	10	1.277089473	1
PlaCooT3	Mfg. Plastics	Process Cooling	Turnover	3	Clean Room: Clean Room HVAC	30.0%	9.0%	\$ 0.204	\$ 0.144	\$ 0.061	15	2.61155315	1
PlaCooT4	Mfg. Plastics	Process Cooling	Turnover	4	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	15	1.686320303	1
PlaCooE5	Mfg. Plastics	Process Cooling	Existing	5	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	15	0.523959727	0
PlaCooT6	Mfg. Plastics	Process Cooling	Turnover	6	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	10	1.540530847	1
PlaCooE7	Mfg. Plastics	Process Cooling	Existing	7	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	3	0.863115423	0
PlaCooT8	Mfg. Plastics	Process Cooling	Turnover	8	Cold Storage Retrofit	25.6%	20.7%	\$ 0.250	\$ 0.157	\$ 0.093	10	1.267256532	1
PlaCooE9	Mfg. Plastics	Process Cooling	Existing	9	Cold Storage Tuneup	10.0%	15.6%	\$ 0.112	\$ 0.047	\$ 0.065	3	0.796147294	0
PlaHeaE1	Mfg. Plastics	Process Heating	Existing	1	Improved Controls	37.9%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	10	1.29224488	1
PlaHeaE2	Mfg. Plastics	Process Heating	Existing	2	Process Heat O&M	63.4%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	2	0.260593322	0
PlaHT1	Mfg. Plastics	HVAC	Turnover	1	Equipment Upgrades	62.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	1.936604358	1
PlaHE2	Mfg. Plastics	HVAC	Existing	2	Improved Controls	32.7%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	2.879820182	1
PlaHE3	Mfg. Plastics	HVAC	Existing	3	Recommissioning	72.6%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	0.882497463	0
PlaLT1	Mfg. Plastics	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2.083103268	1
PlaLT2	Mfg. Plastics	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	0.910478121	0
PlaLE3	Mfg. Plastics	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1.539673616	1
PlaMT1	Mfg. Plastics	Motors	Turnover	1	enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1.536529688	1
PlaMT10	Mfg. Plastics	Motors	Turnover	10	Material Handling	52.3%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0.587742834	0
PlaMT11	Mfg. Plastics	Motors	Turnover	11	Air Compressor Demand Reduction	28.0%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	10	2.723747645	1
PlaME12	Mfg. Plastics	Motors	Existing	12	Material Handling VFD	52.3%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	0.882762707	0
PlaME13	Mfg. Plastics	Motors	Existing	13	Motor Management Plan	51.6%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.249238401	1
PlaMT15	Mfg. Plastics	Motors	Turnover	15	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.824119948	1
PlaMT16	Mfg. Plastics	Motors	Turnover	16	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.824119948	1
PlaMT17	Mfg. Plastics	Motors	Turnover	17	Motors: Rewind 20-50 HP	4.6%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1.337768929	1
PlaMT18	Mfg. Plastics	Motors	Turnover	18	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.824119948	1
PlaMT19	Mfg. Plastics	Motors	Turnover	19	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1.477091452	1
PlaMT2	Mfg. Plastics	Motors	Turnover	2	enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0.740601322	0
PlaMT20	Mfg. Plastics	Motors	Turnover	20	Properly Sized Fans	14.7%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	10	1.578585319	1
PlaME21	Mfg. Plastics	Motors	Existing	21	Air Compressor Optimization	38.3%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	10	2.031783478	1
PlaME22	Mfg. Plastics	Motors	Existing	22	Pump Energy Management	31.4%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.249238401	1
PlaMT23	Mfg. Plastics	Motors	Turnover	23	Pump Equipment Upgrade	34.0%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	10	1.975403878	1

Met-Ed Industrial Measures

Measure Lookup	New Segment	New End-Use	Vintage	Measure Number	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Co	Labor Cost	Life	TRC Test	Economic Pay
PlaME24	Mfg. Plastics	Motors	Existing	24	Pump System Optimization	15.6%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	12	1.123671222	1
PlaMT25	Mfg. Plastics	Motors	Turnover	25	Switch from Belt drive to Direct Drive	10.4%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1.59861177	1
PlaMT26	Mfg. Plastics	Motors	Turnover	26	Synchronous Belts	20.9%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1.224364273	1
PlaMT27	Mfg. Plastics	Motors	Turnover	27	Efficient Centrifugal Fan	10.3%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	10	1.419200809	1
PlaMT28	Mfg. Plastics	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0.289187588	0
PlaMT29	Mfg. Plastics	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1.32356041	1
PlaME3	Mfg. Plastics	Motors	Existing	3	Fan System Optimization	28.9%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	10	1.06695124	1
PlaMT30	Mfg. Plastics	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0.478823669	0
PlaMT4	Mfg. Plastics	Motors	Turnover	4	High efficiency Compressor motors	80.8%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	15	1.341537069	1
PlaMT5	Mfg. Plastics	Motors	Turnover	5	High Efficiency Motors	74.4%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	1.070738247	1
PlaOT1	Mfg. Plastics	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	15	2.208192407	1
PlaOE2	Mfg. Plastics	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	11	2.170338024	1
PlaOE3	Mfg. Plastics	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	11	1.426294042	1
PlaOE4	Mfg. Plastics	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	10	2.151371761	1
PlaOT5	Mfg. Plastics	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	15	1.370276408	1
MinMT1	Mining	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0.289187588	0
MinME10	Mining	Motors	Existing	10	Motor Management Plan	50.0%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.249238401	1
MinMT12	Mining	Motors	Turnover	12	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.824119948	1
MinMT13	Mining	Motors	Turnover	13	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.824119948	1
MinMT14	Mining	Motors	Turnover	14	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1.337768929	1
MinMT15	Mining	Motors	Turnover	15	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.824119948	1
MinMT16	Mining	Motors	Turnover	16	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1.477091452	1
MinMT17	Mining	Motors	Turnover	17	Switch from Belt drive to Direct Drive	10.5%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1.59861177	1
MinMT18	Mining	Motors	Turnover	18	Synchronous Belts	21.0%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1.224364273	1
MinMT2	Mining	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1.32356041	1
MinMT3	Mining	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0.478823669	0
MinMT4	Mining	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1.536529688	1
MinMT5	Mining	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0.740601322	0
MinMT6	Mining	Motors	Turnover	6	High Efficiency Motors	75.0%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	1.070738247	1
MinMT8	Mining	Motors	Turnover	8	Material Handling	53.0%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0.587742834	0
MinME9	Mining	Motors	Existing	9	Material Handling VFD	53.0%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	0.882762707	0
NonCooT1	Other Non Mfg.	Process Cooling	Turnover	1	Equipment: Chillers	7.7%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	15	1.686320303	1
NonCooE2	Other Non Mfg.	Process Cooling	Existing	2	Improved Controls	32.3%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	15	0.523959727	0
NonCooT3	Other Non Mfg.	Process Cooling	Turnover	3	Milk Precooler - Dairy Plate Cooler	1.7%	3.24%	\$ 0.660	\$ 0.487	\$ 0.173	15	0.873836251	0
NonCooT4	Other Non Mfg.	Process Cooling	Turnover	4	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	10	1.540530847	1
NonCooE5	Other Non Mfg.	Process Cooling	Existing	5	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	3	0.863115423	0
NonHeaT1	Other Non Mfg.	Process Heating	Turnover	1	Crate Heating Pads	22.9%	17.51%	\$ 0.181	\$ 0.162	\$ 0.019	15	2.909307266	1
NonHeaT2	Other Non Mfg.	Process Heating	Turnover	2	Grain dryers	24.8%	23.52%	\$ 8.260	\$ 6.090	\$ 2.169	15	0.07265018	0
NonHeaE3	Other Non Mfg.	Process Heating	Existing	3	Heat Lamp Setback (Microzone)	22.9%	0.45%	\$ 0.210	\$ 0.210	\$ -	15	2.54351811	1
NonHeaE4	Other Non Mfg.	Process Heating	Existing	4	Heat Lamp/Heating Pad Controller	22.9%	1.75%	\$ 0.129	\$ 0.129	\$ -	15	3.87809449	1
NonHeaT5	Other Non Mfg.	Process Heating	Turnover	5	Heat Lamps	22.9%	3.38%	\$ 0.023	\$ 0.023	\$ -	10	7.208025509	1
NonHeaE6	Other Non Mfg.	Process Heating	Existing	6	Improved Controls	37.9%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	10	1.29224488	1
NonHeaE7	Other Non Mfg.	Process Heating	Existing	7	Process Heat O&M	63.4%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	2	0.260593322	0
NonHT1	Other Non Mfg.	HVAC	Turnover	1	Energy-Efficient Dehumidifier	49.7%	2.00%	\$ 1.072	\$ 0.791	\$ 0.282	15	0.565853559	0
NonHT2	Other Non Mfg.	HVAC	Turnover	2	Equipment Upgrades	63.2%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	1.936604358	1
NonHT3	Other Non Mfg.	HVAC	Turnover	3	Heat Reclaimer	1.7%	42.00%	\$ 0.171	\$ 0.126	\$ 0.045	15	3.161333671	1
NonHT4	Other Non Mfg.	HVAC	Turnover	4	Heat Recovery Ventilators	49.7%	4.13%	\$ 0.448	\$ 0.330	\$ 0.118	10	0.776339718	0
NonHE5	Other Non Mfg.	HVAC	Existing	5	Improved Controls	32.8%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	2.879820182	1
NonHT6	Other Non Mfg.	HVAC	Turnover	6	Infrared Film for Greenhouses	0.3%	11.06%	\$ 0.261	\$ 0.234	\$ 0.028	4	0.53544788	0
NonHT7	Other Non Mfg.	HVAC	Turnover	7	Programmable Ventilation Controller	49.7%	0.10%	\$ 0.140	\$ 0.140	\$ -	10	2.22987644	1
NonHE8	Other Non Mfg.	HVAC	Existing	8	Recommissioning	72.9%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	0.882497463	0
NonHT9	Other Non Mfg.	HVAC	Turnover	9	Scroll Compressor	1.7%	7.50%	\$ 1.006	\$ 0.899	\$ 0.107	15	0.602447717	0
NonLT1	Other Non Mfg.	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2.083103268	1
NonLT2	Other Non Mfg.	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	0.910478121	0
NonLE3	Other Non Mfg.	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1.539673616	1
NonMT1	Other Non Mfg.	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1.32356041	1
NonMT11	Other Non Mfg.	Motors	Turnover	11	Agricultural Exhaust Fans (Rate 21 CFM/Watt+)	49.7%	5.00%	\$ 0.316	\$ 0.283	\$ 0.034	15	1.788016443	1
NonMT15	Other Non Mfg.	Motors	Turnover	15	Low Pressure Irrigation	0.4%	50.00%	\$ 0.993	\$ 0.732	\$ 0.261	10	0.352200309	0
NonMT16	Other Non Mfg.	Motors	Turnover	16	Material Handling	53.2%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0.587742834	0
NonME17	Other Non Mfg.	Motors	Existing	17	Material Handling VFD	53.2%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	0.882762707	0
NonME18	Other Non Mfg.	Motors	Existing	18	Motor Management Plan	50.9%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.249238401	1
NonMT2	Other Non Mfg.	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0.478823669	0
NonMT21	Other Non Mfg.	Motors	Turnover	21	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.824119948	1

Met-Ed Industrial Measures

Measure Lookup	New Segment	New End-Use	Vintage	Measure Number	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Co	Labor Cost	Life	TRC Test	Economic Flag
NonMT22	Other Non Mfg.	Motors	Turnover	22	Air Compressor Demand Reduction	26.8%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	10	2.723747645	1
NonMT23	Other Non Mfg.	Motors	Turnover	23	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.824119948	1
NonMT24	Other Non Mfg.	Motors	Turnover	24	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1.337768929	1
NonMT25	Other Non Mfg.	Motors	Turnover	25	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.824119948	1
NonMT26	Other Non Mfg.	Motors	Turnover	26	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1.477091452	1
NonMT27	Other Non Mfg.	Motors	Turnover	27	Properly Sized Fans	15.3%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	10	1.578585319	1
NonME28	Other Non Mfg.	Motors	Existing	28	Pump Energy Management	29.8%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.249238401	1
NonMT29	Other Non Mfg.	Motors	Turnover	29	Pump Equipment Upgrade	32.3%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	10	1.975403878	1
NonMT30	Other Non Mfg.	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1.536529688	1
NonME30	Other Non Mfg.	Motors	Existing	30	Pump System Optimization	14.9%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	12	1.123671222	1
NonMT31	Other Non Mfg.	Motors	Turnover	31	SIS	76.5%	7.5%	\$ 1.051	\$ 0.869	\$ 0.183	7	0.235953581	0
NonMT32	Other Non Mfg.	Motors	Turnover	32	Air Compressor Equipment	17.6%	8.8%	\$ 0.157	\$ 0.130	\$ 0.027	10	1.966981338	1
NonMT33	Other Non Mfg.	Motors	Turnover	33	Switch from Belt drive to Direct Drive	10.5%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1.59861177	1
NonMT34	Other Non Mfg.	Motors	Turnover	34	Synchronous Belts	20.9%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1.224364273	1
NonMT35	Other Non Mfg.	Motors	Turnover	35	System Improvements	85.0%	8.0%	\$ 0.416	\$ 0.344	\$ 0.072	5	0.40595469	0
NonMT36	Other Non Mfg.	Motors	Turnover	36	Variable Speed Drives for Dairy Vacuum Pumps	1.7%	36.89%	\$ 0.169	\$ 0.151	\$ 0.018	15	3.143192077	1
NonMT37	Other Non Mfg.	Motors	Turnover	37	VFDs on Small Milking Machines	1.7%	3.22%	\$ 0.832	\$ 0.614	\$ 0.219	15	0.711813423	0
NonMT38	Other Non Mfg.	Motors	Turnover	38	Wood: Replace Pneumatic Conveyor	50.2%	29.0%	\$ 0.018	\$ 0.016	\$ 0.002	10	8.320310619	1
NonME39	Other Non Mfg.	Motors	Existing	39	Air Compressor Optimization	36.8%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	10	2.031783478	1
NonMT4	Other Non Mfg.	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0.740601322	0
NonMT40	Other Non Mfg.	Motors	Turnover	40	Automatic Milker Takeoff	1.7%	3.00%	\$ 0.763	\$ 0.563	\$ 0.200	15	0.774232442	0
NonMT41	Other Non Mfg.	Motors	Turnover	41	Circulating Fans	49.7%	5.00%	\$ 0.152	\$ 0.136	\$ 0.016	10	2.028299516	1
NonMT42	Other Non Mfg.	Motors	Turnover	42	Efficient Centrifugal Fan	10.7%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	10	1.419200809	1
NonMT43	Other Non Mfg.	Motors	Turnover	43	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0.289187588	0
NonME5	Other Non Mfg.	Motors	Existing	5	Fan System Optimization	30.2%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	10	1.06695124	1
NonMT6	Other Non Mfg.	Motors	Turnover	6	High efficiency Compressor motors	77.5%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	15	1.341537069	1
NonMT7	Other Non Mfg.	Motors	Turnover	7	High Efficiency Motors	74.7%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	1.070738247	1
NonMT8	Other Non Mfg.	Motors	Turnover	8	High Volume Low Speed Fans	49.7%	46.61%	\$ 2.004	\$ 1.883	\$ 0.120	15	0.300779518	0
NonMT9	Other Non Mfg.	Motors	Turnover	9	High-Efficiency Ventilation System	49.7%	5.66%	\$ 1.366	\$ 1.366	\$ -	10	0.257667993	0
NonOT1	Other Non Mfg.	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	15	2.208192407	1
NonOT10	Other Non Mfg.	Other	Turnover	10	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	15	1.370276408	1
NonOT2	Other Non Mfg.	Other	Turnover	2	Block Heater Timer	25.0%	2.50%	\$ 0.048	\$ 0.048	\$ -	10	4.804996871	1
NonOE3	Other Non Mfg.	Other	Existing	3	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	11	2.170338024	1
NonOT4	Other Non Mfg.	Other	Turnover	4	Grain bin aeration control systems	24.8%	2.25%	\$ 0.168	\$ 0.124	\$ 0.044	15	3.131891108	1
NonOT5	Other Non Mfg.	Other	Turnover	5	Greenhouse Heat Curtain	0.3%	16.76%	\$ 0.056	\$ 0.056	\$ -	5	2.142952028	1
NonOT6	Other Non Mfg.	Other	Turnover	6	High Efficiency Stock tank	22.9%	3.75%	\$ 0.412	\$ 0.368	\$ 0.044	10	0.805956768	0
NonOE7	Other Non Mfg.	Other	Existing	7	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	11	1.426294042	1
NonOT8	Other Non Mfg.	Other	Turnover	8	Livestock Waterers	22.9%	11.25%	\$ 0.327	\$ 0.292	\$ 0.035	10	1.001463847	1
NonOE9	Other Non Mfg.	Other	Existing	9	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	10	2.151371761	1
MetPT1	Mfg. Metals	Process EC	Turnover	1	Electrical-Chemical Plating Bundle, Tank and Rectifier	65.0%	18.5%	\$ 0.550	\$ 0.450	\$ 0.100	15	1.041183609	1
MinHT1	Mining	HVAC	Turnover	1	Equipment Upgrades	62.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	1.936604358	1
MinHE2	Mining	HVAC	Existing	2	Improved Controls	32.7%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	2.879820182	1
MinHE3	Mining	HVAC	Existing	3	Recommissioning	72.6%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	0.882497463	0
MinLT1	Mining	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2.083103268	1
MinLT2	Mining	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	0.910478121	0
MinLE3	Mining	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1.539673616	1

PECO Industrial Measures

Measure Lookup	Industry	New Segment	New End-Use	Vintage	Measure Number	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Life	TRC Test	Economic Flag
CheCooE1	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Existing	1	Clean Room: Change Filter Strategy	10.0%	40.0%	\$ 0.016	\$ 0.012	\$ 0.005	1	0.96	0
CheCooE2	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Existing	2	Clean Room: Chiller Optimize	28.3%	14.8%	\$ 0.248	\$ 0.124	\$ 0.124	10	1.36	1
CheCooT3	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Turnover	3	Clean Room: Clean Room HVAC	30.0%	9.0%	\$ 0.204	\$ 0.144	\$ 0.061	15	2.25	1
CheCooT4	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Turnover	4	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	15	1.45	1
CheCooT5	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Existing	5	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	15	0.45	0
CheCooT6	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Turnover	6	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	10	1.63	1
CheCooE7	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Existing	7	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	3	0.95	0
CheCooT8	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Turnover	8	Cold Storage Retrofit	25.6%	20.7%	\$ 0.250	\$ 0.157	\$ 0.093	10	1.34	1
CheCooE9	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Existing	9	Cold Storage Tuneup	10.0%	15.6%	\$ 0.112	\$ 0.047	\$ 0.065	3	0.87	0
CheHeaE1	Chemical_Mfg	Mfg. Chemicals	Process Heating	Existing	1	Improved Controls	37.9%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	10	1.37	1
CheHeaE2	Chemical_Mfg	Mfg. Chemicals	Process Heating	Existing	2	Process Heat O&M	63.4%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	2	0.29	0
CheHT1	Chemical_Mfg	Mfg. Chemicals	HVAC	Turnover	1	Equipment Upgrades	62.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	1.70	1
CheHE2	Chemical_Mfg	Mfg. Chemicals	HVAC	Existing	2	Improved Controls	32.7%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	3.08	1
CheHE3	Chemical_Mfg	Mfg. Chemicals	HVAC	Existing	3	Recommissioning	72.6%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	0.95	0
CheLT1	Chemical_Mfg	Mfg. Chemicals	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2.23	1
CheLT2	Chemical_Mfg	Mfg. Chemicals	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	0.97	0
CheLE3	Chemical_Mfg	Mfg. Chemicals	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1.64	1
CheMT1	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1.34	1
CheMT10	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	10	Material Handling	52.3%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0.63	0
CheMT11	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	11	Air Compressor Demand Reduction	28.0%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	10	2.91	1
CheME6	Chemical_Mfg	Mfg. Chemicals	Motors	Existing	6	Material Handling VFD	52.3%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	0.94	0
CheME13	Chemical_Mfg	Mfg. Chemicals	Motors	Existing	13	Motor Management Plan	51.6%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.41	1
CheMT15	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	15	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.60	1
CheMT16	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	16	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.60	1
CheMT17	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	17	Motors: Rewind 20-50 HP	4.6%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1.17	1
CheMT18	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	18	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.60	1
CheMT19	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	19	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1.29	1
CheMT12	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0.65	0
CheMT20	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	20	Properly Sized Fans	14.7%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	10	1.69	1
CheME21	Chemical_Mfg	Mfg. Chemicals	Motors	Existing	21	Air Compressor Optimization	38.3%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	10	2.17	1
CheME22	Chemical_Mfg	Mfg. Chemicals	Motors	Existing	22	Pump Energy Management	31.4%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.41	1
CheMT23	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	23	Pump Equipment Upgrade	34.0%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	10	2.11	1
CheME24	Chemical_Mfg	Mfg. Chemicals	Motors	Existing	24	Pump System Optimization	15.6%	12.1%	\$ 0.391	\$ 0.196	\$ 0.196	12	1.07	1
CheMT25	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	25	Switch from Belt drive to Direct Drive	10.4%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1.53	1
CheMT26	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	26	Synchronous Belts	20.9%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1.31	1
CheMT27	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	27	Efficient Centrifugal Fan	10.3%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	10	1.52	1
CheMT28	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0.25	0
CheMT29	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1.16	1
CheME3	Chemical_Mfg	Mfg. Chemicals	Motors	Existing	3	Fan System Optimization	28.9%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	10	1.14	1
CheMT30	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0.42	0
CheMT4	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	4	High efficiency Compressor motors	80.8%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	15	1.17	1
CheMT5	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	5	High Efficiency Motors	74.4%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	0.94	0
CheOT1	Chemical_Mfg	Mfg. Chemicals	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	15	1.91	1
CheOE2	Chemical_Mfg	Mfg. Chemicals	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	11	2.15	1
CheOE3	Chemical_Mfg	Mfg. Chemicals	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	11	1.42	1
CheOE4	Chemical_Mfg	Mfg. Chemicals	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	10	2.29	1
CheOT5	Chemical_Mfg	Mfg. Chemicals	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	15	1.18	1
ComCooE1	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Existing	1	Clean Room: Change Filter Strategy	10.0%	40.0%	\$ 0.016	\$ 0.012	\$ 0.005	1	0.96	0
ComCooE10	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Existing	10	Cold Storage Tuneup	10.0%	15.6%	\$ 0.112	\$ 0.047	\$ 0.065	3	0.87	0
ComCooE2	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Existing	2	Clean Room: Chiller Optimize	28.3%	14.8%	\$ 0.248	\$ 0.124	\$ 0.124	10	1.36	1
ComCooT3	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Turnover	3	Clean Room: Clean Room HVAC	30.0%	9.0%	\$ 0.204	\$ 0.144	\$ 0.061	15	2.25	1
ComCooT4	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Turnover	4	Elec Chip Fab: Solidstate Chiller	20.0%	90.0%	\$ 0.634	\$ 0.562	\$ 0.072	10	0.56	0
ComCooT5	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Turnover	5	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	15	1.45	1
ComCooE6	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Existing	6	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	15	0.45	0
ComCooT7	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Turnover	7	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	10	1.63	1
ComCooE8	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Existing	8	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	3	0.95	0
ComCooT9	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Turnover	9	Cold Storage Retrofit	25.6%	20.7%	\$ 0.250	\$ 0.157	\$ 0.093	10	1.34	1
ComHeaE1	Electronic_Equipment_M	Mfg. Computers	Process Heating	Existing	1	Improved Controls	41.5%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	10	1.37	1
ComHeaE2	Electronic_Equipment_M	Mfg. Computers	Process Heating	Existing	2	Process Heat O&M	69.5%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	2	0.29	0
ComHT1	Electronic_Equipment_M	Mfg. Computers	HVAC	Turnover	1	Equipment Upgrades	74.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	1.70	1
ComHE2	Electronic_Equipment_M	Mfg. Computers	HVAC	Existing	2	Improved Controls	38.9%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	3.08	1
ComHE3	Electronic_Equipment_M	Mfg. Computers	HVAC	Existing	3	Recommissioning	86.4%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	0.95	0
ComLT1	Electronic_Equipment_M	Mfg. Computers	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2.23	1
ComLT2	Electronic_Equipment_M	Mfg. Computers	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	0.97	0
ComLE3	Electronic_Equipment_M	Mfg. Computers	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1.64	1
ComMT1	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1.34	1
ComMT10	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	10	Material Handling	52.9%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0.63	0
ComMT11	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	11	Air Compressor Demand Reduction	25.5%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	10	2.91	1
ComME6	Electronic_Equipment_M	Mfg. Computers	Motors	Existing	6	Material Handling VFD	52.9%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	0.94	0
ComME13	Electronic_Equipment_M	Mfg. Computers	Motors	Existing	13	Motor Management Plan	49.2%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.41	1

PECO Industrial Measures

Measure Lookup	Industry	New Segment	New End-Use	Vintage	Measure Number	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Life	TRC Test	Economic Flag
ComMT15	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	15	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.60	1
ComMT16	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	16	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.60	1
ComMT17	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	17	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1.17	1
ComMT18	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	18	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.60	1
ComMT19	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	19	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1.29	1
ComMT2	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0.65	0
ComMT20	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	20	Properly Sized Fans	14.8%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	10	1.69	1
ComME21	Electronic_Equipment_M	Mfg. Computers	Motors	Existing	21	Air Compressor Optimization	35.0%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	10	2.17	1
ComME22	Electronic_Equipment_M	Mfg. Computers	Motors	Existing	22	Pump Energy Management	30.1%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.41	1
ComMT23	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	23	Pump Equipment Upgrade	32.6%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	10	2.11	1
ComME24	Electronic_Equipment_M	Mfg. Computers	Motors	Existing	24	Pump System Optimization	15.0%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	12	1.07	1
ComMT25	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	25	Switch from Belt drive to Direct Drive	10.5%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1.53	1
ComMT26	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	26	Synchronous Belts	20.8%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1.31	1
ComMT27	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	27	Efficient Centrifugal Fan	10.3%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	10	1.52	1
ComMT28	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0.25	0
ComMT29	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1.16	1
ComME3	Electronic_Equipment_M	Mfg. Computers	Motors	Existing	3	Fan System Optimization	29.1%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	10	1.14	1
ComMT30	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0.42	0
ComMT4	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	4	High efficiency Compressor motors	73.8%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	15	1.17	1
ComMT5	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	5	High Efficiency Motors	73.8%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	0.94	0
ComOT1	Electronic_Equipment_M	Mfg. Computers	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	15	1.91	1
ComOT2	Electronic_Equipment_M	Mfg. Computers	Other	Turnover	2	Elec Chip Fab: Eliminate Exhaust	80.1%	5.0%	\$ 0.233	\$ 0.206	\$ 0.026	10	1.45	1
ComOT3	Electronic_Equipment_M	Mfg. Computers	Other	Turnover	3	Elec Chip Fab: Exhaust Injector	35.0%	100.0%	\$ 0.561	\$ 0.498	\$ 0.064	10	0.64	0
ComCooT11	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Turnover	11	Elec Chip Fab: Reduce Gas Pressure	5.0%	10.0%	\$ 0.063	\$ -	\$ 0.063	10	4.23	1
ComOE5	Electronic_Equipment_M	Mfg. Computers	Other	Existing	5	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	11	2.15	1
ComOE6	Electronic_Equipment_M	Mfg. Computers	Other	Existing	6	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	11	1.42	1
ComOE7	Electronic_Equipment_M	Mfg. Computers	Other	Existing	7	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	10	2.29	1
ComOT8	Electronic_Equipment_M	Mfg. Computers	Other	Turnover	8	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	15	1.18	1
FooCooT1	Food_Mfg	Mfg. Food	Process Cooling	Turnover	1	Equipment: Chillers	8.3%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	15	1.45	1
FooCoo2	Food_Mfg	Mfg. Food	Process Cooling	Existing	2	Improved Controls	35.2%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	15	0.45	0
FooCoo3	Food_Mfg	Mfg. Food	Process Cooling	Turnover	3	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	10	1.63	1
FooCoo4	Food_Mfg	Mfg. Food	Process Cooling	Turnover	4	Food: Cooling and Storage	15.0%	15.4%	\$ 0.258	\$ 0.162	\$ 0.096	10	1.31	1
FooCoo5	Food_Mfg	Mfg. Food	Process Cooling	Turnover	5	Food: Refrig Storage Tunecup	7.5%	14.4%	\$ 0.056	\$ 0.023	\$ 0.033	3	1.48	1
FooCoo6	Food_Mfg	Mfg. Food	Process Cooling	Turnover	6	Fruit Storage Refer Retrofit	60.7%	38.2%	\$ 0.214	\$ 0.135	\$ 0.079	10	1.55	1
FooCoo7	Food_Mfg	Mfg. Food	Process Cooling	Turnover	7	Fruit Storage Tunecup	10.0%	15.6%	\$ 0.056	\$ 0.023	\$ 0.033	3	1.48	1
FooCoo8	Food_Mfg	Mfg. Food	Process Cooling	Existing	8	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	3	0.95	0
FooHeat1	Food_Mfg	Mfg. Food	Process Heating	Existing	1	Improved Controls	38.8%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	10	1.37	1
FooHeat2	Food_Mfg	Mfg. Food	Process Heating	Existing	2	Process Heat O&M	65.0%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	2	0.29	0
FooHT1	Food_Mfg	Mfg. Food	HVAC	Turnover	1	Equipment Upgrades	62.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	1.70	1
FooHE2	Food_Mfg	Mfg. Food	HVAC	Existing	2	Improved Controls	32.7%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	3.08	1
FooHE3	Food_Mfg	Mfg. Food	HVAC	Existing	3	Recommissioning	72.6%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	0.95	0
FooLT1	Food_Mfg	Mfg. Food	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2.23	1
FooLT2	Food_Mfg	Mfg. Food	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	0.97	0
FooLE3	Food_Mfg	Mfg. Food	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1.64	1
FooME1	Food_Mfg	Mfg. Food	Motors	Existing	1	Fan System Optimization	29.6%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	10	1.14	1
FooME4	Food_Mfg	Mfg. Food	Motors	Existing	4	Material Handling VFD	51.6%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	0.94	0
FooME11	Food_Mfg	Mfg. Food	Motors	Existing	11	Motor Management Plan	48.9%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.41	1
FooMT13	Food_Mfg	Mfg. Food	Motors	Turnover	13	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.60	1
FooMT14	Food_Mfg	Mfg. Food	Motors	Turnover	14	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.60	1
FooMT15	Food_Mfg	Mfg. Food	Motors	Turnover	15	Motors: Rewind 20-50 HP	4.6%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1.17	1
FooMT16	Food_Mfg	Mfg. Food	Motors	Turnover	16	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.60	1
FooMT17	Food_Mfg	Mfg. Food	Motors	Turnover	17	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1.29	1
FooME18	Food_Mfg	Mfg. Food	Motors	Existing	18	Air Compressor Optimization	35.0%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	10	2.17	1
FooMT19	Food_Mfg	Mfg. Food	Motors	Turnover	19	Properly Sized Fans	15.0%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	10	1.69	1
FooMT2	Food_Mfg	Mfg. Food	Motors	Turnover	2	High efficiency Compressor motors	73.8%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	15	1.17	1
FooME20	Food_Mfg	Mfg. Food	Motors	Existing	20	Pump Energy Management	30.5%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.41	1
FooMT21	Food_Mfg	Mfg. Food	Motors	Turnover	21	Pump Equipment Upgrade	33.0%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	10	2.11	1
FooME22	Food_Mfg	Mfg. Food	Motors	Existing	22	Pump System Optimization	15.2%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	12	1.07	1
FooMT23	Food_Mfg	Mfg. Food	Motors	Turnover	23	Switch from Belt drive to Direct Drive	10.2%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1.53	1
FooMT24	Food_Mfg	Mfg. Food	Motors	Turnover	24	Synchronous Belts	20.8%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1.31	1
FooMT25	Food_Mfg	Mfg. Food	Motors	Turnover	25	Efficient Centrifugal Fan	10.5%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	10	1.52	1
FooMT26	Food_Mfg	Mfg. Food	Motors	Turnover	26	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0.25	0
FooMT27	Food_Mfg	Mfg. Food	Motors	Turnover	27	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1.16	1
FooMT28	Food_Mfg	Mfg. Food	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0.42	0
FooMT29	Food_Mfg	Mfg. Food	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1.34	1
FooMT3	Food_Mfg	Mfg. Food	Motors	Turnover	3	High Efficiency Motors	74.0%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	0.94	0
FooMT30	Food_Mfg	Mfg. Food	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0.65	0
FooMT7	Food_Mfg	Mfg. Food	Motors	Turnover	7	Air Compressor Demand Reduction	25.5%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	10	2.91	1
FooMT9	Food_Mfg	Mfg. Food	Motors	Turnover	9	Material Handling	51.6%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0.63	0
FooOT1	Food_Mfg	Mfg. Food	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	15	1.91	1

PECO Industrial Measures

Measure Lookup	Industry	New Segment	New End-Use	Vintage	Measure Number	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Life	TRC Test	Economic Flag
FooOE2	Food_Mfg	Mfg. Food	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	11	2.15	1
FooOE3	Food_Mfg	Mfg. Food	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	11	1.42	1
FooOE4	Food_Mfg	Mfg. Food	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	10	2.29	1
FooOT5	Food_Mfg	Mfg. Food	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	15	1.18	1
MetCooT1	Primary_Metal_Mfg	Mfg. Metals	Process Cooling	Turnover	1	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	15	1.45	1
MetCooE2	Primary_Metal_Mfg	Mfg. Metals	Process Cooling	existing	2	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	15	0.45	0
MetCooE3	Primary_Metal_Mfg	Mfg. Metals	Process Cooling	Existing	3	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	3	0.95	0
MetHeaE1	Primary_Metal_Mfg	Mfg. Metals	Process Heating	Existing	1	Improved Controls	40.1%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	10	1.37	1
MetHeaT2	Primary_Metal_Mfg	Mfg. Metals	Process Heating	Turnover	2	Metal: New Arc Furnace	10.3%	45.0%	\$ 0.115	\$ 0.102	\$ 0.013	10	2.64	1
MetHeaE3	Primary_Metal_Mfg	Mfg. Metals	Process Heating	Existing	3	Process Heat O&M	67.2%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	2	0.29	0
MetHT1	Primary_Metal_Mfg	Mfg. Metals	HVAC	Turnover	1	Equipment Upgrades	64.7%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	1.70	1
MetHE2	Primary_Metal_Mfg	Mfg. Metals	HVAC	Existing	2	Improved Controls	33.6%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	3.08	1
MetHE3	Primary_Metal_Mfg	Mfg. Metals	HVAC	Existing	3	Recommissioning	74.7%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	0.95	0
MetLT1	Primary_Metal_Mfg	Mfg. Metals	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2.23	1
MetLT2	Primary_Metal_Mfg	Mfg. Metals	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	0.97	0
MetLE3	Primary_Metal_Mfg	Mfg. Metals	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1.64	1
MetMT1	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	1	Air Compressor Demand Reduction	25.3%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	10	2.91	1
MetME10	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	10	Motor Management Plan	49.1%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.41	1
MetME12	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	12	Air Compressor Optimization	34.7%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	10	2.17	1
MetMT13	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	13	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.60	1
MetMT14	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	14	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.60	1
MetMT15	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	15	Motors: Rewind 20-50 HP	4.6%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1.17	1
MetMT16	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	16	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.60	1
MetMT17	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	17	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1.29	1
MetMT18	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	18	Properly Sized Fans	14.7%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	10	1.69	1
MetME19	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	19	Pump Energy Management	29.8%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.41	1
MetMT2	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	2	High efficiency Compressor motors	73.1%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	15	1.17	1
MetMT20	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	20	Pump Equipment Upgrade	32.3%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	10	2.11	1
MetME21	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	21	Pump System Optimization	14.9%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	12	1.07	1
MetMT22	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	22	Efficient Centrifugal Fan	10.3%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	10	1.52	1
MetMT23	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	23	Switch from Belt drive to Direct Drive	10.4%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1.53	1
MetMT24	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	24	Synchronous Belts	20.6%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1.31	1
MetMT25	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	25	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0.25	0
MetMT26	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	26	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1.16	1
MetMT27	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	27	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0.42	0
MetMT28	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1.34	1
MetMT29	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0.65	0
MetMT3	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	3	High Efficiency Motors	73.3%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	0.94	0
MetME30	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	30	Fan System Optimization	29.0%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	10	1.14	1
MetMT8	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	8	Material Handling	52.4%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0.63	0
MetME4	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	4	Material Handling VFD	52.4%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	0.94	0
MetOT1	Primary_Metal_Mfg	Mfg. Metals	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	15	1.91	1
MetOE2	Primary_Metal_Mfg	Mfg. Metals	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	11	2.15	1
MetOE3	Primary_Metal_Mfg	Mfg. Metals	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	11	1.42	1
MetOE4	Primary_Metal_Mfg	Mfg. Metals	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	10	2.29	1
MetOT5	Primary_Metal_Mfg	Mfg. Metals	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	15	1.18	1
OthCooT1	Miscellaneous_Mfg	Mfg. Other	Process Cooling	Turnover	1	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	15	1.45	1
OthCooE2	Miscellaneous_Mfg	Mfg. Other	Process Cooling	Existing	2	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	15	0.45	0
OthCooT3	one_Clay_Glass_Products	Mfg. Other	Process Cooling	Turnover	3	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	10	1.63	1
OthCooE4	Miscellaneous_Mfg	Mfg. Other	Process Cooling	Existing	4	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	3	0.95	0
OthCooT5	Miscellaneous_Mfg	Mfg. Other	Process Cooling	Turnover	5	Cold Storage Retrofit	25.6%	20.7%	\$ 0.250	\$ 0.157	\$ 0.093	10	1.34	1
OthCooE6	Miscellaneous_Mfg	Mfg. Other	Process Cooling	Existing	6	Cold Storage Tuneup	10.0%	15.6%	\$ 0.112	\$ 0.047	\$ 0.065	3	0.87	0
OthHeaE1	Miscellaneous_Mfg	Mfg. Other	Process Heating	existing	1	Improved Controls	41.7%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	10	1.37	1
OthHeaE2	Miscellaneous_Mfg	Mfg. Other	Process Heating	existing	2	Process Heat O&M	69.8%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	2	0.29	0
OthHT1	Miscellaneous_Mfg	Mfg. Other	HVAC	Turnover	1	Equipment Upgrades	64.4%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	1.70	1
OthHE2	Miscellaneous_Mfg	Mfg. Other	HVAC	Existing	2	Improved Controls	33.4%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	3.08	1
OthHE3	Miscellaneous_Mfg	Mfg. Other	HVAC	Existing	3	Recommissioning	74.3%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	0.95	0
OthLT1	Miscellaneous_Mfg	Mfg. Other	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2.23	1
OthLT2	Miscellaneous_Mfg	Mfg. Other	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	0.97	0
OthLE3	Miscellaneous_Mfg	Mfg. Other	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1.64	1
OthMT1	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0.42	0
OthMT11	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	11	Air Compressor Demand Reduction	26.0%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	10	2.91	1
OthMT12	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	12	Material Handling	52.9%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0.63	0
OthME13	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	13	Material Handling VFD	52.9%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	0.94	0
OthME14	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	14	Motor Management Plan	50.0%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.41	1
OthMT16	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	16	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.60	1
OthMT17	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	17	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.60	1
OthMT18	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	18	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1.17	1
OthMT19	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	19	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.60	1
OthMT2	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1.34	1

PECO Industrial Measures

Measure Lookup	Industry	New Segment	New End-Use	Vintage	Measure Number	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Life	TRC Test	Economic Flag
OthMT20	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	20	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1.29	1
OthMT21	one_Clay_Glass_Prod	Mfg. Other	Motors	Turnover	21	Air Compressor Equipment	17.0%	8.8%	\$ 0.157	\$ 0.130	\$ 0.027	10	2.10	1
OthMT22	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	22	Properly Sized Fans	15.3%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	10	1.69	1
OthME23	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	23	Pump Energy Management	31.2%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.41	1
OthMT24	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	24	Pump Equipment Upgrade	33.8%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	10	2.11	1
OthME25	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	25	Pump System Optimization	15.5%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	12	1.07	1
OthMT26	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	26	Switch from Belt drive to Direct Drive	10.5%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1.53	1
OthMT27	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	27	Synchronous Belts	21.4%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1.31	1
OthME28	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	28	Air Compressor Optimization	35.6%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	10	2.17	1
OthMT29	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	29	Efficient Centrifugal Fan	10.7%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	10	1.52	1
OthMT3	Mfg. Other	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0.65	0	
OthMT30	Mfg. Other	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0.25	0	
OthMT31	Mfg. Other	Motors	Turnover	31	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1.16	1	
OthME4	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	4	Fan System Optimization	30.1%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	10	1.14	1
OthMT5	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	5	High efficiency Compressor motors	75.1%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	15	1.17	1
OthMT6	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	6	High Efficiency Motors	75.6%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	0.94	0
OthOT1	Miscellaneous_Mfg	Mfg. Other	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	15	1.91	1
OthOE2	Miscellaneous_Mfg	Mfg. Other	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	11	2.15	1
OthOE3	Miscellaneous_Mfg	Mfg. Other	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	11	1.42	1
OthOE4	Miscellaneous_Mfg	Mfg. Other	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	10	2.29	1
OthOT5	Miscellaneous_Mfg	Mfg. Other	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	15	1.18	1
PapCooT1	Paper_Mfg	Mfg. Paper	Process Cooling	Turnover	1	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	15	1.45	1
PapCooE2	Paper_Mfg	Mfg. Paper	Process Cooling	Existing	2	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	15	0.45	0
PapCooT3	Paper_Mfg	Mfg. Paper	Process Cooling	Turnover	3	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	10	1.63	1
PapCooE4	Paper_Mfg	Mfg. Paper	Process Cooling	Existing	4	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	3	0.95	0
PapHeaE1	Paper_Mfg	Mfg. Paper	Process Heating	Existing	1	Improved Controls	38.1%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	10	1.37	1
PapHeaE2	Paper_Mfg	Mfg. Paper	Process Heating	Existing	2	Process Heat O&M	63.9%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	2	0.29	0
PapHT1	Paper_Mfg	Mfg. Paper	HVAC	Turnover	1	Equipment Upgrades	62.4%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	1.70	1
PapHE2	Paper_Mfg	Mfg. Paper	HVAC	Existing	2	Improved Controls	32.4%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	3.08	1
PapHE3	Paper_Mfg	Mfg. Paper	HVAC	Existing	3	Recommissioning	72.0%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	0.95	0
PapLT1	Paper_Mfg	Mfg. Paper	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2.23	1
PapLT2	Paper_Mfg	Mfg. Paper	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	0.97	0
PapLE3	Paper_Mfg	Mfg. Paper	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1.64	1
PapME1	Paper_Mfg	Mfg. Paper	Motors	Existing	1	Fan System Optimization	30.2%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	10	1.14	1
PapME10	Paper_Mfg	Mfg. Paper	Motors	Existing	10	Motor Management Plan	50.1%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.41	1
PapMT11	Paper_Mfg	Mfg. Paper	Motors	Turnover	11	Air Compressor Demand Reduction	25.8%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	10	2.91	1
PapMT13	Paper_Mfg	Mfg. Paper	Motors	Turnover	13	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.60	1
PapMT14	Paper_Mfg	Mfg. Paper	Motors	Turnover	14	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.60	1
PapMT15	Paper_Mfg	Mfg. Paper	Motors	Turnover	15	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1.17	1
PapMT16	Paper_Mfg	Mfg. Paper	Motors	Turnover	16	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.60	1
PapMT17	Paper_Mfg	Mfg. Paper	Motors	Turnover	17	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1.29	1
PapMT18	Paper_Mfg	Mfg. Paper	Motors	Turnover	18	Paper: Large Material Handling	25.2%	9.7%	\$ 0.959	\$ 0.850	\$ 0.109	10	0.39	0
PapMT19	Paper_Mfg	Mfg. Paper	Motors	Turnover	19	Paper: Material Handling	25.2%	13.1%	\$ 0.801	\$ 0.710	\$ 0.091	10	0.46	0
PapMT2	Paper_Mfg	Mfg. Paper	Motors	Turnover	2	High efficiency Compressor motors	74.7%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	15	1.17	1
PapMT20	Paper_Mfg	Mfg. Paper	Motors	Turnover	20	Paper: Premium Control Large Material	25.2%	18.7%	\$ 0.549	\$ 0.486	\$ 0.062	10	0.67	0
PapME21	Paper_Mfg	Mfg. Paper	Motors	Existing	21	Air Compressor Optimization	35.4%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	10	2.17	1
PapMT22	Paper_Mfg	Mfg. Paper	Motors	Turnover	22	Paper: Premium Fan	25.5%	20.0%	\$ 0.227	\$ 0.201	\$ 0.026	10	1.52	1
PapMT23	Paper_Mfg	Mfg. Paper	Motors	Turnover	23	Properly Sized Fans	15.3%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	10	1.69	1
PapME24	Paper_Mfg	Mfg. Paper	Motors	Existing	24	Pump Energy Management	32.3%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.41	1
PapMT25	Paper_Mfg	Mfg. Paper	Motors	Turnover	25	Pump Equipment Upgrade	34.9%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	10	2.11	1
PapME26	Paper_Mfg	Mfg. Paper	Motors	Existing	26	Pump System Optimization	16.1%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	12	1.07	1
PapMT27	Paper_Mfg	Mfg. Paper	Motors	Turnover	27	Switch from Belt drive to Direct Drive	10.6%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1.53	1
PapMT28	Paper_Mfg	Mfg. Paper	Motors	Turnover	28	Synchronous Belts	21.4%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1.31	1
PapMT29	Paper_Mfg	Mfg. Paper	Motors	Turnover	29	Efficient Centrifugal Fan	10.7%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	10	1.52	1
PapMT3	Paper_Mfg	Mfg. Paper	Motors	Turnover	3	High Efficiency Motors	76.7%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	0.94	0
PapMT30	Mfg. Paper	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0.25	0	
PapMT31	Mfg. Paper	Motors	Turnover	31	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1.16	1	
PapMT32	Mfg. Paper	Motors	Turnover	32	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0.42	0	
PapMT33	Mfg. Paper	Motors	Turnover	33	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1.34	1	
PapMT34	Mfg. Paper	Motors	Turnover	34	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0.65	0	
PapMT8	Paper_Mfg	Mfg. Paper	Motors	Turnover	8	Material Handling	53.4%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0.63	0
PapME9	Paper_Mfg	Mfg. Paper	Motors	Existing	9	Material Handling VFD	53.4%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	0.94	0
PapOT1	Paper_Mfg	Mfg. Paper	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	15	1.91	1
PapOE10	Paper_Mfg	Mfg. Paper	Other	Existing	10	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	10	2.29	1
PapOT11	Paper_Mfg	Mfg. Paper	Other	Turnover	11	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	15	1.18	1
PapOE2	Paper_Mfg	Mfg. Paper	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	11	2.15	1
PapOE3	Paper_Mfg	Mfg. Paper	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	11	1.42	1
PapOT4	Paper_Mfg	Mfg. Paper	Other	Turnover	4	Kraft: Efficient Agitator	13.8%	50.0%	\$ 0.104	\$ 0.093	\$ 0.012	10	2.89	1
PapOT5	Paper_Mfg	Mfg. Paper	Other	Turnover	5	Kraft: Effluent Treatment System	9.2%	15.0%	\$ 0.092	\$ 0.082	\$ 0.011	10	3.19	1
PapOT6	Paper_Mfg	Mfg. Paper	Other	Turnover	6	Mech Pulp: Premium Process	22.5%	0.2%	\$ 0.141	\$ 0.125	\$ 0.016	5	1.17	1

PECO Industrial Measures

Measure Lookup	Industry	New Segment	New End-Use	Vintage	Measure Number	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Life	TRC Test	Economic Flag
PapOT7	Paper_Mfg	Mfg. Paper	Other	Turnover	7	Mech Pulp: Refiner Plate Improvement	35.3%	0.4%	\$ 0.045	\$ 0.040	\$ 0.005	1	0.58	0
PapOT8	Paper_Mfg	Mfg. Paper	Other	Turnover	8	Mech Pulp: Refiner Replacement	23.7%	10.0%	\$ 0.735	\$ 0.652	\$ 0.084	12	0.57	0
PapOT9	Paper_Mfg	Mfg. Paper	Other	Turnover	9	Paper: Efficient Pulp Screen	13.8%	15.0%	\$ 0.226	\$ 0.200	\$ 0.026	10	1.49	1
PlaCooE1	Chemical_Mfg	Mfg. Plastics	Process Cooling	Existing	1	Clean Room: Change Filter Strategy	10.0%	40.0%	\$ 0.016	\$ 0.012	\$ 0.005	1	0.96	0
PlaCooE2	Chemical_Mfg	Mfg. Plastics	Process Cooling	Existing	2	Clean Room: Chiller Optimize	28.3%	14.8%	\$ 0.248	\$ 0.124	\$ 0.124	10	1.36	1
PlaCooE3	Chemical_Mfg	Mfg. Plastics	Process Cooling	Turnover	3	Clean Room: Clean Room HVAC	30.0%	9.0%	\$ 0.204	\$ 0.144	\$ 0.061	15	2.25	1
PlaCooE4	Chemical_Mfg	Mfg. Plastics	Process Cooling	Turnover	4	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	15	1.45	1
PlaCooE5	Chemical_Mfg	Mfg. Plastics	Process Cooling	Existing	5	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	15	0.45	0
PlaCooE6	Chemical_Mfg	Mfg. Plastics	Process Cooling	Turnover	6	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	10	1.63	1
PlaCooE7	Chemical_Mfg	Mfg. Plastics	Process Cooling	Existing	7	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	3	0.95	0
PlaCooE8	Chemical_Mfg	Mfg. Plastics	Process Cooling	Turnover	8	Cold Storage Retrofit	25.6%	20.7%	\$ 0.250	\$ 0.157	\$ 0.093	10	1.34	1
PlaCooE9	Chemical_Mfg	Mfg. Plastics	Process Cooling	Existing	9	Cold Storage Tuneup	10.0%	15.6%	\$ 0.112	\$ 0.047	\$ 0.065	3	0.87	0
PlaHeaE1	Chemical_Mfg	Mfg. Plastics	Process Heating	Existing	1	Improved Controls	37.9%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	10	1.37	1
PlaHeaE2	Chemical_Mfg	Mfg. Plastics	Process Heating	Existing	2	Process Heat O&M	63.4%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	2	0.29	0
PlaHT1	Chemical_Mfg	Mfg. Plastics	HVAC	Turnover	1	Equipment Upgrades	62.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	1.70	1
PlaHE2	Chemical_Mfg	Mfg. Plastics	HVAC	Existing	2	Improved Controls	32.7%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	3.08	1
PlaHE3	Chemical_Mfg	Mfg. Plastics	HVAC	Existing	3	Recommissioning	72.6%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	0.95	0
PlaLT1	Chemical_Mfg	Mfg. Plastics	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2.23	1
PlaLT2	Chemical_Mfg	Mfg. Plastics	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	0.97	0
PlaLE3	Chemical_Mfg	Mfg. Plastics	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1.64	1
PlaMT1	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1.34	1
PlaMT10	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	10	Material Handling	52.3%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0.63	0
PlaMT11	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	11	Air Compressor Demand Reduction	28.0%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	10	2.91	1
PlaME12	Chemical_Mfg	Mfg. Plastics	Motors	Existing	12	Material Handling VFD	52.3%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	0.94	0
PlaME13	Chemical_Mfg	Mfg. Plastics	Motors	Existing	13	Motor Management Plan	51.6%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.41	1
PlaMT15	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	15	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.60	1
PlaMT16	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	16	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.60	1
PlaMT17	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	17	Motors: Rewind 20-50 HP	4.6%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1.17	1
PlaMT18	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	18	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.60	1
PlaMT19	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	19	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1.29	1
PlaMT2	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0.65	0
PlaMT20	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	20	Properly Sized Fans	14.7%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	10	1.69	1
PlaME21	Chemical_Mfg	Mfg. Plastics	Motors	Existing	21	Air Compressor Optimization	38.3%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	10	2.17	1
PlaME22	Chemical_Mfg	Mfg. Plastics	Motors	Existing	22	Pump Energy Management	31.4%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.41	1
PlaMT23	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	23	Pump Equipment Upgrade	34.0%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	10	2.11	1
PlaME24	Chemical_Mfg	Mfg. Plastics	Motors	Existing	24	Pump System Optimization	15.6%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	12	1.07	1
PlaMT25	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	25	Switch from Belt drive to Direct Drive	10.4%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1.53	1
PlaMT26	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	26	Synchronous Belts	20.9%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1.31	1
PlaMT27	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	27	Efficient Centrifugal Fan	10.3%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	10	1.52	1
PlaMT28	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0.25	0
PlaMT29	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1.16	1
PlaME3	Chemical_Mfg	Mfg. Plastics	Motors	Existing	3	Fan System Optimization	28.9%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	10	1.14	1
PlaMT30	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0.42	0
PlaMT4	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	4	High efficiency Compressor motors	80.8%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	15	1.17	1
PlaMT5	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	5	High Efficiency Motors	74.4%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	0.94	0
PlaOT1	Chemical_Mfg	Mfg. Plastics	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	15	1.91	1
PlaOE2	Chemical_Mfg	Mfg. Plastics	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	11	2.15	1
PlaOE3	Chemical_Mfg	Mfg. Plastics	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	11	1.42	1
PlaOE4	Chemical_Mfg	Mfg. Plastics	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	10	2.29	1
PlaOT5	Chemical_Mfg	Mfg. Plastics	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	15	1.18	1
MinMT1	Mining	Mining	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0.25	0
MinME10	Mining	Mining	Motors	Existing	10	Motor Management Plan	50.0%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.41	1
MinMT12	Mining	Mining	Motors	Turnover	12	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.60	1
MinMT13	Mining	Mining	Motors	Turnover	13	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.60	1
MinMT14	Mining	Mining	Motors	Turnover	14	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1.17	1
MinMT15	Mining	Mining	Motors	Turnover	15	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.60	1
MinMT16	Mining	Mining	Motors	Turnover	16	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1.29	1
MinMT17	Mining	Mining	Motors	Turnover	17	Switch from Belt drive to Direct Drive	10.5%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1.53	1
MinMT18	Mining	Mining	Motors	Turnover	18	Synchronous Belts	21.0%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1.31	1
MinMT2	Mining	Mining	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1.16	1
MinMT3	Mining	Mining	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0.42	0
MinMT4	Mining	Mining	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1.34	1
MinMT5	Mining	Mining	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0.65	0
MinMT6	Mining	Mining	Motors	Turnover	6	High Efficiency Motors	75.0%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	0.94	0
MinMT8	Mining	Mining	Motors	Turnover	8	Material Handling	53.0%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0.63	0
MinME9	Mining	Mining	Motors	Existing	9	Material Handling VFD	53.0%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	0.94	0
NonCooT1	Lumber_Wood_Product	Other Non Mfg.	Process Cooling	Turnover	1	Equipment: Chillers	7.7%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	15	1.45	1
NonCooE2	Lumber_Wood_Product	Other Non Mfg.	Process Cooling	Existing	2	Improved Controls	32.3%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	15	0.45	0
NonCooT3	Agriculture	Other Non Mfg.	Process Cooling	Turnover	3	Milk Precooler - Dairy Plate Cooler	1.7%	3.24%	\$ 0.660	\$ 0.487	\$ 0.173	15	0.75	0
NonCooT4	Lumber_Wood_Product	Other Non Mfg.	Process Cooling	Turnover	4	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	10	1.63	1

PECO Industrial Measures

Measure Lookup	Industry	New Segment	New End-Use	Vintage	Measure Number	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Life	TRC Test	Economic Flag
NonCool5	umber_Wood_Product	Other Non Mfg.	Process Cooling	Existing	5	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	3	0.95	0
NonHea11	Agriculture	Other Non Mfg.	Process Heating	Turnover	1	Crate Heating Pads	22.9%	17.51%	\$ 0.181	\$ 0.162	\$ 0.019	15	2.50	1
NonHea12	Agriculture	Other Non Mfg.	Process Heating	Turnover	2	Grain dryers	24.8%	23.52%	\$ 8.260	\$ 6.090	\$ 2.169	15	0.06	0
NonHea13	Agriculture	Other Non Mfg.	Process Heating	Existing	3	Heat Lamp Setback (Microzone)	22.9%	0.45%	\$ 0.210	\$ -	\$ -	15	2.19	1
NonHea14	Agriculture	Other Non Mfg.	Process Heating	Existing	4	Heat Lamp/Heating Pad Controller	22.9%	1.75%	\$ 0.129	\$ 0.129	\$ -	15	3.34	1
NonHea15	Agriculture	Other Non Mfg.	Process Heating	Turnover	5	Heat Lamps	22.9%	3.38%	\$ 0.023	\$ 0.023	\$ -	10	7.65	1
NonHea16	umber_Wood_Product	Other Non Mfg.	Process Heating	Existing	6	Improved Controls	37.9%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	10	1.37	1
NonHea17	umber_Wood_Product	Other Non Mfg.	Process Heating	Existing	7	Process Heat O&M	63.4%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	2	0.29	0
NonHT1	Agriculture	Other Non Mfg.	HVAC	Turnover	1	Energy-Efficient Dehumidifier	49.7%	2.00%	\$ 1.072	\$ 0.791	\$ 0.282	15	0.50	0
NonHT2	umber_Wood_Product	Other Non Mfg.	HVAC	Turnover	2	Equipment Upgrades	63.2%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	1.70	1
NonHT3	Agriculture	Other Non Mfg.	HVAC	Turnover	3	Heat Reclaimer	1.7%	42.00%	\$ 0.171	\$ 0.126	\$ 0.045	15	2.78	1
NonHT4	Agriculture	Other Non Mfg.	HVAC	Turnover	4	Heat Recovery Ventilators	49.7%	4.13%	\$ 0.448	\$ 0.330	\$ 0.118	10	0.83	0
NonHE5	umber_Wood_Product	Other Non Mfg.	HVAC	Existing	5	Improved Controls	32.8%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	3.08	1
NonHT6	Agriculture	Other Non Mfg.	HVAC	Turnover	6	Infrared Film for Greenhouses	0.3%	11.06%	\$ 0.261	\$ 0.234	\$ 0.028	4	0.58	0
NonHT7	Agriculture	Other Non Mfg.	HVAC	Turnover	7	Programmable Ventilation Controller	49.7%	0.10%	\$ 0.140	\$ 0.140	\$ -	10	2.39	1
NonHE8	umber_Wood_Product	Other Non Mfg.	HVAC	Existing	8	Recommissioning	72.9%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	0.95	0
NonHT9	Agriculture	Other Non Mfg.	HVAC	Turnover	9	Scroll Compressor	1.7%	7.50%	\$ 1.006	\$ 0.899	\$ 0.107	15	0.53	0
NonLT1	umber_Wood_Product	Other Non Mfg.	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2.23	1
NonLT2	umber_Wood_Product	Other Non Mfg.	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	0.97	0
NonLE3	umber_Wood_Product	Other Non Mfg.	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1.64	1
NonMT1	Other Non Mfg.	Other Non Mfg.	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1.16	1
NonMT11	Agriculture	Other Non Mfg.	Motors	Turnover	11	Agricultural Exhaust Fans (Rate 21 CFM/Watt+)	49.7%	5.00%	\$ 0.316	\$ 0.283	\$ 0.034	15	1.56	1
NonMT15	Agriculture	Other Non Mfg.	Motors	Turnover	15	Low Pressure Irrigation	0.4%	50.00%	\$ 0.993	\$ 0.732	\$ 0.261	10	0.38	0
NonMT16	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	16	Material Handling	53.2%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0.63	0
NonME17	umber_Wood_Product	Other Non Mfg.	Motors	Existing	17	Material Handling VFD	53.2%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	0.94	0
NonME18	umber_Wood_Product	Other Non Mfg.	Motors	Existing	18	Motor Management Plan	50.9%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.41	1
NonMT2	Other Non Mfg.	Other Non Mfg.	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0.42	0
NonMT21	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	21	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.60	1
NonMT22	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	22	Air Compressor Demand Reduction	26.8%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	10	2.91	1
NonMT23	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	23	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.60	1
NonMT24	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	24	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1.17	1
NonMT25	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	25	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.60	1
NonMT26	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	26	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1.29	1
NonMT27	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	27	Properly Sized Fans	15.3%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	10	1.69	1
NonME28	umber_Wood_Product	Other Non Mfg.	Motors	Existing	28	Pump Energy Management	29.8%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.41	1
NonMT29	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	29	Pump Equipment Upgrade	32.3%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	10	2.11	1
NonMT3	Other Non Mfg.	Other Non Mfg.	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1.34	1
NonME30	umber_Wood_Product	Other Non Mfg.	Motors	Existing	30	Pump System Optimization	14.9%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	12	1.07	1
NonMT31	Irrigation	Other Non Mfg.	Motors	Turnover	31	SIS	76.5%	7.5%	\$ 1.051	\$ 0.869	\$ 0.183	7	0.25	0
NonMT32	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	32	Air Compressor Equipment	17.6%	8.8%	\$ 0.157	\$ 0.130	\$ 0.027	10	2.10	1
NonMT33	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	33	Switch from Belt drive to Direct Drive	10.5%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1.53	1
NonMT34	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	34	Synchronous Belts	20.9%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1.31	1
NonMT35	Irrigation	Other Non Mfg.	Motors	Turnover	35	System Improvements	85.0%	8.0%	\$ 0.416	\$ 0.344	\$ 0.072	5	0.45	0
NonMT36	Agriculture	Other Non Mfg.	Motors	Turnover	36	Variable Speed Drives for Dairy Vacuum Pumps	1.7%	36.89%	\$ 0.169	\$ 0.151	\$ 0.018	15	2.75	1
NonMT37	Agriculture	Other Non Mfg.	Motors	Turnover	37	VFDs on Small Milking Machines	1.7%	3.22%	\$ 0.832	\$ 0.614	\$ 0.219	15	0.62	0
NonMT38	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	38	Wood: Replace Pneumatic Conveyor	50.2%	29.0%	\$ 0.018	\$ 0.016	\$ 0.002	10	8.90	1
NonME39	umber_Wood_Product	Other Non Mfg.	Motors	Existing	39	Air Compressor Optimization	36.8%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	10	2.17	1
NonMT4	Other Non Mfg.	Other Non Mfg.	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0.65	0
NonMT40	Agriculture	Other Non Mfg.	Motors	Turnover	40	Automatic Milker Takeoff	1.7%	3.00%	\$ 0.763	\$ 0.563	\$ 0.200	15	0.68	0
NonMT41	Agriculture	Other Non Mfg.	Motors	Turnover	41	Circulating Fans	49.7%	5.00%	\$ 0.152	\$ 0.136	\$ 0.016	10	2.17	1
NonMT42	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	42	Efficient Centrifugal Fan	10.7%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	10	1.52	1
NonMT43	Other Non Mfg.	Other Non Mfg.	Motors	Turnover	43	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0.25	0
NonME5	umber_Wood_Product	Other Non Mfg.	Motors	Existing	5	Fan System Optimization	30.2%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	10	1.14	1
NonMT16	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	6	High efficiency Compressor motors	77.5%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	15	1.17	1
NonMT7	Irrigation	Other Non Mfg.	Motors	Turnover	7	High Efficiency Motors	74.7%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	0.94	0
NonMT8	Agriculture	Other Non Mfg.	Motors	Turnover	8	High Volume Low Speed Fans	49.7%	46.61%	\$ 2.004	\$ 1.883	\$ 0.120	15	0.26	0
NonMT9	Agriculture	Other Non Mfg.	Motors	Turnover	9	High-Efficiency Ventilation System	49.7%	5.66%	\$ 1.366	\$ 1.366	\$ -	10	0.28	0
NonOT1	umber_Wood_Product	Other Non Mfg.	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	15	1.91	1
NonOT10	umber_Wood_Product	Other Non Mfg.	Other	Turnover	10	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	15	1.18	1
NonOT12	Agriculture	Other Non Mfg.	Other	Turnover	2	Block Heater Timer	25.0%	2.50%	\$ 0.048	\$ 0.048	\$ -	10	5.11	1
NonOE3	umber_Wood_Product	Other Non Mfg.	Other	Existing	3	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	11	2.15	1
NonOT4	Agriculture	Other Non Mfg.	Other	Turnover	4	Grain bin aeration control systems	24.8%	2.25%	\$ 0.168	\$ 0.124	\$ 0.044	15	2.71	1
NonOT5	Agriculture	Other Non Mfg.	Other	Turnover	5	Greenhouse Heat Curtain	0.3%	16.76%	\$ 0.056	\$ 0.056	\$ -	5	2.39	1
NonOT6	Agriculture	Other Non Mfg.	Other	Turnover	6	High Efficiency Stock tank	22.9%	3.75%	\$ 0.412	\$ 0.368	\$ 0.044	10	0.86	0
NonOE7	umber_Wood_Product	Other Non Mfg.	Other	Existing	7	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	11	1.42	1
NonOT8	Agriculture	Other Non Mfg.	Other	Turnover	8	Livestock Waterers	22.9%	11.25%	\$ 0.327	\$ 0.292	\$ 0.035	10	1.06	1
NonOE9	umber_Wood_Product	Other Non Mfg.	Other	Existing	9	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	10	2.29	1
MetPT1	Mining	Mfg. Metals	Process EC	Turnover	1	Electrical-Chemical Plating Bundle, Tank and Rectifier	65.0%	18.5%	\$ 0.550	\$ 0.450	\$ 0.100	15	0.90	0
MinHT1	Mining	Mining	HVAC	Turnover	1	Equipment Upgrades	62.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	1.70	1
MinHT2	Mining	Mining	HVAC	Existing	2	Improved Controls	32.7%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	3.08	1

PECO Industrial Measures

Measure Lookup	Industry	New Segment	New End-Use	Vintage	Measure Number	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Life	TRC Test	Economic Flag
MinHE3	Mining	Mining	HVAC	Existing	3	Recommissioning	72.6%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	0.95	0
MinLT1	Mining	Mining	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2.23	1
MinLT2	Mining	Mining	Lighting	Turnover	2	High-Bay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	0.97	0
MinLE3	Mining	Mining	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1.64	1

Penn Electric Industrial Measures

Measure Lookup	Industry	New Segment	New End-Use	Vintage	Measure Number	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Life	TRC Test	Economic Flag
CheCooE1	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Existing	1	Clean Room: Change Filter Strategy	10.0%	40.0%	\$ 0.016	\$ 0.012	\$ 0.005	1	0.845229	0
CheCooE2	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Existing	2	Clean Room: Chiller Optimize	28.3%	14.8%	\$ 0.248	\$ 0.124	\$ 0.124	10	1.2770895	1
CheCooT3	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Turnover	3	Clean Room: Clean Room HVAC	30.0%	9.0%	\$ 0.204	\$ 0.144	\$ 0.061	15	2.6115532	1
CheCooT4	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Turnover	4	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	15	1.6863203	1
CheCooT5	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Existing	5	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	15	0.5239597	0
CheCooT6	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Turnover	6	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	10	1.5405308	1
CheCooE7	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Existing	7	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	3	0.8631154	0
CheCooT8	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Turnover	8	Cold Storage Retrofit	25.6%	20.7%	\$ 0.250	\$ 0.157	\$ 0.093	10	1.2672565	1
CheCooE9	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Existing	9	Cold Storage Tuneup	10.0%	15.6%	\$ 0.112	\$ 0.047	\$ 0.065	3	0.7961473	0
CheHeaE1	Chemical_Mfg	Mfg. Chemicals	Process Heating	Existing	1	Improved Controls	37.9%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	10	1.2922449	1
CheHeaE2	Chemical_Mfg	Mfg. Chemicals	Process Heating	Existing	2	Process Heat O&M	63.4%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	2	0.2605933	0
CheHT1	Chemical_Mfg	Mfg. Chemicals	HVAC	Turnover	1	Equipment Upgrades	62.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	1.9366044	1
CheHE2	Chemical_Mfg	Mfg. Chemicals	HVAC	Existing	2	Improved Controls	32.7%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	2.8798202	1
CheHE3	Chemical_Mfg	Mfg. Chemicals	HVAC	Existing	3	Recommissioning	72.6%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	0.8824975	0
CheLT1	Chemical_Mfg	Mfg. Chemicals	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2.0831033	1
CheLT2	Chemical_Mfg	Mfg. Chemicals	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	0.9104781	0
CheLE3	Chemical_Mfg	Mfg. Chemicals	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1.5396736	1
CheMT1	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1.5365297	1
CheMT10	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	10	Material Handling	52.3%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0.5877428	0
CheMT11	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	11	Air Compressor Demand Reduction	28.0%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	10	2.7237476	1
CheME6	Chemical_Mfg	Mfg. Chemicals	Motors	Existing	6	Material Handling VFD	52.3%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	0.8827627	0
CheME13	Chemical_Mfg	Mfg. Chemicals	Motors	Existing	13	Motor Management Plan	51.6%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.2492384	1
CheMT15	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	15	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.8241199	1
CheMT16	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	16	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.8241199	1
CheMT17	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	17	Motors: Rewind 20-50 HP	4.6%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1.3377689	1
CheMT18	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	18	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.8241199	1
CheMT19	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	19	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1.4770915	1
CheMT2	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0.7406013	0
CheMT20	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	20	Properly Sized Fans	14.7%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	10	1.5785853	1
CheME21	Chemical_Mfg	Mfg. Chemicals	Motors	Existing	21	Air Compressor Optimization	38.3%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	10	2.0317835	1
CheME22	Chemical_Mfg	Mfg. Chemicals	Motors	Existing	22	Pump Energy Management	31.4%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.2492384	1
CheMT23	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	23	Pump Equipment Upgrade	34.0%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	10	1.9754039	1
CheME24	Chemical_Mfg	Mfg. Chemicals	Motors	Existing	24	Pump System Optimization	15.6%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	12	1.1236712	1
CheMT25	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	25	Switch from Belt drive to Direct Drive	10.4%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1.5986118	1
CheMT26	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	26	Synchronous Belts	20.9%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1.2243643	1
CheMT27	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	27	Efficient Centrifugal Fan	10.3%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	10	1.4192008	1
CheMT28	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0.2891876	0
CheMT29	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1.3235604	1
CheME3	Chemical_Mfg	Mfg. Chemicals	Motors	Existing	3	Fan System Optimization	28.9%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	10	1.0669512	1
CheMT30	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0.4788237	0
CheMT4	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	4	High efficiency Compressor motors	80.8%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	15	1.3415371	1
CheMT5	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	5	High Efficiency Motors	74.4%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	1.0707382	1
CheOT1	Chemical_Mfg	Mfg. Chemicals	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	15	2.2081924	1
CheOE2	Chemical_Mfg	Mfg. Chemicals	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	11	2.170338	1
CheOE3	Chemical_Mfg	Mfg. Chemicals	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	11	1.426294	1
CheOE4	Chemical_Mfg	Mfg. Chemicals	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	10	2.1513718	1
CheOT5	Chemical_Mfg	Mfg. Chemicals	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	15	1.3702764	1
ComCooE1	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Existing	1	Clean Room: Change Filter Strategy	10.0%	40.0%	\$ 0.016	\$ 0.012	\$ 0.005	1	0.845229	0
ComCooE10	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Existing	10	Cold Storage Tuneup	10.0%	15.6%	\$ 0.112	\$ 0.047	\$ 0.065	3	0.7961473	0
ComCooE2	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Existing	2	Clean Room: Chiller Optimize	28.3%	14.8%	\$ 0.248	\$ 0.124	\$ 0.124	10	1.2770895	1
ComCooT3	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Turnover	3	Clean Room: Clean Room HVAC	30.0%	9.0%	\$ 0.204	\$ 0.144	\$ 0.061	15	2.6115532	1
ComCooT4	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Turnover	4	Elec Chip Fab: Solidstate Chiller	20.0%	90.0%	\$ 0.634	\$ 0.562	\$ 0.072	10	0.5291737	0
ComCooT5	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Turnover	5	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	15	1.6863203	1
ComCooE6	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Existing	6	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	15	0.5239597	0
ComCooT7	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Turnover	7	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	10	1.5405308	1
ComCooE8	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Existing	8	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	3	0.8631154	0
ComCooT9	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Turnover	9	Cold Storage Retrofit	25.6%	20.7%	\$ 0.250	\$ 0.157	\$ 0.093	10	1.2672565	1
ComHeaE1	Electronic_Equipment_M	Mfg. Computers	Process Heating	Existing	1	Improved Controls	41.5%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	10	1.2922449	1
ComHeaE2	Electronic_Equipment_M	Mfg. Computers	Process Heating	Existing	2	Process Heat O&M	69.5%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	2	0.2605933	0
ComHT1	Electronic_Equipment_M	Mfg. Computers	HVAC	Turnover	1	Equipment Upgrades	74.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	1.9366044	1
ComHE2	Electronic_Equipment_M	Mfg. Computers	HVAC	Existing	2	Improved Controls	38.9%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	2.8798202	1
ComHE3	Electronic_Equipment_M	Mfg. Computers	HVAC	Existing	3	Recommissioning	86.4%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	0.8824975	0
ComLT1	Electronic_Equipment_M	Mfg. Computers	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2.0831033	1
ComLT2	Electronic_Equipment_M	Mfg. Computers	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	0.9104781	0
ComLE3	Electronic_Equipment_M	Mfg. Computers	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1.5396736	1
ComMT1	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1.5365297	1
ComMT10	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	10	Material Handling	52.9%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0.5877428	0
ComMT11	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	11	Air Compressor Demand Reduction	25.5%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	10	2.7237476	1
ComME6	Electronic_Equipment_M	Mfg. Computers	Motors	Existing	6	Material Handling VFD	52.9%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	0.8827627	0
ComME13	Electronic_Equipment_M	Mfg. Computers	Motors	Existing	13	Motor Management Plan	49.2%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.2492384	1

Penn Electric Industrial Measures

Measure Lookup	Industry	New Segment	New End-Use	Vintage	Measure Number	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Life	TRC Test	Economic Flag
ComMT15	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	15	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1,824,199	1
ComMT16	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	16	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1,824,199	1
ComMT17	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	17	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1,337,689	1
ComMT18	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	18	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1,824,199	1
ComMT19	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	19	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1,477,915	1
ComMT2	Mfg. Computers	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0,740,601	0	
ComMT20	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	20	Properly Sized Fans	14.8%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	10	1,578,585	1
ComME21	Electronic_Equipment_M	Mfg. Computers	Motors	Existing	21	Air Compressor Optimization	35.0%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	10	2,031,785	1
ComME22	Electronic_Equipment_M	Mfg. Computers	Motors	Existing	22	Pump Energy Management	30.1%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	10	2,249,238	1
ComMT23	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	23	Pump Equipment Upgrade	32.6%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	10	1,975,403	1
ComME24	Electronic_Equipment_M	Mfg. Computers	Motors	Existing	24	Pump System Optimization	15.0%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	12	1,123,671	1
ComMT25	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	25	Switch from Belt drive to Direct Drive	10.5%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1,598,618	1
ComMT26	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	26	Synchronous Belts	20.8%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1,224,364	1
ComMT27	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	27	Efficient Centrifugal Fan	10.3%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	10	1,419,208	1
ComMT28	Mfg. Computers	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0,289,187	0	
ComMT29	Mfg. Computers	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1,323,504	1	
ComME3	Electronic_Equipment_M	Mfg. Computers	Motors	Existing	3	Fan System Optimization	29.1%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	10	1,066,951	1
ComMT30	Mfg. Computers	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0,478,823	0	
ComMT4	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	4	High efficiency Compressor motors	73.8%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	15	1,341,531	1
ComMT5	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	5	High Efficiency Motors	73.8%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	1,070,738	1
ComOT1	Electronic_Equipment_M	Mfg. Computers	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	15	2,208,192	1
ComOT2	Electronic_Equipment_M	Mfg. Computers	Other	Turnover	2	Elec Chip Fab: Eliminate Exhaust	80.1%	5.0%	\$ 0.233	\$ 0.206	\$ 0.026	10	1,367,193	1
ComOT3	Electronic_Equipment_M	Mfg. Computers	Other	Turnover	3	Elec Chip Fab: Exhaust Injector	35.0%	100.0%	\$ 0.561	\$ 0.498	\$ 0.064	10	0,600,982	0
ComCooT11	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Turnover	11	Elec Chip Fab: Reduce Gas Pressure	5.0%	10.0%	\$ 0.063	\$ -	\$ 0.063	10	3,983,67	1
ComOE5	Electronic_Equipment_M	Mfg. Computers	Other	Existing	5	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	11	2,170,338	1
ComOE6	Electronic_Equipment_M	Mfg. Computers	Other	Existing	6	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	11	1,426,294	1
ComOE7	Electronic_Equipment_M	Mfg. Computers	Other	Existing	7	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	10	2,151,371	1
ComOT8	Electronic_Equipment_M	Mfg. Computers	Other	Turnover	8	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	15	1,370,276	1
FooCooT1	Food_Mfg	Mfg. Food	Process Cooling	Turnover	1	Equipment: Chillers	8.3%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	15	1,686,320	1
FooCoo2	Food_Mfg	Mfg. Food	Process Cooling	Existing	2	Improved Controls	35.2%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	15	0,523,997	0
FooCoo3	Food_Mfg	Mfg. Food	Process Cooling	Turnover	3	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	10	1,540,530	1
FooCoo4	Food_Mfg	Mfg. Food	Process Cooling	Turnover	4	Food: Cooling and Storage	15.0%	15.4%	\$ 0.258	\$ 0.162	\$ 0.096	10	1,232,016	1
FooCoo5	Food_Mfg	Mfg. Food	Process Cooling	Turnover	5	Food: Refrig Storage Tunup	7.5%	14.4%	\$ 0.056	\$ 0.023	\$ 0.033	3	1,346,108	1
FooCoo6	Food_Mfg	Mfg. Food	Process Cooling	Turnover	6	Fruit Storage Refer Retrofit	60.7%	38.2%	\$ 0.214	\$ 0.135	\$ 0.079	10	1,456,439	1
FooCoo7	Food_Mfg	Mfg. Food	Process Cooling	Turnover	7	Fruit Storage Tunup	10.0%	15.6%	\$ 0.056	\$ 0.023	\$ 0.033	3	1,346,108	1
FooCoo8	Food_Mfg	Mfg. Food	Process Cooling	Existing	8	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	3	0,863,115	0
FooHeat1	Food_Mfg	Mfg. Food	Process Heating	Existing	1	Improved Controls	38.8%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	10	1,292,249	1
FooHeat2	Food_Mfg	Mfg. Food	Process Heating	Existing	2	Process Heat O&M	65.0%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	2	0,260,593	0
FooHT1	Food_Mfg	Mfg. Food	HVAC	Turnover	1	Equipment Upgrades	62.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	1,936,604	1
FooHE2	Food_Mfg	Mfg. Food	HVAC	Existing	2	Improved Controls	32.7%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	2,879,202	1
FooHE3	Food_Mfg	Mfg. Food	HVAC	Existing	3	Recommissioning	72.6%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	0,882,497	0
FooLT1	Food_Mfg	Mfg. Food	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2,083,103	1
FooLT2	Food_Mfg	Mfg. Food	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	0,910,478	0
FooLE3	Food_Mfg	Mfg. Food	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1,539,676	1
FooME1	Food_Mfg	Mfg. Food	Motors	Existing	1	Fan System Optimization	29.6%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	10	1,066,951	1
FooME4	Food_Mfg	Mfg. Food	Motors	Existing	4	Material Handling VFD	51.6%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	0,882,762	0
FooME11	Food_Mfg	Mfg. Food	Motors	Existing	11	Motor Management Plan	48.9%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2,249,238	1
FooMT13	Food_Mfg	Mfg. Food	Motors	Turnover	13	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1,824,199	1
FooMT14	Food_Mfg	Mfg. Food	Motors	Turnover	14	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1,824,199	1
FooMT15	Food_Mfg	Mfg. Food	Motors	Turnover	15	Motors: Rewind 20-50 HP	4.6%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1,337,689	1
FooMT16	Food_Mfg	Mfg. Food	Motors	Turnover	16	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1,824,199	1
FooMT17	Food_Mfg	Mfg. Food	Motors	Turnover	17	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1,477,915	1
FooME18	Food_Mfg	Mfg. Food	Motors	Existing	18	Air Compressor Optimization	35.0%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	10	2,031,785	1
FooMT19	Food_Mfg	Mfg. Food	Motors	Turnover	19	Properly Sized Fans	15.0%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	10	1,578,585	1
FooMT2	Food_Mfg	Mfg. Food	Motors	Turnover	2	High efficiency Compressor motors	73.8%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	15	1,341,531	1
FooME20	Food_Mfg	Mfg. Food	Motors	Existing	20	Pump Energy Management	30.5%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	10	2,249,238	1
FooMT21	Food_Mfg	Mfg. Food	Motors	Turnover	21	Pump Equipment Upgrade	33.0%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	10	1,975,403	1
FooME22	Food_Mfg	Mfg. Food	Motors	Existing	22	Pump System Optimization	15.2%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	12	1,123,671	1
FooMT23	Food_Mfg	Mfg. Food	Motors	Turnover	23	Switch from Belt drive to Direct Drive	10.2%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1,598,618	1
FooMT24	Food_Mfg	Mfg. Food	Motors	Turnover	24	Synchronous Belts	20.8%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1,224,364	1
FooMT25	Food_Mfg	Mfg. Food	Motors	Turnover	25	Efficient Centrifugal Fan	10.5%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	10	1,419,208	1
FooMT26	Mfg. Food	Motors	Turnover	26	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0,289,187	0	
FooMT27	Mfg. Food	Motors	Turnover	27	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1,323,504	1	
FooMT28	Mfg. Food	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0,478,823	0	
FooMT29	Mfg. Food	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1,536,529	1	
FooMT3	Food_Mfg	Mfg. Food	Motors	Turnover	3	High Efficiency Motors	74.0%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	1,070,738	1
FooMT30	Mfg. Food	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0,740,601	0	
FooMT7	Food_Mfg	Mfg. Food	Motors	Turnover	7	Air Compressor Demand Reduction	25.5%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	10	2,723,476	1
FooMT9	Food_Mfg	Mfg. Food	Motors	Turnover	9	Material Handling	51.6%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0,587,428	0
FooOT1	Food_Mfg	Mfg. Food	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	15	2,208,192	1

Penn Electric Industrial Measures

Measure Lookup	Industry	New Segment	New End-Use	Vintage	Measure Number	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Life	TRC Test	Economic Flag
FooOE2	Food_Mfg	Mfg. Food	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	11	2,170,338	1
FooOE3	Food_Mfg	Mfg. Food	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	11	1,426,294	1
FooOE4	Food_Mfg	Mfg. Food	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	10	2,151,3718	1
FooOT5	Food_Mfg	Mfg. Food	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	15	1,370,2764	1
MetCooT1	Primary_Metal_Mfg	Mfg. Metals	Process Cooling	Turnover	1	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	15	1,686,3203	1
MetCooE2	Primary_Metal_Mfg	Mfg. Metals	Process Cooling	existing	2	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	15	0,5239597	0
MetCooE3	Primary_Metal_Mfg	Mfg. Metals	Process Cooling	Existing	3	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	3	0,8631154	0
MetHeaE1	Primary_Metal_Mfg	Mfg. Metals	Process Heating	Existing	1	Improved Controls	40.1%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	10	1,292,2449	1
MetHeaT2	Primary_Metal_Mfg	Mfg. Metals	Process Heating	Turnover	2	Metal: New Arc Furnace	10.3%	45.0%	\$ 0.115	\$ 0.102	\$ 0.013	10	2,488,9201	1
MetHeaE3	Primary_Metal_Mfg	Mfg. Metals	Process Heating	Existing	3	Process Heat O&M	67.2%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	2	0,2605933	0
MetHT1	Primary_Metal_Mfg	Mfg. Metals	HVAC	Turnover	1	Equipment Upgrades	64.7%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	1,936,6044	1
MetHE2	Primary_Metal_Mfg	Mfg. Metals	HVAC	Existing	2	Improved Controls	33.6%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	2,879,8202	1
MetHE3	Primary_Metal_Mfg	Mfg. Metals	HVAC	Existing	3	Recommissioning	74.7%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	0,8824975	0
MetLT1	Primary_Metal_Mfg	Mfg. Metals	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2,083,1033	1
MetLT2	Primary_Metal_Mfg	Mfg. Metals	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	0,9104781	0
MetLE3	Primary_Metal_Mfg	Mfg. Metals	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1,539,6736	1
MetMT1	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	1	Air Compressor Demand Reduction	25.3%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	10	2,723,7476	1
MetME10	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	10	Motor Management Plan	49.1%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2,249,2384	1
MetME12	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	12	Air Compressor Optimization	34.7%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	10	2,031,7835	1
MetMT13	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	13	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1,824,1199	1
MetMT14	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	14	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1,824,1199	1
MetMT15	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	15	Motors: Rewind 20-50 HP	4.6%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1,337,7689	1
MetMT16	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	16	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1,824,1199	1
MetMT17	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	17	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1,477,0915	1
MetMT18	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	18	Properly Sized Fans	14.7%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	10	1,578,5853	1
MetME19	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	19	Pump Energy Management	29.8%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	10	2,249,2384	1
MetMT2	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	2	High efficiency Compressor motors	73.1%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	15	1,341,5371	1
MetMT20	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	20	Pump Equipment Upgrade	32.3%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	10	1,975,4039	1
MetME21	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	21	Pump System Optimization	14.9%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	12	1,123,6712	1
MetMT22	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	22	Efficient Centrifugal Fan	10.3%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	10	1,419,2008	1
MetMT23	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	23	Switch from Belt drive to Direct Drive	10.4%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1,598,6118	1
MetMT24	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	24	Synchronous Belts	20.6%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1,224,3643	1
MetMT25	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	25	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0,2891876	0
MetMT26	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	26	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1,323,5604	1
MetMT27	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	27	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0,4788237	0
MetMT28	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1,536,5297	1
MetMT29	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0,7406013	0
MetMT3	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	3	High Efficiency Motors	73.3%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	1,070,7382	1
MetME30	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	30	Fan System Optimization	29.0%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	10	1,066,9512	1
MetMT8	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	8	Material Handling	52.4%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0,5877428	0
MetME4	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	4	Material Handling VFD	52.4%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	0,882,6727	0
MetOT1	Primary_Metal_Mfg	Mfg. Metals	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	15	2,208,1924	1
MetOE2	Primary_Metal_Mfg	Mfg. Metals	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	11	2,170,338	1
MetOE3	Primary_Metal_Mfg	Mfg. Metals	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	11	1,426,294	1
MetOE4	Primary_Metal_Mfg	Mfg. Metals	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	10	2,151,3718	1
MetOT5	Primary_Metal_Mfg	Mfg. Metals	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	15	1,370,2764	1
OhcCooT1	Miscellaneous_Mfg	Mfg. Other	Process Cooling	Turnover	1	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	15	1,686,3203	1
OhcCooE2	Miscellaneous_Mfg	Mfg. Other	Process Cooling	Existing	2	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	15	0,5239597	0
OhcCooT3	one_Clay_Glass_Products	Mfg. Other	Process Cooling	Turnover	3	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	10	1,540,5308	1
OhcCooE4	Miscellaneous_Mfg	Mfg. Other	Process Cooling	Existing	4	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	3	0,8631154	0
OhcCooT5	Miscellaneous_Mfg	Mfg. Other	Process Cooling	Turnover	5	Cold Storage Retrofit	25.6%	20.7%	\$ 0.250	\$ 0.157	\$ 0.093	10	1,267,2565	1
OhcCooE6	Miscellaneous_Mfg	Mfg. Other	Process Cooling	Existing	6	Cold Storage Tuneup	10.0%	15.6%	\$ 0.112	\$ 0.065	\$ 0.047	3	0,7961473	0
OhcHeaE1	Miscellaneous_Mfg	Mfg. Other	Process Heating	existing	1	Improved Controls	41.7%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	10	1,292,2449	1
OhcHeaE2	Miscellaneous_Mfg	Mfg. Other	Process Heating	existing	2	Process Heat O&M	69.8%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	2	0,2605933	0
OhcHT1	Miscellaneous_Mfg	Mfg. Other	HVAC	Turnover	1	Equipment Upgrades	64.4%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	1,936,6044	1
OhcHE2	Miscellaneous_Mfg	Mfg. Other	HVAC	Existing	2	Improved Controls	33.4%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	2,879,8202	1
OhcHE3	Miscellaneous_Mfg	Mfg. Other	HVAC	Existing	3	Recommissioning	74.3%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	0,8824975	0
OhcLT1	Miscellaneous_Mfg	Mfg. Other	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2,083,1033	1
OhcLT2	Miscellaneous_Mfg	Mfg. Other	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	0,9104781	0
OhcLE3	Miscellaneous_Mfg	Mfg. Other	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1,539,6736	1
OhcMT1	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0,4788237	0
OhcMT11	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	11	Air Compressor Demand Reduction	26.0%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	10	2,723,7476	1
OhcMT12	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	12	Material Handling	52.9%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0,5877428	0
OhcME13	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	13	Material Handling VFD	52.9%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	0,882,6727	0
OhcME14	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	14	Motor Management Plan	50.0%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2,249,2384	1
OhcMT16	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	16	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1,824,1199	1
OhcMT17	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	17	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1,824,1199	1
OhcMT18	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	18	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1,337,7689	1
OhcMT19	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	19	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1,824,1199	1
OhcMT2	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1,536,5297	1

Penn Electric Industrial Measures

Measure Lookup	Industry	New Segment	New End-Use	Vintage	Measure Number	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Life	TRC Test	Economic Flag
OthMT20	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	20	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1,477,0915	1
OthMT21	one_Clay_Glass_Produ	Mfg. Other	Motors	Turnover	21	Air Compressor Equipment	17.0%	8.8%	\$ 0.157	\$ 0.130	\$ 0.027	10	1,966,9813	1
OthMT22	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	22	Properly Sized Fans	15.3%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	10	1,578,5853	1
OthME23	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	23	Pump Energy Management	31.2%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	10	2,249,2384	1
OthMT24	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	24	Pump Equipment Upgrade	33.8%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	10	1,975,4039	1
OthME25	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	25	Pump System Optimization	15.5%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	12	1,123,6712	1
OthMT26	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	26	Switch from Belt drive to Direct Drive	10.5%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1,598,6118	1
OthMT27	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	27	Synchronous Belts	21.4%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1,224,3643	1
OthME28	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	28	Air Compressor Optimization	35.6%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	10	2,031,7835	1
OthMT29	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	29	Efficient Centrifugal Fan	10.7%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	10	1,419,2008	1
OthMT3	Mfg. Other	Motors	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0,740,6013	0
OthMT30	Mfg. Other	Motors	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0,289,1876	0
OthMT31	Mfg. Other	Motors	Motors	Turnover	31	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1,323,5604	1
OthME4	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	4	Fan System Optimization	30.1%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	10	1,066,9512	1
OthMT5	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	5	High efficiency Compressor motors	75.1%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	15	1,341,5371	1
OthMT6	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	6	High Efficiency Motors	75.6%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	1,070,7382	1
OthOT1	Miscellaneous_Mfg	Mfg. Other	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	15	2,208,1924	1
OthOE2	Miscellaneous_Mfg	Mfg. Other	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	11	2,170,338	1
OthOE3	Miscellaneous_Mfg	Mfg. Other	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	11	1,426,294	1
OthOE4	Miscellaneous_Mfg	Mfg. Other	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	10	2,151,3718	1
OthOT5	Miscellaneous_Mfg	Mfg. Other	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	15	1,370,2764	1
PapCoo1	Paper_Mfg	Mfg. Paper	Process Cooling	Turnover	1	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	15	1,686,3203	1
PapCoo2	Paper_Mfg	Mfg. Paper	Process Cooling	Existing	2	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	15	0,523,9597	0
PapCoo3	Paper_Mfg	Mfg. Paper	Process Cooling	Turnover	3	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	10	1,540,5308	1
PapCoo4	Paper_Mfg	Mfg. Paper	Process Cooling	Existing	4	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	3	0,863,1154	0
PapHea1	Paper_Mfg	Mfg. Paper	Process Heating	Existing	1	Improved Controls	38.1%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	10	1,292,2449	1
PapHea2	Paper_Mfg	Mfg. Paper	Process Heating	Existing	2	Process Heat O&M	63.9%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	2	0,260,5933	0
PapHT1	Paper_Mfg	Mfg. Paper	HVAC	Turnover	1	Equipment Upgrades	62.4%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	1,936,6044	1
PapHE2	Paper_Mfg	Mfg. Paper	HVAC	Existing	2	Improved Controls	32.4%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	2,879,9202	1
PapHE3	Paper_Mfg	Mfg. Paper	HVAC	Existing	3	Recommissioning	72.0%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	0,882,4975	0
PapLT1	Paper_Mfg	Mfg. Paper	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2,083,1033	1
PapLT2	Paper_Mfg	Mfg. Paper	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	0,910,4781	0
PapLE3	Paper_Mfg	Mfg. Paper	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1,539,6736	1
PapME1	Paper_Mfg	Mfg. Paper	Motors	Existing	1	Fan System Optimization	30.2%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	10	1,066,9512	1
PapME10	Paper_Mfg	Mfg. Paper	Motors	Existing	10	Motor Management Plan	50.1%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2,249,2384	1
PapMT11	Paper_Mfg	Mfg. Paper	Motors	Turnover	11	Air Compressor Demand Reduction	25.8%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	10	2,723,7476	1
PapMT13	Paper_Mfg	Mfg. Paper	Motors	Turnover	13	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1,824,1199	1
PapMT14	Paper_Mfg	Mfg. Paper	Motors	Turnover	14	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1,824,1199	1
PapMT15	Paper_Mfg	Mfg. Paper	Motors	Turnover	15	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1,337,7689	1
PapMT16	Paper_Mfg	Mfg. Paper	Motors	Turnover	16	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1,824,1199	1
PapMT17	Paper_Mfg	Mfg. Paper	Motors	Turnover	17	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1,477,0915	1
PapMT18	Paper_Mfg	Mfg. Paper	Motors	Turnover	18	Paper: Large Material Handling	25.2%	9.7%	\$ 0.959	\$ 0.850	\$ 0.109	10	0,364,2582	0
PapMT19	Paper_Mfg	Mfg. Paper	Motors	Turnover	19	Paper: Material Handling	25.2%	13.1%	\$ 0.801	\$ 0.710	\$ 0.091	10	0,433,6983	0
PapMT2	Paper_Mfg	Mfg. Paper	Motors	Turnover	2	High efficiency Compressor motors	74.7%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	15	1,341,5371	1
PapMT20	Paper_Mfg	Mfg. Paper	Motors	Turnover	20	Paper: Premium Control Large Material	25.2%	18.7%	\$ 0.549	\$ 0.486	\$ 0.062	10	0,249,9339	0
PapME21	Paper_Mfg	Mfg. Paper	Motors	Existing	21	Air Compressor Optimization	35.4%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	10	2,031,7835	1
PapMT22	Paper_Mfg	Mfg. Paper	Motors	Turnover	22	Paper: Premium Fan	25.5%	20.0%	\$ 0.227	\$ 0.201	\$ 0.026	10	1,424,1834	1
PapMT23	Paper_Mfg	Mfg. Paper	Motors	Turnover	23	Properly Sized Fans	15.3%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	10	1,578,5853	1
PapME24	Paper_Mfg	Mfg. Paper	Motors	Existing	24	Pump Energy Management	32.3%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	10	2,249,2384	1
PapMT25	Paper_Mfg	Mfg. Paper	Motors	Turnover	25	Pump Equipment Upgrade	34.9%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	10	1,975,4039	1
PapME26	Paper_Mfg	Mfg. Paper	Motors	Existing	26	Pump System Optimization	16.1%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	12	1,123,6712	1
PapMT27	Paper_Mfg	Mfg. Paper	Motors	Turnover	27	Switch from Belt drive to Direct Drive	10.6%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1,598,6118	1
PapMT28	Paper_Mfg	Mfg. Paper	Motors	Turnover	28	Synchronous Belts	21.4%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1,224,3643	1
PapMT29	Paper_Mfg	Mfg. Paper	Motors	Turnover	29	Efficient Centrifugal Fan	10.7%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	10	1,419,2008	1
PapMT3	Paper_Mfg	Mfg. Paper	Motors	Turnover	3	High Efficiency Motors	76.7%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	1,070,7382	1
PapMT30	Mfg. Paper	Motors	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0,289,1876	0
PapMT31	Mfg. Paper	Motors	Motors	Turnover	31	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1,323,5604	1
PapMT32	Mfg. Paper	Motors	Motors	Turnover	32	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0,478,8237	0
PapMT33	Mfg. Paper	Motors	Motors	Turnover	33	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1,536,5297	1
PapMT34	Mfg. Paper	Motors	Motors	Turnover	34	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0,740,6013	0
PapMT8	Paper_Mfg	Mfg. Paper	Motors	Turnover	8	Material Handling	53.4%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0,587,7428	0
PapME9	Paper_Mfg	Mfg. Paper	Motors	Existing	9	Material Handling VFD	53.4%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	0,882,7627	0
PapOT1	Paper_Mfg	Mfg. Paper	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	15	2,208,1924	1
PapOE10	Paper_Mfg	Mfg. Paper	Other	Existing	10	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	10	2,151,3718	1
PapOT11	Paper_Mfg	Mfg. Paper	Other	Turnover	11	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	15	1,370,2764	1
PapOE2	Paper_Mfg	Mfg. Paper	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	11	2,170,338	1
PapOE3	Paper_Mfg	Mfg. Paper	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	11	1,426,294	1
PapOT4	Paper_Mfg	Mfg. Paper	Other	Turnover	4	Kraft: Efficient Agitator	13.8%	50.0%	\$ 0.104	\$ 0.093	\$ 0.012	10	2,721,9686	1
PapOT5	Paper_Mfg	Mfg. Paper	Other	Turnover	5	Kraft: Effluent Treatment System	9.2%	15.0%	\$ 0.092	\$ 0.082	\$ 0.011	10	2,999,6207	1
PapOT6	Paper_Mfg	Mfg. Paper	Other	Turnover	6	Mech Pulp: Premium Process	22.5%	0.2%	\$ 0.141	\$ 0.125	\$ 0.016	5	1,048,4878	1

Penn Electric Industrial Measures

Measure Lookup	Industry	New Segment	New End-Use	Vintage	Measure Number	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Life	TRC Test	Economic Flag
PapOT7	Paper_Mfg	Mfg. Paper	Other	Turnover	7	Mech Pulp: Refiner Plate Improvement	35.3%	0.4%	\$ 0.045	\$ 0.040	\$ 0.005	1	0.5110346	0
PapOT8	Paper_Mfg	Mfg. Paper	Other	Turnover	8	Mech Pulp: Refiner Replacement	23.7%	10.0%	\$ 0.735	\$ 0.652	\$ 0.084	12	0.606927	0
PapOT9	Paper_Mfg	Mfg. Paper	Other	Turnover	9	Paper: Efficient Pulp Screen	13.8%	15.0%	\$ 0.226	\$ 0.200	\$ 0.026	10	1.4063477	1
PlaCooE1	Chemical_Mfg	Mfg. Plastics	Process Cooling	Existing	1	Clean Room: Change Filter Strategy	10.0%	40.0%	\$ 0.016	\$ 0.012	\$ 0.005	1	0.845229	0
PlaCooE2	Chemical_Mfg	Mfg. Plastics	Process Cooling	Existing	2	Clean Room: Chiller Optimize	28.3%	14.8%	\$ 0.248	\$ 0.124	\$ 0.124	10	1.2770895	1
PlaCooE3	Chemical_Mfg	Mfg. Plastics	Process Cooling	Turnover	3	Clean Room: Clean Room HVAC	30.0%	9.0%	\$ 0.204	\$ 0.144	\$ 0.061	15	2.6115532	1
PlaCooE4	Chemical_Mfg	Mfg. Plastics	Process Cooling	Turnover	4	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	15	1.6863203	1
PlaCooE5	Chemical_Mfg	Mfg. Plastics	Process Cooling	Existing	5	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	15	0.5235997	0
PlaCooE6	Chemical_Mfg	Mfg. Plastics	Process Cooling	Turnover	6	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	10	1.5405308	1
PlaCooE7	Chemical_Mfg	Mfg. Plastics	Process Cooling	Existing	7	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	3	0.8631154	0
PlaCooE8	Chemical_Mfg	Mfg. Plastics	Process Cooling	Turnover	8	Cold Storage Retrofit	25.6%	20.7%	\$ 0.250	\$ 0.157	\$ 0.093	10	1.2672565	1
PlaCooE9	Chemical_Mfg	Mfg. Plastics	Process Cooling	Existing	9	Cold Storage Tuncup	10.0%	15.6%	\$ 0.112	\$ 0.047	\$ 0.065	3	0.7961473	0
PlaHeaE1	Chemical_Mfg	Mfg. Plastics	Process Heating	Existing	1	Improved Controls	37.9%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	10	1.2922449	1
PlaHeaE2	Chemical_Mfg	Mfg. Plastics	Process Heating	Existing	2	Process Heat O&M	63.4%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	2	0.2605933	0
PlaHT1	Chemical_Mfg	Mfg. Plastics	HVAC	Turnover	1	Equipment Upgrades	62.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	1.9366044	1
PlaHE2	Chemical_Mfg	Mfg. Plastics	HVAC	Existing	2	Improved Controls	32.7%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	2.8798202	1
PlaHE3	Chemical_Mfg	Mfg. Plastics	HVAC	Existing	3	Recommissioning	72.6%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	0.8824975	0
PlaT1	Chemical_Mfg	Mfg. Plastics	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2.0831033	1
PlaT2	Chemical_Mfg	Mfg. Plastics	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	0.9104781	0
PlaE3	Chemical_Mfg	Mfg. Plastics	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1.5396736	1
PlaMT1	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1.5365297	1
PlaMT10	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	10	Material Handling	52.3%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0.5877428	0
PlaMT11	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	11	Air Compressor Demand Reduction	28.0%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	10	2.7237476	1
PlaME12	Chemical_Mfg	Mfg. Plastics	Motors	Existing	12	Material Handling VFD	52.3%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	0.8827627	0
PlaME13	Chemical_Mfg	Mfg. Plastics	Motors	Existing	13	Motor Management Plan	51.6%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.2492384	1
PlaMT15	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	15	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.8241199	1
PlaMT16	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	16	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.8241199	1
PlaMT17	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	17	Motors: Rewind 20-50 HP	4.6%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1.3377689	1
PlaMT18	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	18	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.8241199	1
PlaMT19	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	19	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1.4770915	1
PlaMT2	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0.7406013	0
PlaMT20	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	20	Properly Sized Fans	14.7%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	10	1.5785853	1
PlaME21	Chemical_Mfg	Mfg. Plastics	Motors	Existing	21	Air Compressor Optimization	38.3%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	10	2.0317835	1
PlaME22	Chemical_Mfg	Mfg. Plastics	Motors	Existing	22	Pump Energy Management	31.4%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.2492384	1
PlaMT23	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	23	Pump Equipment Upgrade	34.0%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	10	1.9754039	1
PlaME24	Chemical_Mfg	Mfg. Plastics	Motors	Existing	24	Pump System Optimization	15.6%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	12	1.1236712	1
PlaMT25	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	25	Switch from Belt drive to Direct Drive	10.4%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1.5986118	1
PlaMT26	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	26	Synchronous Belts	20.9%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1.2243643	1
PlaMT27	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	27	Efficient Centrifugal Fan	10.3%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	10	1.4192008	1
PlaMT28	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0.2891876	0
PlaMT29	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1.3235604	1
PlaME3	Chemical_Mfg	Mfg. Plastics	Motors	Existing	3	Fan System Optimization	28.9%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	10	1.0669512	1
PlaMT30	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0.4788237	0
PlaMT4	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	4	High efficiency Compressor motors	80.8%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	15	1.3415371	1
PlaMT5	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	5	High Efficiency Motors	74.4%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	1.0707382	1
PlaOT1	Chemical_Mfg	Mfg. Plastics	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	15	2.2081924	1
PlaOE2	Chemical_Mfg	Mfg. Plastics	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	11	2.170338	1
PlaOE3	Chemical_Mfg	Mfg. Plastics	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	11	1.426294	1
PlaOE4	Chemical_Mfg	Mfg. Plastics	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	10	2.1513718	1
PlaOT5	Chemical_Mfg	Mfg. Plastics	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	15	1.3702764	1
MinMT1	Mining	Mining	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0.2891876	0
MinME10	Mining	Mining	Motors	Existing	10	Motor Management Plan	50.0%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.2492384	1
MinMT12	Mining	Mining	Motors	Turnover	12	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.8241199	1
MinMT13	Mining	Mining	Motors	Turnover	13	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.8241199	1
MinMT14	Mining	Mining	Motors	Turnover	14	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1.3377689	1
MinMT15	Mining	Mining	Motors	Turnover	15	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.8241199	1
MinMT16	Mining	Mining	Motors	Turnover	16	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1.4770915	1
MinMT17	Mining	Mining	Motors	Turnover	17	Switch from Belt drive to Direct Drive	10.5%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1.5986118	1
MinMT18	Mining	Mining	Motors	Turnover	18	Synchronous Belts	21.0%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1.2243643	1
MinMT2	Mining	Mining	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1.3235604	1
MinMT3	Mining	Mining	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0.4788237	0
MinMT4	Mining	Mining	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1.5365297	1
MinMT5	Mining	Mining	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0.7406013	0
MinMT6	Mining	Mining	Motors	Turnover	6	High Efficiency Motors	75.0%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	1.0707382	1
MinMT8	Mining	Mining	Motors	Turnover	8	Material Handling	53.0%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0.5877428	0
MinME9	Mining	Mining	Motors	Existing	9	Material Handling VFD	53.0%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	0.8827627	0
NonCooT1	Lumber_Wood_Product	Other Non Mfg.	Process Cooling	Turnover	1	Equipment: Chillers	7.7%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	15	1.6863203	1
NonCooE2	Lumber_Wood_Product	Other Non Mfg.	Process Cooling	Existing	2	Improved Controls	32.3%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	15	0.5235997	0
NonCooT3	Agriculture	Other Non Mfg.	Process Cooling	Turnover	3	Milk Precooler - Dairy Plate Cooler	1.7%	3.24%	\$ 0.660	\$ 0.487	\$ 0.173	15	0.8738363	0
NonCooT4	Lumber_Wood_Product	Other Non Mfg.	Process Cooling	Turnover	4	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	10	1.5405308	1

Penn Electric Industrial Measures

Measure Lookup	Industry	New Segment	New End-Use	Vintage	Measure Number	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Life	TRC Test	Economic Flag
NonCool5	umber_Wood_Product	Other Non Mfg.	Process Cooling	Existing	5	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	3	0.8631154	0
NonHeaT1	Agriculture	Other Non Mfg.	Process Heating	Turnover	1	Crate Heating Pads	22.9%	17.51%	\$ 0.181	\$ 0.162	\$ 0.019	15	2.9093073	1
NonHeaT2	Agriculture	Other Non Mfg.	Process Heating	Turnover	2	Grain dryers	24.8%	23.52%	\$ 8.260	\$ 6.090	\$ 2.169	15	0.072265	0
NonHeaT3	Agriculture	Other Non Mfg.	Process Heating	Existing	3	Heat Lamp Seiback (Microzone)	22.9%	0.45%	\$ 0.210	\$ -	\$ -	15	2.5435181	1
NonHeaT4	Agriculture	Other Non Mfg.	Process Heating	Existing	4	Heat Lamp/Heating Pad Controller	22.9%	1.75%	\$ 0.129	\$ 0.129	\$ -	15	3.8780945	1
NonHeaT5	Agriculture	Other Non Mfg.	Process Heating	Turnover	5	Heat Lamps	22.9%	3.38%	\$ 0.023	\$ 0.023	\$ -	10	7.2080255	1
NonHeaT6	umber_Wood_Product	Other Non Mfg.	Process Heating	Existing	6	Improved Controls	37.9%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	10	1.2922449	1
NonHeaT7	umber_Wood_Product	Other Non Mfg.	Process Heating	Existing	7	Process Heat O&M	63.4%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	2	0.2605933	0
NonHT1	Agriculture	Other Non Mfg.	HVAC	Turnover	1	Energy-Efficient Dehumidifier	49.7%	2.00%	\$ 1.072	\$ 0.791	\$ 0.282	15	0.5658536	0
NonHT2	umber_Wood_Product	Other Non Mfg.	HVAC	Turnover	2	Equipment Upgrades	63.2%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	1.9366044	1
NonHT3	Agriculture	Other Non Mfg.	HVAC	Turnover	3	Heat Reclaimer	1.7%	42.00%	\$ 0.171	\$ 0.126	\$ 0.045	15	3.1613337	1
NonHT4	Agriculture	Other Non Mfg.	HVAC	Turnover	4	Heat Recovery Ventilators	49.7%	4.13%	\$ 0.448	\$ 0.330	\$ 0.118	10	0.7763397	0
NonHE5	umber_Wood_Product	Other Non Mfg.	HVAC	Existing	5	Improved Controls	32.8%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	2.8798202	1
NonHT6	Agriculture	Other Non Mfg.	HVAC	Turnover	6	Infrared Film for Greenhouses	0.3%	11.06%	\$ 0.261	\$ 0.234	\$ 0.028	4	0.5344479	0
NonHT7	Agriculture	Other Non Mfg.	HVAC	Turnover	7	Programmable Ventilation Controller	49.7%	0.10%	\$ 0.140	\$ 0.140	\$ -	10	2.2298764	1
NonHE8	umber_Wood_Product	Other Non Mfg.	HVAC	Existing	8	Recommissioning	72.9%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	0.8824975	0
NonHT9	Agriculture	Other Non Mfg.	HVAC	Turnover	9	Scroll Compressor	1.7%	7.50%	\$ 1.006	\$ 0.899	\$ 0.107	15	0.6024477	0
NonLT1	umber_Wood_Product	Other Non Mfg.	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2.0831033	1
NonLT2	umber_Wood_Product	Other Non Mfg.	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	0.9104781	0
NonLE3	umber_Wood_Product	Other Non Mfg.	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1.5396736	1
NonMT1	Other Non Mfg.	Other Non Mfg.	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	15	1.3235604	1
NonMT11	Agriculture	Other Non Mfg.	Motors	Turnover	11	Agricultural Exhaust Fans (Rate 21 CFM/Watt+)	49.7%	5.00%	\$ 0.316	\$ 0.283	\$ 0.034	15	1.7880164	1
NonMT15	Agriculture	Other Non Mfg.	Motors	Turnover	15	Low Pressure Irrigation	0.4%	50.00%	\$ 0.993	\$ 0.782	\$ 0.261	10	0.3522003	0
NonMT16	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	16	Material Handling	53.2%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	10	0.5877428	0
NonME17	umber_Wood_Product	Other Non Mfg.	Motors	Existing	17	Material Handling VFD	53.2%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	10	0.8827627	0
NonME18	umber_Wood_Product	Other Non Mfg.	Motors	Existing	18	Motor Management Plan	50.9%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.2492384	1
NonMT2	Other Non Mfg.	Other Non Mfg.	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	15	0.4788237	0
NonMT21	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	21	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.8241199	1
NonMT22	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	22	Air Compressor Demand Reduction	26.8%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	10	2.7237476	1
NonMT23	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	23	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.8241199	1
NonMT24	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	24	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	15	1.3377689	1
NonMT25	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	25	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	15	1.8241199	1
NonMT26	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	26	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	15	1.4770915	1
NonMT27	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	27	Properly Sized Fans	15.3%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	10	1.5785853	1
NonME28	umber_Wood_Product	Other Non Mfg.	Motors	Existing	28	Pump Energy Management	29.8%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	10	2.2492384	1
NonMT29	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	29	Pump Equipment Upgrade	32.3%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	10	1.9754039	1
NonMT3	Other Non Mfg.	Other Non Mfg.	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	15	1.5365297	1
NonME30	umber_Wood_Product	Other Non Mfg.	Motors	Existing	30	Pump System Optimization	14.9%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	12	1.1236712	1
NonMT31	Irrigation	Other Non Mfg.	Motors	Turnover	31	SIS	76.5%	7.5%	\$ 1.051	\$ 0.869	\$ 0.183	7	0.2359536	0
NonMT32	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	32	Air Compressor Equipment	17.6%	8.8%	\$ 0.157	\$ 0.130	\$ 0.027	10	1.9669813	1
NonMT33	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	33	Switch from Belt drive to Direct Drive	10.5%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	12	1.5986118	1
NonMT34	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	34	Synchronous Belts	20.9%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	10	1.2243643	1
NonMT35	Irrigation	Other Non Mfg.	Motors	Turnover	35	System Improvements	85.0%	8.0%	\$ 0.416	\$ 0.344	\$ 0.072	5	0.4059547	0
NonMT36	Agriculture	Other Non Mfg.	Motors	Turnover	36	Variable Speed Drives for Dairy Vacuum Pumps	1.7%	36.89%	\$ 0.169	\$ 0.151	\$ 0.018	15	3.1431921	1
NonMT37	Agriculture	Other Non Mfg.	Motors	Turnover	37	VFDs on Small Milking Machines	1.7%	3.22%	\$ 0.832	\$ 0.614	\$ 0.219	15	0.7118134	0
NonMT38	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	38	Wood: Replace Pneumatic Conveyor	50.2%	29.0%	\$ 0.018	\$ 0.016	\$ 0.002	10	8.3203106	1
NonME39	umber_Wood_Product	Other Non Mfg.	Motors	Existing	39	Air Compressor Optimization	36.8%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	10	2.0317835	1
NonMT4	Other Non Mfg.	Other Non Mfg.	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	15	0.7406013	0
NonMT40	Agriculture	Other Non Mfg.	Motors	Turnover	40	Automatic Milker Takeoff	1.7%	3.00%	\$ 0.763	\$ 0.563	\$ 0.200	15	0.7742324	0
NonMT41	Agriculture	Other Non Mfg.	Motors	Turnover	41	Circulating Fans	49.7%	5.00%	\$ 0.152	\$ 0.136	\$ 0.016	10	2.0282995	1
NonMT42	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	42	Efficient Centrifugal Fan	10.7%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	10	1.4192008	1
NonMT43	Other Non Mfg.	Other Non Mfg.	Motors	Turnover	43	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	15	0.2891876	0
NonME5	umber_Wood_Product	Other Non Mfg.	Motors	Existing	5	Fan System Optimization	30.2%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	10	1.0669512	1
NonMT16	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	6	High efficiency Compressor motors	77.5%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	15	1.3415371	1
NonMT7	Irrigation	Other Non Mfg.	Motors	Turnover	7	High Efficiency Motors	74.7%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	15	1.0707382	1
NonMT8	Agriculture	Other Non Mfg.	Motors	Turnover	8	High Volume Low Speed Fans	49.7%	46.61%	\$ 2.004	\$ 1.883	\$ 0.120	15	0.3007795	0
NonMT9	Agriculture	Other Non Mfg.	Motors	Turnover	9	High-Efficiency Ventilation System	49.7%	5.66%	\$ 1.366	\$ 1.366	\$ -	10	0.257668	0
NonOT1	umber_Wood_Product	Other Non Mfg.	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	15	2.2081924	1
NonOT10	umber_Wood_Product	Other Non Mfg.	Other	Turnover	10	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	15	1.3702764	1
NonOT12	Agriculture	Other Non Mfg.	Other	Turnover	2	Block Heater Timer	25.0%	2.50%	\$ 0.048	\$ 0.048	\$ -	10	4.8049969	1
NonOE3	umber_Wood_Product	Other Non Mfg.	Other	Existing	3	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	11	2.170338	1
NonOT4	Agriculture	Other Non Mfg.	Other	Turnover	4	Grain bin aeration control systems	24.8%	2.25%	\$ 0.168	\$ 0.124	\$ 0.044	15	3.1318911	1
NonOT5	Agriculture	Other Non Mfg.	Other	Turnover	5	Greenhouse Heat Curtain	0.3%	16.76%	\$ 0.056	\$ 0.056	\$ -	5	2.142952	1
NonOT6	Agriculture	Other Non Mfg.	Other	Turnover	6	High Efficiency Stock tank	22.9%	3.75%	\$ 0.412	\$ 0.368	\$ 0.044	10	0.8059568	0
NonOE7	umber_Wood_Product	Other Non Mfg.	Other	Existing	7	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	11	1.426294	1
NonOT8	Agriculture	Other Non Mfg.	Other	Turnover	8	Livestock Waterers	22.9%	11.25%	\$ 0.327	\$ 0.292	\$ 0.035	10	1.0014638	1
NonOE9	umber_Wood_Product	Other Non Mfg.	Other	Existing	9	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	10	2.1513718	1
MetPT1	Mining	Mfg. Metals	Process EC	Turnover	1	Electrical-Chemical Plating Bundle, Tank and Rectifier	65.0%	18.5%	\$ 0.550	\$ 0.450	\$ 0.100	15	1.0411836	1
MinHT1	Mining	Mining	HVAC	Turnover	1	Equipment Upgrades	62.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	15	1.9366044	1
MinHE2	Mining	Mining	HVAC	Existing	2	Improved Controls	32.7%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	10	2.8798202	1

Penn Electric Industrial Measures

Measure Lookup	Industry	New Segment	New End-Use	Vintage	Measure Number	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Life	TRC Test	Economic Flag
MinHE3	Mining	Mining	HVAC	Existing	3	Recommissioning	72.6%	16.0%	\$ 0.271	\$ -	\$ 0.271	7	0.8824975	0
MinLT1	Mining	Mining	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	10	2.0831033	1
MinLT2	Mining	Mining	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	10	0.9104781	0
MinLE3	Mining	Mining	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	10	1.5396736	1

Penn Power Industrial Measures

Measure Lookup	Industry	New Segment	New End-Use	Vintage	Measure Numbr	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Admin Costs (\$/kWh Saved)	Life	TRC Test	Economic Flag
CheCoo1	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Existing	1	Clean Room: Change Filter Strategy	100%	400%	\$ 0.016	\$ 0.012	\$ 0.005	\$ 0.025	1	0.7730571	0
CheCoo2	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Existing	2	Clean Room: Chiller Optimize	28.3%	14.8%	\$ 0.248	\$ 0.124	\$ 0.124	\$ 0.025	10	1.2693096	1
CheCoo3	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Turnover	3	Clean Room: Clean Room HVAC	30.0%	9.0%	\$ 0.204	\$ 0.144	\$ 0.061	\$ 0.025	15	2.612798	1
CheCoo14	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Turnover	4	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	\$ 0.025	15	1.6871241	1
CheCooE5	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Existing	5	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	\$ 0.025	15	0.5242095	0
CheCoo16	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Turnover	6	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	\$ 0.025	10	1.5311461	1
CheCoo7	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Existing	7	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	\$ 0.025	3	0.8070835	0
CheCoo18	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Turnover	8	Cold Storage Retrofit	25.6%	20.7%	\$ 0.250	\$ 0.157	\$ 0.093	\$ 0.025	10	1.2595366	1
CheCoo19	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Existing	9	Cold Storage Tuneup	10.0%	15.6%	\$ 0.112	\$ 0.047	\$ 0.065	\$ 0.025	3	0.7444628	0
CheHea1	Chemical_Mfg	Mfg. Chemicals	Process Heating	Existing	1	Improved Controls	37.9%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	\$ 0.025	10	1.2843727	1
CheHea2	Chemical_Mfg	Mfg. Chemicals	Process Heating	Existing	2	Process Heat O&M	63.4%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	\$ 0.025	2	0.2324913	0
CheHT1	Chemical_Mfg	Mfg. Chemicals	HVAC	Turnover	1	Equipment Upgrades	62.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	\$ 0.025	15	1.8861037	1
CheHE2	Chemical_Mfg	Mfg. Chemicals	HVAC	Existing	2	Improved Controls	32.7%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	\$ 0.025	10	2.7610834	1
CheHE3	Chemical_Mfg	Mfg. Chemicals	HVAC	Existing	3	Recommissioning	72.6%	16.0%	\$ 0.271	\$ -	\$ 0.271	\$ 0.025	7	0.8341842	0
CheLT1	Chemical_Mfg	Mfg. Chemicals	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	\$ 0.025	10	1.9987264	1
CheLT2	Chemical_Mfg	Mfg. Chemicals	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	\$ 0.025	10	0.8735989	0
CheLE3	Chemical_Mfg	Mfg. Chemicals	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	\$ 0.025	10	1.4773086	1
CheMT1	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	\$ 0.025	15	1.5269248	1
CheMT10	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	10	Material Handling	52.3%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	\$ 0.025	10	0.5786809	0
CheMT11	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	11	Air Compressor Demand Reduction	28.0%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	\$ 0.025	10	2.6817522	1
CheME6	Chemical_Mfg	Mfg. Chemicals	Motors	Existing	6	Material Handling VFD	52.3%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	\$ 0.025	10	0.869152	0
CheME13	Chemical_Mfg	Mfg. Chemicals	Motors	Existing	13	Motor Management Plan	51.6%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	2.214559	1
CheMT15	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	15	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.8127173	1
CheMT16	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	16	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.8127173	1
CheMT17	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	17	Motors: Rewind 20-50 HP	4.6%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	\$ 0.025	15	1.3294065	1
CheMT18	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	18	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.8127173	1
CheMT19	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	19	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	\$ 0.025	15	1.4678581	1
CheMT2	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	\$ 0.025	15	0.7359718	0
CheMT20	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	20	Properly Sized Fans	14.7%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	\$ 0.025	10	1.5542463	1
CheME21	Chemical_Mfg	Mfg. Chemicals	Motors	Existing	21	Air Compressor Optimization	38.3%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	\$ 0.025	10	2.0004569	1
CheME22	Chemical_Mfg	Mfg. Chemicals	Motors	Existing	22	Pump Energy Management	31.4%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	2.214559	1
CheMT23	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	23	Pump Equipment Upgrade	34.0%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	\$ 0.025	10	1.949466	1
CheME24	Chemical_Mfg	Mfg. Chemicals	Motors	Existing	24	Pump System Optimization	15.6%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	\$ 0.025	12	1.1122362	1
CheMT25	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	25	Switch from Belt drive to Direct Drive	10.4%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	12	1.5823433	1
CheMT26	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	26	Synchronous Belts	20.9%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	10	1.2054867	1
CheMT27	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	27	Efficient Centrifugal Fan	10.3%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	\$ 0.025	10	1.3973192	1
CheMT28	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	\$ 0.025	15	0.2873799	0
CheMT29	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	\$ 0.025	15	1.3152868	1
CheME3	Chemical_Mfg	Mfg. Chemicals	Motors	Existing	3	Fan System Optimization	28.9%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	\$ 0.025	10	1.0505007	1
CheMT30	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	\$ 0.025	15	0.4758305	0
CheMT4	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	4	High efficiency Compressor motors	80.8%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	\$ 0.025	15	1.3331511	1
CheMT5	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	5	High Efficiency Motors	74.4%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	\$ 0.025	15	1.064045	1
CheOT1	Chemical_Mfg	Mfg. Chemicals	Other	Turnover	1	Bldg. Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	\$ 0.025	15	2.1868274	1
CheOE2	Chemical_Mfg	Mfg. Chemicals	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	\$ 0.025	11	2.1355652	1
CheOE3	Chemical_Mfg	Mfg. Chemicals	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	\$ 0.025	11	1.4034422	1
CheOE4	Chemical_Mfg	Mfg. Chemicals	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	\$ 0.025	10	2.1101009	1
CheOT5	Chemical_Mfg	Mfg. Chemicals	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.015	\$ 0.399	\$ 0.016	\$ 0.025	15	1.3570186	1
ComCooE1	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Existing	1	Clean Room: Change Filter Strategy	100%	400%	\$ 0.016	\$ 0.012	\$ 0.005	\$ 0.025	1	0.7730571	0
ComCooE10	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Existing	10	Cold Storage Tuneup	10.0%	15.6%	\$ 0.112	\$ 0.047	\$ 0.065	\$ 0.025	3	0.7444628	0
ComCooE2	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Existing	2	Clean Room: Chiller Optimize	28.3%	14.8%	\$ 0.248	\$ 0.124	\$ 0.124	\$ 0.025	10	1.2693096	1
ComCooE3	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Turnover	3	Clean Room: Clean Room HVAC	30.0%	9.0%	\$ 0.204	\$ 0.144	\$ 0.061	\$ 0.025	15	2.612798	1
ComCooE4	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Turnover	4	Elec. Chip Fabr. Solidstate Chiller	20.0%	90.0%	\$ 0.634	\$ 0.562	\$ 0.072	\$ 0.025	10	0.52595	0
ComCooE5	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Turnover	5	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	\$ 0.025	15	1.6871241	1
ComCooE6	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Existing	6	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	\$ 0.025	15	0.5242095	0
ComCooE7	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Turnover	7	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	\$ 0.025	10	1.5311461	1
ComCooE8	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Existing	8	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	\$ 0.025	3	0.8070835	0
ComCooE9	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Turnover	9	Cold Storage Retrofit	25.6%	20.7%	\$ 0.250	\$ 0.157	\$ 0.093	\$ 0.025	10	1.2595366	1
ComHeaE1	Electronic_Equipment_M	Mfg. Computers	Process Heating	Existing	1	Improved Controls	41.5%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	\$ 0.025	10	1.2843727	1
ComHeaE2	Electronic_Equipment_M	Mfg. Computers	Process Heating	Existing	2	Process Heat O&M	69.5%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	\$ 0.025	2	0.2324913	0
ComHT1	Electronic_Equipment_M	Mfg. Computers	HVAC	Turnover	1	Equipment Upgrades	74.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	\$ 0.025	15	1.8861037	1
ComHE2	Electronic_Equipment_M	Mfg. Computers	HVAC	Existing	2	Improved Controls	38.9%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	\$ 0.025	10	2.7610834	1
ComHE3	Electronic_Equipment_M	Mfg. Computers	HVAC	Existing	3	Recommissioning	86.4%	16.0%	\$ 0.271	\$ -	\$ 0.271	\$ 0.025	7	0.8341842	0
ComLT1	Electronic_Equipment_M	Mfg. Computers	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	\$ 0.025	10	1.9987264	1
ComLT2	Electronic_Equipment_M	Mfg. Computers	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	\$ 0.025	10	0.8735989	0
ComLE3	Electronic_Equipment_M	Mfg. Computers	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	\$ 0.025	10	1.4773086	1
ComMT1	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	\$ 0.025	15	1.5269248	1
ComMT10	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	10	Material Handling	52.9%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	\$ 0.025	10	0.5786809	0
ComMT11	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	11	Air Compressor Demand Reduction	25.5%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	\$ 0.025	10	2.6817522	1
ComME6	Electronic_Equipment_M	Mfg. Computers	Motors	Existing	6	Material Handling VFD	52.9%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	\$ 0.025	10	0.869152	0
ComME13	Electronic_Equipment_M	Mfg. Computers	Motors	Existing	13	Motor Management Plan	49.2%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	2.214559	1
ComMT15	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	15	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.8127173	1
ComMT16	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	16	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.8127173	

Measure Lookup	Industry	New Segment	New End-Use	Vintage	Measure Numbr	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Admin Costs (\$/kWh Saved)	Life	TRC Test	Economic Flag
ComMT20	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	20	Properly Sized Fans	14.8%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	\$ 0.025	10	1,554,263	1
ComME21	Electronic_Equipment_M	Mfg. Computers	Motors	Existing	21	Air Compressor Optimization	35.0%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	\$ 0.025	10	2,000,450	1
ComMT22	Electronic_Equipment_M	Mfg. Computers	Motors	Existing	22	Pump Energy Management	30.1%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	2,214,559	1
ComMT23	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	23	Pump Equipment Upgrade	32.6%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	\$ 0.025	10	1,944,966	1
ComME24	Electronic_Equipment_M	Mfg. Computers	Motors	Existing	24	Pump System Optimization	15.0%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	\$ 0.025	12	1,122,362	1
ComMT25	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	25	Switch from Belt Drive to Direct Drive	10.5%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	12	1,582,435	1
ComMT26	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	26	Synchronous Belts	20.8%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	10	1,205,486	1
ComMT27	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	27	Efficient Centrifugal Fan	10.3%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	\$ 0.025	10	1,397,319	1
ComMT28		Mfg. Computers	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	\$ 0.025	15	0,287,379	0
ComMT29		Mfg. Computers	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	\$ 0.025	15	1,315,268	1
ComME3	Electronic_Equipment_M	Mfg. Computers	Motors	Existing	3	Fan System Optimization	29.1%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	\$ 0.025	10	1,050,507	1
ComMT30	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	\$ 0.025	15	0,475,830	0
ComMT4	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	4	High efficiency Compressor motors	73.8%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	\$ 0.025	15	1,333,151	1
ComMT15	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	5	High Efficiency Motors	73.8%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	\$ 0.025	15	1,064,045	1
ComOT1	Electronic_Equipment_M	Mfg. Computers	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	\$ 0.025	15	2,186,827	1
ComOT2	Electronic_Equipment_M	Mfg. Computers	Other	Turnover	2	Elec Chip Fab: Eliminate Exhaust	80.1%	5.0%	\$ 0.233	\$ 0.206	\$ 0.026	\$ 0.025	10	1,340,962	1
ComOT3	Electronic_Equipment_M	Mfg. Computers	Other	Turnover	3	Elec Chip Fab: Exhaust Injector	35.0%	100.0%	\$ 0.561	\$ 0.498	\$ 0.064	\$ 0.025	10	0,589,453	0
ComCooT11	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Turnover	11	Elec Chip Fab: Reduce Gas Pressure	5.0%	10.0%	\$ 0.063	\$ -	\$ 0.063	\$ 0.025	10	3,959,402	1
ComOE5	Electronic_Equipment_M	Mfg. Computers	Other	Existing	5	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	\$ 0.025	11	2,135,652	1
ComOE6	Electronic_Equipment_M	Mfg. Computers	Other	Existing	6	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	\$ 0.025	11	1,403,422	1
ComOE7	Electronic_Equipment_M	Mfg. Computers	Other	Existing	7	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	\$ 0.025	10	2,110,009	1
ComOT8	Electronic_Equipment_M	Mfg. Computers	Other	Turnover	8	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	\$ 0.025	15	1,357,086	1
FooCoo11	Food_Mfg	Mfg. Food	Process Cooling	Turnover	1	Equipment: Chillers	8.3%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	\$ 0.025	15	1,087,124	1
FooCooE2	Food_Mfg	Mfg. Food	Process Cooling	Existing	2	Improved Controls	35.2%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	\$ 0.025	15	0,524,205	0
FooCoo13	Food_Mfg	Mfg. Food	Process Cooling	Turnover	3	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	\$ 0.025	10	1,831,146	1
FooCoo14	Food_Mfg	Mfg. Food	Process Cooling	Turnover	4	Food: Cooling and Storage	15.0%	15.4%	\$ 0.258	\$ 0.162	\$ 0.096	\$ 0.025	10	1,224,510	1
FooCoo15	Food_Mfg	Mfg. Food	Process Cooling	Turnover	5	Food: Refrig Storage Tuneup	7.5%	14.4%	\$ 0.056	\$ 0.023	\$ 0.033	\$ 0.025	3	1,258,727	1
FooCoo16	Food_Mfg	Mfg. Food	Process Cooling	Turnover	6	Fruit Storage Refer Retrofit	60.7%	38.2%	\$ 0.214	\$ 0.135	\$ 0.079	\$ 0.025	10	1,447,515	1
FooCoo17	Food_Mfg	Mfg. Food	Process Cooling	Turnover	7	Fruit Storage Tuneup	10.0%	15.6%	\$ 0.056	\$ 0.023	\$ 0.033	\$ 0.025	3	1,258,727	1
FooCooE8	Food_Mfg	Mfg. Food	Process Cooling	Existing	8	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	\$ 0.025	3	0,807,035	0
FooHeaE1	Food_Mfg	Mfg. Food	Process Heating	Existing	1	Improved Controls	38.8%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	\$ 0.025	10	1,284,372	1
FooHeaE2	Food_Mfg	Mfg. Food	Process Heating	Existing	2	Process Heat O&M	65.0%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	\$ 0.025	2	0,232,491	0
FooHT1	Food_Mfg	Mfg. Food	HVAC	Turnover	1	Equipment Upgrades	62.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	\$ 0.025	15	1,886,103	1
FooHE2	Food_Mfg	Mfg. Food	HVAC	Existing	2	Improved Controls	32.7%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	\$ 0.025	10	2,761,083	1
FooHE3	Food_Mfg	Mfg. Food	HVAC	Existing	3	Recommissioning	72.6%	16.0%	\$ 0.271	\$ -	\$ 0.271	\$ 0.025	7	0,834,182	0
FooLT1	Food_Mfg	Mfg. Food	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	\$ 0.025	10	1,998,726	1
FooLT2	Food_Mfg	Mfg. Food	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	\$ 0.025	10	0,873,598	0
FooLE3	Food_Mfg	Mfg. Food	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	\$ 0.025	10	1,477,908	1
FooME1	Food_Mfg	Mfg. Food	Motors	Existing	1	Fan System Optimization	29.6%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	\$ 0.025	10	1,050,507	1
FooME4	Food_Mfg	Mfg. Food	Motors	Existing	4	Material Handling VFD	51.6%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	\$ 0.025	10	0,869,152	0
FooME11	Food_Mfg	Mfg. Food	Motors	Existing	11	Motor Management Plan	48.9%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	2,214,559	1
FooMT13	Food_Mfg	Mfg. Food	Motors	Turnover	13	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1,812,173	1
FooMT14	Food_Mfg	Mfg. Food	Motors	Turnover	14	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1,812,173	1
FooMT15	Food_Mfg	Mfg. Food	Motors	Turnover	15	Motors: Rewind 20-50 HP	4.6%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	\$ 0.025	15	1,329,406	1
FooMT16	Food_Mfg	Mfg. Food	Motors	Turnover	16	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1,812,173	1
FooMT17	Food_Mfg	Mfg. Food	Motors	Turnover	17	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	\$ 0.025	15	1,467,858	1
FooME18	Food_Mfg	Mfg. Food	Motors	Existing	18	Air Compressor Optimization	35.0%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	\$ 0.025	10	2,000,450	1
FooMT19	Food_Mfg	Mfg. Food	Motors	Turnover	19	Properly Sized Fans	15.0%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	\$ 0.025	10	1,554,263	1
FooMT2	Food_Mfg	Mfg. Food	Motors	Turnover	2	High efficiency Compressor motors	73.8%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	\$ 0.025	15	1,333,151	1
FooME20	Food_Mfg	Mfg. Food	Motors	Existing	20	Pump Energy Management	30.5%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	2,214,559	1
FooMT21	Food_Mfg	Mfg. Food	Motors	Turnover	21	Pump Equipment Upgrade	33.0%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	\$ 0.025	10	1,944,966	1
FooME22	Food_Mfg	Mfg. Food	Motors	Existing	22	Pump System Optimization	15.2%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	\$ 0.025	12	1,122,362	1
FooMT23	Food_Mfg	Mfg. Food	Motors	Turnover	23	Switch from Belt drive to Direct Drive	10.2%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	12	1,582,435	1
FooMT24	Food_Mfg	Mfg. Food	Motors	Turnover	24	Synchronous Belts	20.8%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	10	1,205,486	1
FooMT25	Food_Mfg	Mfg. Food	Motors	Turnover	25	Efficient Centrifugal Fan	10.5%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	\$ 0.025	10	1,397,319	1
FooMT26		Mfg. Food	Motors	Turnover	26	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	\$ 0.025	15	0,287,379	0
FooMT27		Mfg. Food	Motors	Turnover	27	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	\$ 0.025	15	1,315,268	1
FooMT28		Mfg. Food	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	\$ 0.025	15	0,475,830	0
FooMT29		Mfg. Food	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	\$ 0.025	15	1,520,248	1
FooMT3	Food_Mfg	Mfg. Food	Motors	Turnover	3	High Efficiency Motors	74.0%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	\$ 0.025	15	1,064,045	1
FooMT30		Mfg. Food	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	\$ 0.025	15	0,735,978	0
FooMT7	Food_Mfg	Mfg. Food	Motors	Turnover	7	Air Compressor Demand Reduction	25.5%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	\$ 0.025	10	2,681,752	1
FooMT9	Food_Mfg	Mfg. Food	Motors	Turnover	9	Material Handling	51.6%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	\$ 0.025	10	0,578,680	0
FooOT1	Food_Mfg	Mfg. Food	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	\$ 0.025	15	2,186,827	1
FooOE2	Food_Mfg	Mfg. Food	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	\$ 0.025	11	2,135,652	1
FooOE3	Food_Mfg	Mfg. Food	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	\$ 0.025	11	1,403,422	1
FooOE4	Food_Mfg	Mfg. Food	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	\$ 0.025	10	2,110,009	1
FooOT5	Food_Mfg	Mfg. Food	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	\$ 0.025	15	1,357,086	1
MetCooT1	Primary_Metal_Mfg	Mfg. Metals	Process Cooling	Turnover	1	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	\$ 0.025	15	1,087,124	1
MetCooE2	Primary_Metal_Mfg	Mfg. Metals	Process Cooling	Existing	2	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	\$ 0.025	15	0,524,205	0
MetCooE3	Primary_Metal_Mfg	Mfg. Metals	Process Cooling	Existing	3	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	\$ 0.025	3	0,807,035	0
MetHeaE1	Primary_Metal_Mfg	Mfg. Metals	Process Heating	Existing	1	Improved Controls	40.1%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	\$ 0.025	10	1,284,372	1
MetHeaE2	Primary_Metal_Mfg	Mfg. Metals	Process Heating	Turnover	2	Metal: New Arc Furnace	10.3%								

Penn Power Industrial Measures

Measure Lookup	Industry	New Segment	New End Use	Vintage	Measure Num	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Admin Costs (\$/kWh Saved)	Life	TRC Test	Economic Flag	
MetHE3	Primary_Metal_Mfg	Mfg. Metals	HVAC	Existing	3	Recommissioning	74.7%	16.0%	\$ 0.271	\$	\$ 0.271	\$	0.025	7	0.8341842	0
MetLT1	Primary_Metal_Mfg	Mfg. Metals	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	\$	0.025	10	1.9987264	1
MetLT2	Primary_Metal_Mfg	Mfg. Metals	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	\$	0.025	10	0.8735989	0
MetLE3	Primary_Metal_Mfg	Mfg. Metals	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	\$	0.025	10	1.4773086	1
MetMT1	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	1	Air Compressor Demand Reduction	25.3%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	\$	0.025	10	2.6817522	1
MetME10	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	10	Motor Management Plan	49.1%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	\$	0.025	10	2.214559	1
MetME12	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	12	Air Compressor Optimization	34.7%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	\$	0.025	10	2.0004569	1
MetMT13	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	13	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$	0.025	15	1.8127173	1
MetMT14	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	14	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$	0.025	15	1.8127173	1
MetMT15	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	15	Motors: Rewind 20-50 HP	4.6%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	\$	0.025	15	1.3294065	1
MetMT16	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	16	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$	0.025	15	1.8127173	1
MetMT17	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	17	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	\$	0.025	15	1.4678581	1
MetMT18	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	18	Properly Sized Fans	14.7%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	\$	0.025	10	1.5542463	1
MetME19	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	19	Pump Energy Management	29.8%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	\$	0.025	10	2.214559	1
MetMT2	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	2	High efficiency Compressor motors	73.1%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	\$	0.025	15	1.3331511	1
MetMT20	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	20	Pump Equipment Upgrade	32.3%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	\$	0.025	10	1.949466	1
MetME21	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	21	Pump System Optimization	14.9%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	\$	0.025	12	1.1122362	1
MetMT22	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	22	Efficient Centrifugal Fan	10.3%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	\$	0.025	10	1.3973192	1
MetMT23	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	23	Switch from Belt drive to Direct Drive	10.4%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	\$	0.025	12	1.5823435	1
MetMT24	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	24	Synchronous Belts	20.6%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	\$	0.025	10	1.2054867	1
MetMT25		Mfg. Metals	Motors	Turnover	25	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	\$	0.025	15	0.2873799	0
MetMT26		Mfg. Metals	Motors	Turnover	26	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	\$	0.025	15	1.3152868	1
MetMT27		Mfg. Metals	Motors	Turnover	27	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	\$	0.025	15	0.4758305	0
MetMT28		Mfg. Metals	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	\$	0.025	15	1.5269248	1
MetMT29		Mfg. Metals	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	\$	0.025	15	0.7359718	0
MetMT3	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	3	High Efficiency Motors	73.3%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	\$	0.025	15	1.064045	1
MetME30	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	30	Fan System Optimization	29.0%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	\$	0.025	10	1.0505007	1
MetMT8	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	8	Material Handling	52.4%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	\$	0.025	10	0.5786809	0
MetME4	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	4	Material Handling VFD	52.4%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	\$	0.025	10	0.869152	0
MetOT1	Primary_Metal_Mfg	Mfg. Metals	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	\$	0.025	15	2.1868274	1
MetOE2	Primary_Metal_Mfg	Mfg. Metals	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	\$	0.025	11	2.1355652	1
MetOE3	Primary_Metal_Mfg	Mfg. Metals	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	\$	0.025	11	1.4034422	1
MetOE4	Primary_Metal_Mfg	Mfg. Metals	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	\$	0.025	10	2.1101009	1
MetOT5	Primary_Metal_Mfg	Mfg. Metals	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	\$	0.025	15	1.3570186	1
OhCooT1	Miscellaneous_Mfg	Mfg. Other	Process Cooling	Turnover	1	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	\$	0.025	15	1.6871241	1
OhCooE2	Miscellaneous_Mfg	Mfg. Other	Process Cooling	Existing	2	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	\$	0.025	15	0.5242095	0
OhCooE3	one_Clay_Glass_Product	Mfg. Other	Process Cooling	Turnover	3	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	\$	0.025	10	1.5311461	1
OhCooE4	Miscellaneous_Mfg	Mfg. Other	Process Cooling	Existing	4	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	\$	0.025	3	0.8070835	0
OhCoo15	Miscellaneous_Mfg	Mfg. Other	Process Cooling	Turnover	5	Cold Storage Retrofit	25.6%	20.7%	\$ 0.250	\$ 0.157	\$ 0.093	\$	0.025	10	1.2595366	1
OhCooE6	Miscellaneous_Mfg	Mfg. Other	Process Cooling	Existing	6	Cold Storage Tuneup	10.0%	15.6%	\$ 0.112	\$ 0.047	\$ 0.065	\$	0.025	3	0.7444628	0
OhIEac1	Miscellaneous_Mfg	Mfg. Other	Process Heating	existing	1	Improved Controls	41.7%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	\$	0.025	10	1.2843727	1
OhIEac2	Miscellaneous_Mfg	Mfg. Other	Process Heating	existing	2	Process Heat O&M	69.8%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	\$	0.025	2	0.324913	0
OhHT1	Miscellaneous_Mfg	Mfg. Other	HVAC	Turnover	1	Equipment Upgrades	64.4%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	\$	0.025	15	1.8861037	1
OhHE2	Miscellaneous_Mfg	Mfg. Other	HVAC	Existing	2	Improved Controls	33.4%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	\$	0.025	10	2.7610834	1
OhHE3	Miscellaneous_Mfg	Mfg. Other	HVAC	Existing	3	Recommissioning	74.3%	16.0%	\$ 0.271	\$ -	\$ 0.271	\$	0.025	7	0.8341842	0
OhLT1	Miscellaneous_Mfg	Mfg. Other	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	\$	0.025	10	1.9987264	1
OhLT2	Miscellaneous_Mfg	Mfg. Other	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	\$	0.025	10	0.8735989	0
OhLE3	Miscellaneous_Mfg	Mfg. Other	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	\$	0.025	10	1.4773086	1
OhMT1		Mfg. Other	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	\$	0.025	15	0.4758305	0
OhMT11	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	11	Air Compressor Demand Reduction	26.0%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	\$	0.025	10	2.6817522	1
OhMT12	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	12	Material Handling	52.9%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	\$	0.025	10	0.5786809	0
OhME13	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	13	Material Handling VFD	52.9%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	\$	0.025	10	0.869152	0
OhME14	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	14	Motor Management Plan	50.0%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	\$	0.025	10	2.214559	1
OhMT16	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	16	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$	0.025	15	1.8127173	1
OhMT17	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	17	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$	0.025	15	1.8127173	1
OhMT18	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	18	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	\$	0.025	15	1.3294065	1
OhMT19	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	19	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$	0.025	15	1.8127173	1
OhMT2		Mfg. Other	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	\$	0.025	15	1.5269248	1
OhMT20	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	20	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	\$	0.025	15	1.4678581	1
OhMT21	one_Clay_Glass_Product	Mfg. Other	Motors	Turnover	21	Air Compressor Equipment	17.0%	8.8%	\$ 0.157	\$ 0.130	\$ 0.027	\$	0.025	10	1.9366539	1
OhMT22	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	22	Properly Sized Fans	15.3%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	\$	0.025	10	1.5542463	1
OhME23	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	23	Pump Energy Management	31.2%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	\$	0.025	10	2.214559	1
OhMT24	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	24	Pump Equipment Upgrade	33.8%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	\$	0.025	10	1.949466	1
OhME25	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	25	Pump System Optimization	15.5%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	\$	0.025	12	1.1122362	1
OhMT26	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	26	Switch from Belt drive to Direct Drive	10.5%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	\$	0.025	12	1.5823435	1
OhMT27	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	27	Synchronous Belts	21.4%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	\$	0.025	10	1.2054867	1
OhME28	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	28	Air Compressor Optimization	35.6%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	\$	0.025	10	2.0004569	1
OhMT29	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	29	Efficient Centrifugal Fan	10.7%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	\$	0.025	10	1.3973192	1
OhMT3		Mfg. Other	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	\$	0.025	15	0.7359718	0
OhMT30		Mfg. Other	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	\$				

Measure Lookup	Industry	New Segment	New End Use	Vintage	Measure Numbr	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Admin Costs (\$/kWh Saved)	Life	TRC Test	Economic Flag
OhOE3	Miscellaneous_Mfg	Mfg, Other	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	\$ 0.025	11	14034422	1
OhOE4	Miscellaneous_Mfg	Mfg, Other	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	\$ 0.025	10	21101009	1
OhOT5	Miscellaneous_Mfg	Mfg, Other	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	\$ 0.025	15	13570186	1
PapCooT1	Paper_Mfg	Mfg, Paper	Process Cooling	Turnover	1	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	\$ 0.025	15	1.6871241	1
PapCooE2	Paper_Mfg	Mfg, Paper	Process Cooling	Existing	2	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	\$ 0.025	15	0.5242095	0
PapCooI3	Paper_Mfg	Mfg, Paper	Process Cooling	Turnover	3	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	\$ 0.025	10	1.5311461	1
PapCooE4	Paper_Mfg	Mfg, Paper	Process Cooling	Existing	4	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	\$ 0.025	3	0.8070835	0
PapHcaE1	Paper_Mfg	Mfg, Paper	Process Heating	Existing	1	Improved Controls	38.1%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	\$ 0.025	10	1.2843727	1
PapHcaE2	Paper_Mfg	Mfg, Paper	Process Heating	Existing	2	Process Heat O&M	63.9%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	\$ 0.025	2	0.2324913	0
PapHT1	Paper_Mfg	Mfg, Paper	HVAC	Turnover	1	Equipment Upgrades	62.4%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	\$ 0.025	15	1.8861037	1
PapHE2	Paper_Mfg	Mfg, Paper	HVAC	Existing	2	Improved Controls	32.4%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	\$ 0.025	10	2.7610834	1
PapHE3	Paper_Mfg	Mfg, Paper	HVAC	Existing	3	Recommissioning	72.0%	16.0%	\$ 0.271	\$ -	\$ 0.271	\$ 0.025	7	0.8341842	0
PapLT1	Paper_Mfg	Mfg, Paper	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	\$ 0.025	10	1.9987264	1
PapLT2	Paper_Mfg	Mfg, Paper	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	\$ 0.025	10	0.8735989	0
PapLE3	Paper_Mfg	Mfg, Paper	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	\$ 0.025	10	1.4773086	1
PapME1	Paper_Mfg	Mfg, Paper	Motors	Existing	1	Fan System Optimization	30.2%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	\$ 0.025	10	1.0505007	1
PapME10	Paper_Mfg	Mfg, Paper	Motors	Existing	10	Motor Management Plan	50.1%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	2.214559	1
PapMT11	Paper_Mfg	Mfg, Paper	Motors	Turnover	11	Air Compressor Demand Reduction	25.8%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	\$ 0.025	10	2.6817522	1
PapMT13	Paper_Mfg	Mfg, Paper	Motors	Turnover	13	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.8127173	1
PapMT14	Paper_Mfg	Mfg, Paper	Motors	Turnover	14	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.8127173	1
PapMT15	Paper_Mfg	Mfg, Paper	Motors	Turnover	15	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	\$ 0.025	15	1.3294065	1
PapMT16	Paper_Mfg	Mfg, Paper	Motors	Turnover	16	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.8127173	1
PapMT17	Paper_Mfg	Mfg, Paper	Motors	Turnover	17	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	\$ 0.025	15	1.4678581	1
PapMT18	Paper_Mfg	Mfg, Paper	Motors	Turnover	18	Paper: Large Material Handling	25.2%	9.7%	\$ 0.959	\$ 0.850	\$ 0.109	\$ 0.025	10	0.358642	0
PapMT19	Paper_Mfg	Mfg, Paper	Motors	Turnover	19	Paper: Material Handling	25.2%	13.1%	\$ 0.801	\$ 0.710	\$ 0.091	\$ 0.025	10	0.4270114	0
PapMT2	Paper_Mfg	Mfg, Paper	Motors	Turnover	2	High efficiency Compressor motors	74.7%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	\$ 0.025	15	1.3331511	1
PapMT20	Paper_Mfg	Mfg, Paper	Motors	Turnover	20	Paper: Premium Control Large Material	25.2%	18.7%	\$ 0.549	\$ 0.486	\$ 0.062	\$ 0.025	10	0.6152985	0
PapME21	Paper_Mfg	Mfg, Paper	Motors	Existing	21	Air Compressor Optimization	35.4%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	\$ 0.025	10	2.0004569	1
PapMT22	Paper_Mfg	Mfg, Paper	Motors	Turnover	22	Paper: Premium Fan	25.5%	20.0%	\$ 0.227	\$ 0.201	\$ 0.026	\$ 0.025	10	1.4022249	1
PapMT23	Paper_Mfg	Mfg, Paper	Motors	Turnover	23	Properly Sized Fans	15.3%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	\$ 0.025	10	1.5542463	1
PapME24	Paper_Mfg	Mfg, Paper	Motors	Existing	24	Pump Energy Management	32.3%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	2.214559	1
PapMT25	Paper_Mfg	Mfg, Paper	Motors	Turnover	25	Pump Equipment Upgrade	34.9%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	\$ 0.025	10	1.949466	1
PapME26	Paper_Mfg	Mfg, Paper	Motors	Existing	26	Pump System Optimization	16.1%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	\$ 0.025	12	1.1122362	1
PapMT27	Paper_Mfg	Mfg, Paper	Motors	Turnover	27	Switch from Belt drive to Direct Drive	10.6%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	12	1.5823435	1
PapMT28	Paper_Mfg	Mfg, Paper	Motors	Turnover	28	Synchronous Belts	21.4%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	10	1.2054867	1
PapMT29	Paper_Mfg	Mfg, Paper	Motors	Turnover	29	Efficient Centrifugal Fan	10.7%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	\$ 0.025	10	1.3973192	1
PapMT3	Paper_Mfg	Mfg, Paper	Motors	Turnover	3	High Efficiency Motors	76.7%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	\$ 0.025	15	1.064045	1
PapMT30	Mfg, Paper	Motors	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	\$ 0.025	15	0.2873799	0
PapMT31	Mfg, Paper	Motors	Motors	Turnover	31	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	\$ 0.025	15	1.3152868	1
PapMT32	Mfg, Paper	Motors	Motors	Turnover	32	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	\$ 0.025	15	0.4758305	0
PapMT33	Mfg, Paper	Motors	Motors	Turnover	33	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	\$ 0.025	15	1.5269248	1
PapMT34	Mfg, Paper	Motors	Motors	Turnover	34	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	\$ 0.025	15	0.7359718	0
PapMT8	Paper_Mfg	Mfg, Paper	Motors	Turnover	8	Material Handling	53.4%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	\$ 0.025	10	0.5786809	0
PapME9	Paper_Mfg	Mfg, Paper	Motors	Existing	9	Material Handling VFD	53.4%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	\$ 0.025	10	0.869152	0
PapOT1	Paper_Mfg	Mfg, Paper	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	\$ 0.025	15	2.1868274	1
PapOE10	Paper_Mfg	Mfg, Paper	Other	Existing	10	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	\$ 0.025	10	2.1101009	1
PapOT11	Paper_Mfg	Mfg, Paper	Other	Turnover	11	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	\$ 0.025	15	1.3570186	1
PapOE2	Paper_Mfg	Mfg, Paper	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	\$ 0.025	11	2.1355652	1
PapOE3	Paper_Mfg	Mfg, Paper	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	\$ 0.025	11	1.4034422	1
PapOT4	Paper_Mfg	Mfg, Paper	Other	Turnover	4	Kraft: Efficient Agitator	13.8%	50.0%	\$ 0.104	\$ 0.093	\$ 0.012	\$ 0.025	10	2.6697517	1
PapOT5	Paper_Mfg	Mfg, Paper	Other	Turnover	5	Kraft: Effluent Treatment System	9.2%	15.0%	\$ 0.092	\$ 0.082	\$ 0.011	\$ 0.025	10	2.9420775	1
PapOT6	Paper_Mfg	Mfg, Paper	Other	Turnover	6	Mech Pulp: Premium Process	22.5%	0.2%	\$ 0.141	\$ 0.125	\$ 0.016	\$ 0.025	5	1.0001376	1
PapOT7	Paper_Mfg	Mfg, Paper	Other	Turnover	7	Mech Pulp: Refiner Plate Improvement	35.5%	0.4%	\$ 0.045	\$ 0.040	\$ 0.005	\$ 0.025	1	0.4621846	0
PapOT8	Paper_Mfg	Mfg, Paper	Other	Turnover	8	Mech Pulp: Refiner Replacement	23.7%	10.0%	\$ 0.735	\$ 0.652	\$ 0.084	\$ 0.025	12	0.5985793	0
PapOT9	Paper_Mfg	Mfg, Paper	Other	Turnover	9	Paper: Efficient Pulp Screen	13.8%	15.0%	\$ 0.226	\$ 0.200	\$ 0.026	\$ 0.025	10	1.379369	1
PlaCooE1	Chemical_Mfg	Mfg, Plastics	Process Cooling	Existing	1	Clean Room: Change Filter Strategy	10.0%	40.0%	\$ 0.016	\$ 0.012	\$ 0.005	\$ 0.025	1	0.7730571	0
PlaCooE2	Chemical_Mfg	Mfg, Plastics	Process Cooling	Existing	2	Clean Room: Chiller Optimize	28.3%	14.8%	\$ 0.248	\$ 0.124	\$ 0.124	\$ 0.025	10	1.2693096	1
PlaCooI3	Chemical_Mfg	Mfg, Plastics	Process Cooling	Turnover	3	Clean Room: Clean Room HVAC	30.0%	9.0%	\$ 0.204	\$ 0.144	\$ 0.061	\$ 0.025	15	2.612798	1
PlaCooI4	Chemical_Mfg	Mfg, Plastics	Process Cooling	Turnover	4	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	\$ 0.025	15	1.6871241	1
PlaCooE5	Chemical_Mfg	Mfg, Plastics	Process Cooling	Existing	5	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	\$ 0.025	15	0.5242095	0
PlaCooI6	Chemical_Mfg	Mfg, Plastics	Process Cooling	Turnover	6	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	\$ 0.025	10	1.5311461	1
PlaCooE7	Chemical_Mfg	Mfg, Plastics	Process Cooling	Existing	7	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	\$ 0.025	3	0.8070835	0
PlaCooI8	Chemical_Mfg	Mfg, Plastics	Process Cooling	Turnover	8	Cold Storage Retrofit	25.6%	20.7%	\$ 0.250	\$ 0.157	\$ 0.093	\$ 0.025	10	1.2593366	1
PlaCooE9	Chemical_Mfg	Mfg, Plastics	Process Cooling	Existing	9	Cold Storage Tuneup	10.0%	15.6%	\$ 0.112	\$ 0.047	\$ 0.065	\$ 0.025	3	0.7444628	0
PlaHcaE1	Chemical_Mfg	Mfg, Plastics	Process Heating	Existing	1	Improved Controls	37.9%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	\$ 0.025	10	1.2843727	1
PlaHcaE2	Chemical_Mfg	Mfg, Plastics	Process Heating	Existing	2	Process Heat O&M	63.4%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	\$ 0.025	2	0.2324913	0
PlaHT1	Chemical_Mfg	Mfg, Plastics	HVAC	Turnover	1	Equipment Upgrades	62.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	\$ 0.025	15	1.8861037	1
PlaHE2	Chemical_Mfg	Mfg, Plastics	HVAC	Existing	2	Improved Controls	32.7%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	\$ 0.025	10	2.7610834	1
PlaHE3	Chemical_Mfg	Mfg, Plastics	HVAC	Existing	3	Recommissioning	72.6%	16.0%	\$ 0.271	\$ -	\$ 0.271	\$ 0.025	7	0.8341842	0
PlaLT1	Chemical_Mfg	Mfg, Plastics	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	\$ 0.025	10	1.9987264	1
PlaLT2	Chemical_Mfg	Mfg, Plastics	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	\$ 0.025	10	0.8735989	0
PlaLE3	Chemical_Mfg	Mfg, Plastics	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	\$ 0.025	10	1.4773086	1
PlaMT1	Chemical_Mfg	Mfg, Plastics	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0						

Measure Lookup	Industry	New Segment	New End Use	Vintage	Measure Numbr	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Admin Costs (\$/kWh Saved)	Life	TRC Test	Economic Flag
PlaME13	Chemical_Mfg	Mfg. Plastics	Motors	Existing	13	Motor Management Plan	51.6%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	2.214559	1
PlaMT15	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	15	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.8127173	1
PlaMT16	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	16	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.8127173	1
PlaMT17	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	17	Motors: Rewind 20-50 HP	4.6%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	\$ 0.025	15	1.3294065	1
PlaMT18	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	18	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.8127173	1
PlaMT19	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	19	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	\$ 0.025	15	1.4678581	1
PlaMT20	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	\$ 0.025	15	0.7359718	0
PlaME21	Chemical_Mfg	Mfg. Plastics	Motors	Existing	21	Properly Sized Fans	14.7%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	\$ 0.025	10	1.5542463	1
PlaME22	Chemical_Mfg	Mfg. Plastics	Motors	Existing	22	Air Compressor Optimization	38.3%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	\$ 0.025	10	2.0004569	1
PlaMT23	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	23	Pump Energy Management	31.4%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	2.214559	1
PlaME24	Chemical_Mfg	Mfg. Plastics	Motors	Existing	24	Pump Equipment Upgrade	34.0%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	\$ 0.025	10	1.949466	1
PlaMT25	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	25	Pump System Optimization	15.6%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	\$ 0.025	12	1.1122362	1
PlaMT26	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	26	Switch from Belt drive to Direct Drive	10.4%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	12	1.5823435	1
PlaMT27	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	27	Synchronous Belts	20.9%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	10	1.2054867	1
PlaMT28	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	28	Efficient Centrifugal Fan	10.3%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	\$ 0.025	10	1.973192	1
PlaMT29	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	\$ 0.025	15	0.2873799	0
PlaME3	Chemical_Mfg	Mfg. Plastics	Motors	Existing	3	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	\$ 0.025	15	1.3152868	1
PlaMT30	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	30	Fan System Optimization	28.9%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	\$ 0.025	10	1.0505007	1
PlaMT4	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	\$ 0.025	15	0.4758305	0
PlaMT5	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	5	High efficiency Compressor motors	80.8%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	\$ 0.025	15	1.3331511	1
PlaMT15	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	4	High Efficiency Motors	74.4%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	\$ 0.025	15	1.064045	1
PlaOT1	Chemical_Mfg	Mfg. Plastics	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	\$ 0.025	15	2.1868274	1
PlaOE2	Chemical_Mfg	Mfg. Plastics	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	\$ 0.025	11	2.1355652	1
PlaOE3	Chemical_Mfg	Mfg. Plastics	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	\$ 0.025	11	1.4034422	1
PlaOE4	Chemical_Mfg	Mfg. Plastics	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	\$ 0.025	10	2.1101009	1
PlaOT5	Chemical_Mfg	Mfg. Plastics	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	\$ 0.025	15	1.3570186	1
MinMT1	Mining	Mining	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	\$ 0.025	15	0.2873799	0
MinME10	Mining	Mining	Motors	Existing	10	Motor Management Plan	50.0%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	2.214559	1
MinMT12	Mining	Mining	Motors	Turnover	12	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.8127173	1
MinMT13	Mining	Mining	Motors	Turnover	13	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.8127173	1
MinMT14	Mining	Mining	Motors	Turnover	14	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	\$ 0.025	15	1.3294065	1
MinMT15	Mining	Mining	Motors	Turnover	15	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.8127173	1
MinMT16	Mining	Mining	Motors	Turnover	16	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	\$ 0.025	15	1.4678581	1
MinMT17	Mining	Mining	Motors	Turnover	17	Switch from Belt drive to Direct Drive	10.5%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	12	1.5823435	1
MinMT18	Mining	Mining	Motors	Turnover	18	Synchronous Belts	21.0%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	10	1.2054867	1
MinMT2	Mining	Mining	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	\$ 0.025	15	1.3152868	1
MinMT3	Mining	Mining	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	\$ 0.025	15	0.4758305	0
MinMT4	Mining	Mining	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	\$ 0.025	15	1.5269248	1
MinMT5	Mining	Mining	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	\$ 0.025	15	0.7359718	0
MinMT6	Mining	Mining	Motors	Turnover	6	High Efficiency Motors	75.0%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	\$ 0.025	15	1.064045	1
MinMT8	Mining	Mining	Motors	Turnover	8	Material Handling	53.0%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	\$ 0.025	10	0.5786809	0
MinME9	Mining	Mining	Motors	Existing	9	Material Handling VFD	53.0%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	\$ 0.025	10	0.869152	0
NonCoo11	umber_Wood_Product	Other Non Mfg.	Process Cooling	Turnover	1	Equipment: Chillers	7.7%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	\$ 0.025	15	1.6871241	1
NonCooE2	umber_Wood_Product	Other Non Mfg.	Process Cooling	Existing	2	Improved Controls	32.3%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	\$ 0.025	15	0.5242095	0
NonCoo13	Agriculture	Other Non Mfg.	Process Cooling	Turnover	3	Milk Precooler - Dairy Plate Cooler	1.7%	3.24%	\$ 0.660	\$ 0.487	\$ 0.173	\$ 0.025	15	0.8742528	0
NonCoo14	umber_Wood_Product	Other Non Mfg.	Process Cooling	Turnover	4	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	\$ 0.025	10	1.5311461	1
NonCooE5	umber_Wood_Product	Other Non Mfg.	Process Cooling	Existing	5	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	\$ 0.025	3	0.8070835	0
NonHea11	Agriculture	Other Non Mfg.	Process Heating	Turnover	1	Crate Heating Pads	22.9%	17.51%	\$ 0.181	\$ 0.162	\$ 0.019	\$ 0.025	15	2.910694	1
NonHea12	Agriculture	Other Non Mfg.	Process Heating	Turnover	2	Grain dryers	24.8%	23.52%	\$ 0.260	\$ 0.690	\$ 2.169	\$ 0.025	15	0.0722995	0
NonHeaE3	Agriculture	Other Non Mfg.	Process Heating	Existing	3	Heat Lamp Setback (Microzone)	22.9%	0.45%	\$ 0.820	\$ 0.210	\$ -	\$ 0.025	15	2.5447305	1
NonHeaE4	Agriculture	Other Non Mfg.	Process Heating	Existing	4	Heat Lamp/Heating Pad Controller	22.9%	1.75%	\$ 0.129	\$ 0.129	\$ -	\$ 0.025	15	3.799431	1
NonHeaE5	Agriculture	Other Non Mfg.	Process Heating	Turnover	5	Heat Lamps	22.9%	3.38%	\$ 0.023	\$ 0.023	\$ -	\$ 0.025	10	7.1641152	1
NonHeaE6	umber_Wood_Product	Other Non Mfg.	Process Heating	Existing	6	Improved Controls	37.9%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	\$ 0.025	10	1.2843727	1
NonHeaE7	umber_Wood_Product	Other Non Mfg.	Process Heating	Existing	7	Process Heat O&M	63.4%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	\$ 0.025	2	0.2324913	0
NonHT1	Agriculture	Other Non Mfg.	HVAC	Turnover	1	Energy-Efficient Dehumidifier	49.7%	2.00%	\$ 1.072	\$ 0.791	\$ 0.282	\$ 0.025	15	0.5510978	0
NonHT2	umber_Wood_Product	Other Non Mfg.	HVAC	Turnover	2	Equipment Upgrades	63.2%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	\$ 0.025	15	1.8861037	1
NonHT3	Agriculture	Other Non Mfg.	HVAC	Turnover	3	Heat Reclaimer	1.7%	42.00%	\$ 0.171	\$ 0.126	\$ 0.045	\$ 0.025	15	3.0788958	1
NonHT4	Agriculture	Other Non Mfg.	HVAC	Turnover	4	Heat Recovery Ventilators	49.7%	4.13%	\$ 0.448	\$ 0.330	\$ 0.118	\$ 0.025	10	0.7443308	0
NonHE5	umber_Wood_Product	Other Non Mfg.	HVAC	Existing	5	Improved Controls	32.8%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	\$ 0.025	10	2.7610834	1
NonHT6	Agriculture	Other Non Mfg.	HVAC	Turnover	6	Infrared Film for Greenhouses	0.3%	11.06%	\$ 0.261	\$ 0.234	\$ 0.028	\$ 0.025	4	0.4890122	0
NonHT7	Agriculture	Other Non Mfg.	HVAC	Turnover	7	Programmable Ventilation Controller	49.7%	0.10%	\$ 0.140	\$ 0.140	\$ -	\$ 0.025	10	2.1379373	1
NonHE8	umber_Wood_Product	Other Non Mfg.	HVAC	Existing	8	Recommissioning	72.9%	16.0%	\$ 0.271	\$ -	\$ 0.271	\$ 0.025	7	0.8341842	0
NonHT9	Agriculture	Other Non Mfg.	HVAC	Turnover	9	Scroll Compressor	1.7%	7.50%	\$ 1.006	\$ 0.899	\$ 0.107	\$ 0.025	15	0.5867377	0
NonLT1	umber_Wood_Product	Other Non Mfg.	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	\$ 0.025	10	1.9987264	1
NonLT2	umber_Wood_Product	Other Non Mfg.	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	\$ 0.025	10	0.8735989	0
NonLE3	umber_Wood_Product	Other Non Mfg.	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	\$ 0.025	10	1.4773086	1
NonMT1	Other Non Mfg.	Motors	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	\$ 0.025	15	1.3152868	1
NonMT11	Agriculture	Other Non Mfg.	Motors	Turnover	11	Agricultural Exhaust Fans (Rate 21 CFM/Watt+)	49.7%	5.00%	\$ 0.316	\$ 0.283	\$ 0.034	\$ 0.025	15	1.7768395	1
NonMT15	Agriculture	Other Non Mfg.	Motors	Turnover	15	Low Pressure Irrigation	0.4%	50.00%	\$ 0.993	\$ 0.732	\$ 0.261	\$ 0.025	10	0.34677	0
NonMT16	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	16	Material Handling	53.2%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	\$ 0.025	10	0.5786809	0
NonME17	umber_Wood_Product	Other Non Mfg.	Motors	Existing	17	Material Handling VFD	53.2%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	\$ 0.025	10	0.869152	0
NonME18	umber_Wood_Product	Other Non Mfg.	Motors	Existing	18	Motor Management Plan	50.9%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	2.214559	1
NonMT2	Other Non Mfg.	Motors	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	\$ 0.025	15	0.4758305	0
NonMT21	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	21	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.8127173	1
NonMT22	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	22	Air Compressor Demand Reduction	26.8%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	\$ 0.025	10	2.6817522	1
NonMT23	umber_Wood_Product	Other Non Mfg.	Motors	Turnover	23	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.8127173	1

Measure Lookup	Industry	New Segment	New End Use	Vintage	Measure Numbr	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Admin Costs (\$/kWh Saved)	Life	TRC Test	Economic Flag
NonMT24	lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	24	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	\$ 0.025	15	1.3294065	1
NonMT25	lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	25	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.8127173	1
NonMT26	lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	26	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	\$ 0.025	15	1.4678581	1
NonMT27	lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	27	Properly Sized Fans	15.3%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	\$ 0.025	10	1.5542463	1
NonME28	lumber_Wood_Product	Other Non Mfg.	Motors	Existing	28	Pump Energy Management	29.8%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	2.214559	1
NonMT29	lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	29	Pump Equipment Upgrade	32.3%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	\$ 0.025	10	1.9449466	1
NonMT3		Other Non Mfg.	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	\$ 0.025	15	1.5269248	1
NonME30	lumber_Wood_Product	Other Non Mfg.	Motors	Existing	30	Pump System Optimization	14.9%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	\$ 0.025	12	1.1122362	1
NonMT31	Irrigation	Other Non Mfg.	Motors	Turnover	31	SIS	76.5%	7.5%	\$ 1.051	\$ 0.869	\$ 0.183	\$ 0.025	7	0.2295627	0
NonMT32	lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	32	Air Compressor Equipment	17.6%	8.8%	\$ 0.157	\$ 0.130	\$ 0.027	\$ 0.025	10	1.9366539	1
NonMT33	lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	33	Switch from Belt drive to Direct Drive	10.5%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	12	1.5823435	1
NonMT34	lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	34	Synchronous Belts	20.9%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	10	1.2054867	1
NonMT35	Irrigation	Other Non Mfg.	Motors	Turnover	35	System Improvements	85.0%	8.0%	\$ 0.416	\$ 0.344	\$ 0.072	\$ 0.025	5	0.3880369	0
NonMT36	Agriculture	Other Non Mfg.	Motors	Turnover	36	Variable Speed Drives for Dairy Vacuum Pumps	1.7%	36.89%	\$ 0.169	\$ 0.151	\$ 0.018	\$ 0.025	15	3.1235438	1
NonMT37	Agriculture	Other Non Mfg.	Motors	Turnover	37	VFDs on Small Milking Machines	1.7%	3.22%	\$ 0.832	\$ 0.614	\$ 0.219	\$ 0.025	15	0.7073638	0
NonMT38	lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	38	Wood: Replace Pneumatic Conveyor	50.2%	29.0%	\$ 0.016	\$ 0.016	\$ 0.002	\$ 0.025	10	8.1920258	1
NonME39	lumber_Wood_Product	Other Non Mfg.	Motors	Existing	39	Air Compressor Optimization	36.8%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	\$ 0.025	10	2.0004569	1
NonMT4		Other Non Mfg.	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	\$ 0.025	15	0.7359718	0
NonMT40	Agriculture	Other Non Mfg.	Motors	Turnover	40	Automatic Milker Takeoff	1.7%	3.00%	\$ 0.763	\$ 0.563	\$ 0.200	\$ 0.025	15	0.7609927	0
NonMT41	Agriculture	Other Non Mfg.	Motors	Turnover	41	Circulating Fans	49.7%	5.00%	\$ 0.152	\$ 0.136	\$ 0.016	\$ 0.025	10	1.9970266	1
NonMT42	lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	42	Efficient Centrifugal Fan	10.7%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	\$ 0.025	10	1.3973192	1
NonMT43		Other Non Mfg.	Motors	Turnover	43	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	\$ 0.025	15	0.2873799	0
NonME5	lumber_Wood_Product	Other Non Mfg.	Motors	Existing	5	Fan System Optimization	30.2%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	\$ 0.025	10	1.0505007	1
NonMT6	lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	6	High efficiency Compressor motors	77.5%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	\$ 0.025	15	1.3331511	1
NonMT7	Irrigation	Other Non Mfg.	Motors	Turnover	7	High Efficiency Motors	74.7%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	\$ 0.025	15	1.064045	1
NonMT8	Agriculture	Other Non Mfg.	Motors	Turnover	8	High Volume Low Speed Fans	49.7%	46.61%	\$ 2.004	\$ 1.883	\$ 0.120	\$ 0.025	15	0.2988993	0
NonMT9	Agriculture	Other Non Mfg.	Motors	Turnover	9	High-Efficiency Ventilation System	49.7%	5.66%	\$ 1.366	\$ 1.366	\$ -	\$ 0.025	10	0.2536952	0
NonOT1	lumber_Wood_Product	Other Non Mfg.	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	\$ 0.025	15	2.1868274	1
NonOT10	lumber_Wood_Product	Other Non Mfg.	Other	Turnover	10	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	\$ 0.025	15	1.3570186	1
NonOT2	Agriculture	Other Non Mfg.	Other	Turnover	2	Block Heater/Timer	25.0%	2.50%	\$ 0.048	\$ 0.048	\$ -	\$ 0.025	10	4.7128202	1
NonOE3	lumber_Wood_Product	Other Non Mfg.	Other	Existing	3	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	\$ 0.025	11	2.1355652	1
NonOT4	Agriculture	Other Non Mfg.	Other	Turnover	4	Grain bin aeration control systems	24.8%	2.25%	\$ 0.168	\$ 0.124	\$ 0.044	\$ 0.025	15	3.1015891	1
NonOT5	Agriculture	Other Non Mfg.	Other	Turnover	5	Greenhouse Heat Curtain	0.3%	16.76%	\$ 0.056	\$ 0.056	\$ -	\$ 0.025	5	2.0441316	1
NonOT6	Agriculture	Other Non Mfg.	Other	Turnover	6	High Efficiency Stock tank	22.9%	3.75%	\$ 0.412	\$ 0.368	\$ 0.044	\$ 0.025	10	0.7904957	0
NonOE7	lumber_Wood_Product	Other Non Mfg.	Other	Existing	7	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	\$ 0.025	11	1.4034422	1
NonOT8	Agriculture	Other Non Mfg.	Other	Turnover	8	Livestock Waterers	22.9%	11.25%	\$ 0.327	\$ 0.292	\$ 0.035	\$ 0.025	10	0.9822523	0
NonOE9	lumber_Wood_Product	Other Non Mfg.	Other	Existing	9	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	\$ 0.025	10	2.1101009	1
MerPT1		Mfg. Metals	Process EC	Turnover	1	Electrical-Chemical Plating Bundle, Tank and Rectifier	65.0%	18.5%	\$ 0.550	\$ 0.450	\$ 0.100	\$ 0.025	15	1.0416799	1
MinFT1	Mining	Mining	HVAC	Turnover	1	Equipment Upgrades	62.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	\$ 0.025	15	1.8861037	1
MinFE2	Mining	Mining	HVAC	Existing	2	Improved Controls	32.7%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	\$ 0.025	10	2.7610834	1
MinFE3	Mining	Mining	HVAC	Existing	3	Recommissioning	72.6%	16.0%	\$ 0.271	\$ -	\$ 0.271	\$ 0.025	7	0.8341842	0
MinLT1	Mining	Mining	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	\$ 0.025	10	1.9987264	1
MinLT2	Mining	Mining	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	\$ 0.025	10	0.8735989	0
MinLE3	Mining	Mining	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	\$ 0.025	10	1.4773086	1

Measure Lookup	Industry	New Segment	New End-Use	Vintage	Measure Num	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Admin Costs (\$/kWh Saved)	Life	TRC Test	Economic Flag	
CheCooE1	Chemical_Mfg	Mfg_Chemicals	Process Cooling	Existing	1	Clean Room: Change Filter Strategy	10.0%	40.0%	\$ 0.016	\$	\$ 0.012	\$ 0.005	0.025	1	1.5135301	1
CheCooE2	Chemical_Mfg	Mfg_Chemicals	Process Cooling	Existing	2	Clean Room: Chiller Optimize	28.3%	14.8%	\$ 0.248	\$	\$ 0.124	\$ 0.124	0.025	10	2.096118	1
CheCooF3	Chemical_Mfg	Mfg_Chemicals	Process Cooling	Turnover	3	Clean Room: Clean Room HVAC	30.0%	9.0%	\$ 0.204	\$	\$ 0.144	\$ 0.061	0.025	15	3.5705864	1
CheCooF4	Chemical_Mfg	Mfg_Chemicals	Process Cooling	Turnover	4	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$	\$ 0.249	\$ 0.081	0.025	15	2.3055829	1
CheCooE5	Chemical_Mfg	Mfg_Chemicals	Process Cooling	Existing	5	Improved Controls	33.8%	6.0%	\$ 1.118	\$	\$ 0.673	\$ 0.445	0.025	15	0.716372	0
CheCooF6	Chemical_Mfg	Mfg_Chemicals	Process Cooling	Turnover	6	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$	\$ 0.121	\$ 0.080	0.025	10	2.5285107	1
CheCooE7	Chemical_Mfg	Mfg_Chemicals	Process Cooling	Existing	7	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$	\$ 0.039	\$ 0.063	0.025	3	1.3718163	1
CheCooF8	Chemical_Mfg	Mfg_Chemicals	Process Cooling	Turnover	8	Cold Storage Retrofit	25.6%	20.7%	\$ 0.250	\$	\$ 0.157	\$ 0.093	0.025	10	2.0799789	1
CheCooE9	Chemical_Mfg	Mfg_Chemicals	Process Cooling	Existing	9	Cold Storage Tuneup	10.0%	15.6%	\$ 0.112	\$	\$ 0.047	\$ 0.065	0.025	3	1.2653787	1
CheHeaF1	Chemical_Mfg	Mfg_Chemicals	Process Heating	Existing	1	Improved Controls	37.9%	30.4%	\$ 0.245	\$	\$ 0.147	\$ 0.098	0.025	10	2.1209929	1
CheHeaE2	Chemical_Mfg	Mfg_Chemicals	Process Heating	Existing	2	Process Heat O&M	63.4%	28.6%	\$ 0.257	\$	\$ 0.225	\$ 0.032	0.025	2	0.4185549	0
CheHT1	Chemical_Mfg	Mfg_Chemicals	HVAC	Turnover	1	Equipment Upgrades	62.9%	16.4%	\$ 0.296	\$	\$ 0.252	\$ 0.044	0.025	15	2.6456759	1
CheHE2	Chemical_Mfg	Mfg_Chemicals	HVAC	Existing	2	Improved Controls	32.7%	20.9%	\$ 0.102	\$	\$ 0.077	\$ 0.025	10	4.6509446	1	
CheHE3	Chemical_Mfg	Mfg_Chemicals	HVAC	Existing	3	Recommissioning	72.6%	16.0%	\$ 0.271	\$	\$ -	\$ 0.271	0.025	7	1.4040325	1
CheLT1	Chemical_Mfg	Mfg_Chemicals	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$	\$ 0.103	\$ 0.047	0.025	10	3.3767624	1
CheLT2	Chemical_Mfg	Mfg_Chemicals	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$	\$ 0.295	\$ 0.081	0.025	10	1.4759078	1
CheLE3	Chemical_Mfg	Mfg_Chemicals	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$	\$ 0.157	\$ 0.055	0.025	10	2.4958494	1
CheMT1	Chemical_Mfg	Mfg_Chemicals	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$	\$ -	\$ -	0.025	15	2.0909404	1
CheMT10	Chemical_Mfg	Mfg_Chemicals	Motors	Turnover	10	Material Handling	52.3%	5.0%	\$ 0.585	\$	\$ 0.483	\$ 0.102	0.025	10	0.9520733	0
CheMT11	Chemical_Mfg	Mfg_Chemicals	Motors	Turnover	11	Air Compressor Demand Reduction	28.0%	15.9%	\$ 0.107	\$	\$ 0.081	\$ 0.026	0.025	10	4.4121465	1
CheME6	Chemical_Mfg	Mfg_Chemicals	Motors	Existing	6	Material Handling VFD	52.3%	18.7%	\$ 0.381	\$	\$ 0.229	\$ 0.152	0.025	10	1.4299704	1
CheME13	Chemical_Mfg	Mfg_Chemicals	Motors	Existing	13	Motor Management Plan	51.6%	2.9%	\$ 0.134	\$	\$ 0.054	\$ 0.080	0.025	10	3.6434981	1
CheMT15	Chemical_Mfg	Mfg_Chemicals	Motors	Turnover	15	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$	\$ 0.256	\$ 0.054	0.025	15	2.482299	1
CheMT16	Chemical_Mfg	Mfg_Chemicals	Motors	Turnover	16	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$	\$ 0.256	\$ 0.054	0.025	15	2.482299	1
CheMT17	Chemical_Mfg	Mfg_Chemicals	Motors	Turnover	17	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$	\$ 0.356	\$ 0.075	0.025	15	1.8204628	1
CheMT18	Chemical_Mfg	Mfg_Chemicals	Motors	Turnover	18	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$	\$ 0.256	\$ 0.054	0.025	15	2.482299	1
CheMT19	Chemical_Mfg	Mfg_Chemicals	Motors	Turnover	19	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$	\$ 0.321	\$ 0.067	0.025	15	2.0100557	1
CheMT2	Chemical_Mfg	Mfg_Chemicals	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$	\$ -	\$ -	0.025	15	1.0078251	1
CheMT20	Chemical_Mfg	Mfg_Chemicals	Motors	Turnover	20	Properly Sized Fans	14.7%	10.4%	\$ 0.202	\$	\$ 0.122	\$ 0.080	0.025	10	2.55712	1
CheME21	Chemical_Mfg	Mfg_Chemicals	Motors	Existing	21	Air Compressor Optimization	38.3%	30.1%	\$ 0.151	\$	\$ 0.058	\$ 0.093	0.025	10	3.291247	1
CheME22	Chemical_Mfg	Mfg_Chemicals	Motors	Existing	22	Pump Energy Management	31.4%	7.5%	\$ 0.134	\$	\$ 0.054	\$ 0.080	0.025	10	3.6434981	1
CheMT23	Chemical_Mfg	Mfg_Chemicals	Motors	Turnover	23	Pump Equipment Upgrade	34.0%	20.0%	\$ 0.156	\$	\$ 0.129	\$ 0.027	0.025	10	3.1999188	1
CheME24	Chemical_Mfg	Mfg_Chemicals	Motors	Existing	24	Pump System Optimization	15.6%	12.1%	\$ 0.391	\$	\$ 0.196	\$ 0.195	0.025	12	1.6441851	1
CheMT25	Chemical_Mfg	Mfg_Chemicals	Motors	Turnover	25	Switch from Belt drive to Direct Drive	10.4%	7.5%	\$ 0.268	\$	\$ 0.221	\$ 0.046	0.025	12	2.3391305	1
CheMT26	Chemical_Mfg	Mfg_Chemicals	Motors	Turnover	26	Synchronous Belts	20.9%	1.1%	\$ 0.268	\$	\$ 0.221	\$ 0.046	0.025	10	1.9833242	1
CheMT27	Chemical_Mfg	Mfg_Chemicals	Motors	Turnover	27	Efficient Centrifugal Fan	10.3%	20.0%	\$ 0.228	\$	\$ 0.188	\$ 0.040	0.025	10	2.2989361	1
CheMT28	Chemical_Mfg	Mfg_Chemicals	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$	\$ 2.085	\$ -	0.025	15	0.3935323	0
CheMT29	Chemical_Mfg	Mfg_Chemicals	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$	\$ 0.436	\$ -	0.025	15	1.8011275	1
CheME3	Chemical_Mfg	Mfg_Chemicals	Motors	Existing	3	Fan System Optimization	28.9%	7.7%	\$ 0.311	\$	\$ 0.156	\$ 0.155	0.025	10	1.7283338	1
CheMT30	Chemical_Mfg	Mfg_Chemicals	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$	\$ -	\$ -	0.025	15	0.6515928	0
CheMT4	Chemical_Mfg	Mfg_Chemicals	Motors	Turnover	4	High efficiency Compressor motors	80.8%	1.1%	\$ 0.430	\$	\$ 0.355	\$ 0.075	0.025	15	1.8255905	1
CheMT5	Chemical_Mfg	Mfg_Chemicals	Motors	Turnover	5	High Efficiency Motors	74.4%	1.5%	\$ 0.545	\$	\$ 0.450	\$ 0.095	0.025	15	1.4570821	1
CheOT1	Chemical_Mfg	Mfg_Chemicals	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$	\$ 0.162	\$ 0.087	0.025	15	3.0185774	1
CheOE2	Chemical_Mfg	Mfg_Chemicals	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$	\$ 0.134	\$ 0.029	0.025	11	3.3412297	1
CheOE3	Chemical_Mfg	Mfg_Chemicals	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$	\$ 0.215	\$ 0.047	0.025	11	2.195776	1
CheOE4	Chemical_Mfg	Mfg_Chemicals	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$	\$ 0.114	\$ 0.025	0.025	10	3.5198522	1
CheOT5	Chemical_Mfg	Mfg_Chemicals	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$	\$ 0.399	\$ 0.016	0.025	15	1.8731544	1
ComCooE1	Electronic_Equipment_M	Mfg_Computers	Process Cooling	Existing	1	Clean Room: Change Filter Strategy	10.0%	40.0%	\$ 0.016	\$	\$ 0.012	\$ 0.005	0.025	1	1.5135301	1
ComCooE10	Electronic_Equipment_M	Mfg_Computers	Process Cooling	Existing	10	Cold Storage Tuneup	10.0%	15.6%	\$ 0.112	\$	\$ 0.047	\$ 0.065	0.025	3	1.2653787	1
ComCooE2	Electronic_Equipment_M	Mfg_Computers	Process Cooling	Existing	2	Clean Room: Chiller Optimize	28.3%	14.8%	\$ 0.248	\$	\$ 0.124	\$ 0.124	0.025	10	2.096118	1
ComCooF3	Electronic_Equipment_M	Mfg_Computers	Process Cooling	Turnover	3	Clean Room: Clean Room HVAC	30.0%	9.0%	\$ 0.204	\$	\$ 0.144	\$ 0.061	0.025	15	3.5705864	1
ComCooF4	Electronic_Equipment_M	Mfg_Computers	Process Cooling	Turnover	4	Elec. Chip Fabr. Solidstate Chiller	20.0%	90.0%	\$ 0.634	\$	\$ 0.502	\$ 0.072	0.025	10	0.8685456	0
ComCooE5	Electronic_Equipment_M	Mfg_Computers	Process Cooling	Turnover	5	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$	\$ 0.249	\$ 0.081	0.025	15	2.3055829	1
ComCooE6	Electronic_Equipment_M	Mfg_Computers	Process Cooling	Existing	6	Improved Controls	33.8%	6.0%	\$ 1.118	\$	\$ 0.673	\$ 0.445	0.025	15	0.716372	0
ComCooF7	Electronic_Equipment_M	Mfg_Computers	Process Cooling	Turnover	7	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$	\$ 0.121	\$ 0.080	0.025	10	2.5285107	1
ComCooE8	Electronic_Equipment_M	Mfg_Computers	Process Cooling	Existing	8	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$	\$ 0.039	\$ 0.063	0.025	3	1.3718163	1
ComCooF9	Electronic_Equipment_M	Mfg_Computers	Process Cooling	Turnover	9	Cold Storage Retrofit	25.6%	20.7%	\$ 0.250	\$	\$ 0.157	\$ 0.093	0.025	10	2.0799789	1
ComHeaE1	Electronic_Equipment_M	Mfg_Computers	Process Heating	Existing	1	Improved Controls	41.5%	30.4%	\$ 0.245	\$	\$ 0.147	\$ 0.098	0.025	10	2.1209929	1
ComHeaE2	Electronic_Equipment_M	Mfg_Computers	Process Heating	Existing	2	Process Heat O&M	69.5%	28.6%	\$ 0.257	\$	\$ 0.225	\$ 0.032	0.025	2	0.4185549	0
ComHT1	Electronic_Equipment_M	Mfg_Computers	HVAC	Turnover	1	Equipment Upgrades	74.9%	16.4%	\$ 0.296	\$	\$ 0.252	\$ 0.044	0.025	15	2.6456759	1
ComHE2	Electronic_Equipment_M	Mfg_Computers	HVAC	Existing	2	Improved Controls	38.9%	20.9%	\$ 0.102	\$	\$ 0.077	\$ 0.025	0.025	10	4.6509446	1
ComHE3	Electronic_Equipment_M	Mfg_Computers	HVAC	Existing	3	Recommissioning	86.4%	16.0%	\$ 0.271	\$	\$ -	\$ 0.271	0.025	7	1.4040325	1
ComLT1	Electronic_Equipment_M	Mfg_Computers	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$	\$ 0.103	\$ 0.047	0.025	10	3.3767624	1
ComLT2	Electronic_Equipment_M	Mfg_Computers	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$	\$ 0.295	\$ 0.081	0.025	10	1.4759078	1
ComLE3	Electronic_Equipment_M	Mfg_Computers	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$	\$ 0.157	\$ 0.055	0.025	10	2.4958494	1
ComMT1	Electronic_Equipment_M	Mfg_Computers	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$	\$ -	\$ -	0.025	15	2.0909404	1
ComMT10	Electronic_Equipment_M	Mfg_Computers	Motors	Turnover	10	Material Handling	52.9%	5.0%	\$ 0.585	\$	\$ 0.483	\$ 0.102	0.025	10	0.9520733	0
ComMT11	Electronic_Equipment_M	Mfg_Computers	Motors	Turnover	11	Air Compressor Demand Reduction	25.5%	15.9%	\$ 0.107	\$	\$ 0.081	\$ 0.026	0.025	10	4.4121465	1
ComME6	Electronic_Equipment_M	Mfg_Computers	Motors	Existing	6	Material Handling VFD	52.9%	18.7%	\$ 0.381	\$	\$ 0.229	\$ 0.152	0.025	10	1.4299704	1
ComME13	Electronic_Equipment_M	Mfg_Computers	Motors	Existing	13	Motor Management Plan	49.2%	2.9%	\$ 0.134	\$	\$ 0.054	\$ 0.080	0.025	10	3.6434981	

Measure Lookup	Industry	New Segment	New End-Use	Vintage	Measure Num	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Admin Costs (\$/kWh Saved)	Life	TRC Test	Economic Flag
ComMT20	ectronic_Equipment_M	Mfg. Computers	Motors	Turnover	20	Properly Sized Fans	14.8%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	\$ 0.025	10	2,55712	1
ComME21	ectronic_Equipment_M	Mfg. Computers	Motors	Existing	21	Air Compressor Optimization	35.0%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	\$ 0.025	10	3,291247	1
ComME22	ectronic_Equipment_M	Mfg. Computers	Motors	Existing	22	Pump Energy Management	30.1%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	3,6434981	1
ComMT23	ectronic_Equipment_M	Mfg. Computers	Motors	Turnover	23	Pump Equipment Upgrade	32.6%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	\$ 0.025	10	3,1999188	1
ComME24	ectronic_Equipment_M	Mfg. Computers	Motors	Existing	24	Pump System Optimization	15.0%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	\$ 0.025	12	1,6441851	1
ComMT25	ectronic_Equipment_M	Mfg. Computers	Motors	Turnover	25	Switch from Belt drive to Direct Drive	10.5%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	12	2,3391305	1
ComMT26	ectronic_Equipment_M	Mfg. Computers	Motors	Turnover	26	Synchronous Belts	20.8%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	10	1,9833242	1
ComMT27	ectronic_Equipment_M	Mfg. Computers	Motors	Turnover	27	Efficient Centrifugal Fan	10.5%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	\$ 0.025	10	2,2989361	1
ComMT28	ectronic_Equipment_M	Mfg. Computers	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	\$ 0.025	15	0,3935323	0
ComMT29	ectronic_Equipment_M	Mfg. Computers	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	\$ 0.025	15	1,8011275	1
ComME3	ectronic_Equipment_M	Mfg. Computers	Motors	Existing	3	Fan System Optimization	29.1%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	\$ 0.025	10	1,7283338	1
ComMT30	ectronic_Equipment_M	Mfg. Computers	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	\$ 0.025	15	0,6515928	0
ComMT4	ectronic_Equipment_M	Mfg. Computers	Motors	Turnover	4	High efficiency Compressor motors	73.8%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	\$ 0.025	15	1,8255905	1
ComMT5	ectronic_Equipment_M	Mfg. Computers	Motors	Turnover	5	High Efficiency Motors	73.8%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	\$ 0.025	15	1,4570821	1
ComOT1	ectronic_Equipment_M	Mfg. Computers	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	\$ 0.025	15	3,0185774	1
ComOT2	ectronic_Equipment_M	Mfg. Computers	Other	Turnover	2	Elec Chip Fab: Eliminate Exhaust	80.1%	5.0%	\$ 0.233	\$ 0.206	\$ 0.026	\$ 0.025	10	2,2368611	1
ComOT3	ectronic_Equipment_M	Mfg. Computers	Other	Turnover	3	Elec Chip Fab: Exhaust Injector	35.0%	100.0%	\$ 0.561	\$ 0.498	\$ 0.064	\$ 0.025	10	0,9832646	0
ComCooT11	ectronic_Equipment_M	Mfg. Computers	Process Cooling	Turnover	11	Elec Chip Fab: Reduce Gas Pressure	5.0%	10.0%	\$ 0.063	\$ -	\$ 0.063	\$ 0.025	10	6,5384944	1
ComOE5	ectronic_Equipment_M	Mfg. Computers	Other	Existing	5	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	\$ 0.025	11	3,3412297	1
ComOE6	ectronic_Equipment_M	Mfg. Computers	Other	Existing	6	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	\$ 0.025	11	2,195776	1
ComOE7	ectronic_Equipment_M	Mfg. Computers	Other	Existing	7	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	\$ 0.025	10	3,5198522	1
ComOT8	ectronic_Equipment_M	Mfg. Computers	Other	Turnover	8	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	\$ 0.025	15	1,8731544	1
FooCooT1	Food_Mfg	Mfg. Food	Process Cooling	Turnover	1	Equipment: Chillers	8.3%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	\$ 0.025	15	2,3055829	1
FooCooE2	Food_Mfg	Mfg. Food	Process Cooling	Existing	2	Improved Controls	35.2%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	\$ 0.025	15	0,716372	0
FooCooT3	Food_Mfg	Mfg. Food	Process Cooling	Turnover	3	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	\$ 0.025	10	2,5285107	1
FooCooT4	Food_Mfg	Mfg. Food	Process Cooling	Turnover	4	Food: Cooling and Storage	15.0%	15.4%	\$ 0.258	\$ 0.162	\$ 0.096	\$ 0.025	10	2,0221371	1
FooCooT5	Food_Mfg	Mfg. Food	Process Cooling	Turnover	5	Food: Refrig Storage Tuneup	7.5%	14.4%	\$ 0.056	\$ 0.023	\$ 0.033	\$ 0.025	3	2,1394751	1
FooCooT6	Food_Mfg	Mfg. Food	Process Cooling	Turnover	6	Fruit Storage Refer Retrofit	60.7%	38.2%	\$ 0.214	\$ 0.135	\$ 0.079	\$ 0.025	10	2,3904968	1
FooCooT7	Food_Mfg	Mfg. Food	Process Cooling	Turnover	7	Fruit Storage Tuneup	10.0%	15.6%	\$ 0.056	\$ 0.023	\$ 0.033	\$ 0.025	3	2,1394751	1
FooCooE8	Food_Mfg	Mfg. Food	Process Cooling	Existing	8	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	\$ 0.025	3	1,3718163	1
FooHeaT1	Food_Mfg	Mfg. Food	Process Heating	Existing	1	Improved Controls	38.8%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	\$ 0.025	10	2,1209929	1
FooHeaE2	Food_Mfg	Mfg. Food	Process Heating	Existing	2	Process Heat O&M	65.0%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	\$ 0.025	2	0,4185549	0
FooFT1	Food_Mfg	Mfg. Food	HVAC	Turnover	1	Equipment Upgrades	62.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	\$ 0.025	15	2,6456759	1
FooHE2	Food_Mfg	Mfg. Food	HVAC	Existing	2	Improved Controls	32.7%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	\$ 0.025	10	4,6509446	1
FooHE3	Food_Mfg	Mfg. Food	HVAC	Existing	3	Recommissioning	72.6%	16.0%	\$ 0.271	\$ -	\$ 0.271	\$ 0.025	7	1,4040325	1
FooLT1	Food_Mfg	Mfg. Food	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	\$ 0.025	10	3,3767624	1
FooLT2	Food_Mfg	Mfg. Food	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	\$ 0.025	10	1,4759078	1
FooLE3	Food_Mfg	Mfg. Food	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	\$ 0.025	10	2,4958494	1
FooME1	Food_Mfg	Mfg. Food	Motors	Existing	1	Fan System Optimization	29.6%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	\$ 0.025	10	1,7283338	1
FooME4	Food_Mfg	Mfg. Food	Motors	Existing	4	Material Handling VFD	51.6%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	\$ 0.025	10	1,4299704	1
FooME11	Food_Mfg	Mfg. Food	Motors	Existing	11	Motor Management Plan	48.9%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	3,6434981	1
FooMT13	Food_Mfg	Mfg. Food	Motors	Turnover	13	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	2,482299	1
FooMT14	Food_Mfg	Mfg. Food	Motors	Turnover	14	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	2,482299	1
FooMT15	Food_Mfg	Mfg. Food	Motors	Turnover	15	Motors: Rewind 20-50 HP	4.6%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	\$ 0.025	15	1,8204628	1
FooMT16	Food_Mfg	Mfg. Food	Motors	Turnover	16	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	2,482299	1
FooMT17	Food_Mfg	Mfg. Food	Motors	Turnover	17	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	\$ 0.025	15	2,0100557	1
FooME18	Food_Mfg	Mfg. Food	Motors	Existing	18	Air Compressor Optimization	35.0%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	\$ 0.025	10	3,291247	1
FooMT19	Food_Mfg	Mfg. Food	Motors	Turnover	19	Properly Sized Fans	15.0%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	\$ 0.025	10	2,55712	1
FooMT2	Food_Mfg	Mfg. Food	Motors	Turnover	2	High efficiency Compressor motors	73.8%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	\$ 0.025	15	1,8255905	1
FooME20	Food_Mfg	Mfg. Food	Motors	Existing	20	Pump Energy Management	30.5%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	3,6434981	1
FooMT21	Food_Mfg	Mfg. Food	Motors	Turnover	21	Pump Equipment Upgrade	33.0%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	\$ 0.025	10	3,1999188	1
FooME22	Food_Mfg	Mfg. Food	Motors	Existing	22	Pump System Optimization	15.2%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	\$ 0.025	12	1,6441851	1
FooMT23	Food_Mfg	Mfg. Food	Motors	Turnover	23	Switch from Belt drive to Direct Drive	10.2%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	12	2,3391305	1
FooMT24	Food_Mfg	Mfg. Food	Motors	Turnover	24	Synchronous Belts	20.8%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	10	1,9833242	1
FooMT25	Food_Mfg	Mfg. Food	Motors	Turnover	25	Efficient Centrifugal Fan	10.5%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	\$ 0.025	10	2,2989361	1
FooMT26	Food_Mfg	Mfg. Food	Motors	Turnover	26	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	\$ 0.025	15	0,3935323	0
FooMT27	Food_Mfg	Mfg. Food	Motors	Turnover	27	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	\$ 0.025	15	1,8011275	1
FooMT28	Food_Mfg	Mfg. Food	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	\$ 0.025	15	0,6515928	0
FooMT29	Food_Mfg	Mfg. Food	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	\$ 0.025	15	2,0090404	1
FooMT3	Food_Mfg	Mfg. Food	Motors	Turnover	3	High Efficiency Motors	74.0%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	\$ 0.025	15	1,4570821	1
FooMT30	Food_Mfg	Mfg. Food	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	\$ 0.025	15	1,0078251	1
FooMT7	Food_Mfg	Mfg. Food	Motors	Turnover	7	Air Compressor Demand Reduction	25.5%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	\$ 0.025	10	4,4121465	1
FooMT9	Food_Mfg	Mfg. Food	Motors	Turnover	9	Material Handling	51.6%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	\$ 0.025	10	0,9520733	0
FooOT1	Food_Mfg	Mfg. Food	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	\$ 0.025	15	3,0185774	1
FooOE2	Food_Mfg	Mfg. Food	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	\$ 0.025	11	3,3412297	1
FooOE3	Food_Mfg	Mfg. Food	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	\$ 0.025	11	2,195776	1
FooOE4	Food_Mfg	Mfg. Food	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	\$ 0.025	10	3,5198522	1
FooOT5	Food_Mfg	Mfg. Food	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	\$ 0.025	15	1,8731544	1
MeCooT1	Primary_Metal_Mfg	Mfg. Metals	Process Cooling	Turnover	1	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	\$ 0.025	15	2,3055829	1
MeCooE2	Primary_Metal_Mfg	Mfg. Metals	Process Cooling	Existing	2	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	\$ 0.025	15	0,716372	0
MeCooE3	Primary_Metal_Mfg	Mfg. Metals	Process Cooling	Existing	3	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	\$ 0.025	3	1,3718163	1
MeHeaT1	Primary_Metal_Mfg	Mfg. Metals	Process Heating	Existing	1	Improved Controls	40.1%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	\$ 0.025	10	2,1209929	1
MeHeaT2	Primary_Metal_Mfg	Mfg. Metals	Process Heating	Turnover	2	Metal: New Arc Furnace	10.3%	45.0%	\$ 0.115	\$ 0.102	\$ 0.013	\$ 0.025	10	4,0851251	1
MeHeaT3	Primary_Metal_Mfg	Mfg. Metals	Process Heating	Existing	3	Process Heat O&M	67.2%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	\$ 0.025	2	0,4185549	0
MeFT1	Primary_Metal_Mfg	Mfg. Metals	HVAC	Turnover	1	Equipment Upgrades	64.7%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	\$ 0.025	15	2,6456759	1
MeHE2	Primary_Metal_Mfg	Mfg. Metals	HVAC	Existing	2	Improved Controls	33.6%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	\$ 0.025	10	4,6509446	1

Measure Lookup	Industry	New Segment	New End-Use	Vintage	Measure Num	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Admin Costs (\$/kWh Saved)	Life	TRC Test	Economic Flag
MetIE3	Primary_Metal_Mfg	Mfg. Metals	HVAC	Existing	3	Recommissioning	74.7%	16.0%	\$ 0.271	\$ -	\$ 0.271	\$ 0.025	7	1.4040325	1
MetLT1	Primary_Metal_Mfg	Mfg. Metals	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	\$ 0.025	10	3.3767624	1
MetLT2	Primary_Metal_Mfg	Mfg. Metals	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	\$ 0.025	10	1.4759078	1
MetLE3	Primary_Metal_Mfg	Mfg. Metals	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	\$ 0.025	10	2.4958494	1
MetMT1	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	1	Air Compressor Demand Reduction	25.3%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	\$ 0.025	10	4.4121465	1
MetME10	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	10	Motor Management Plan	49.1%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	3.6434981	1
MetME12	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	12	Air Compressor Optimization	34.7%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	\$ 0.025	10	3.291247	1
MetMT13	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	13	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	2.482299	1
MetMT14	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	14	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	2.482299	1
MetMT15	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	15	Motors: Rewind 20-50 HP	4.6%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	\$ 0.025	15	1.8204628	1
MetMT16	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	16	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	2.482299	1
MetMT17	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	17	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	\$ 0.025	15	2.0100557	1
MetMT18	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	18	Properly Sized Fans	14.7%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	\$ 0.025	10	2.55712	1
MetME19	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	19	Pump Energy Management	29.8%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	3.6434981	1
MetMT2	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	2	High efficiency Compressor motors	73.1%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	\$ 0.025	15	1.8255905	1
MetMT20	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	20	Pump Equipment Upgrade	32.3%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	\$ 0.025	10	3.1999188	1
MetME21	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	21	Pump System Optimization	14.9%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	\$ 0.025	12	1.6441851	1
MetMT22	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	22	Efficient Centrifugal Fan	10.3%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	\$ 0.025	10	2.2989361	1
MetMT23	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	23	Switch from Belt drive to Direct Drive	10.4%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	12	2.3391305	1
MetMT24	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	24	Synchronous Belts	20.6%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	10	1.9833242	1
MetMT25	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	25	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	\$ 0.025	15	0.3935323	0
MetMT26	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	26	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	\$ 0.025	15	1.8011275	1
MetMT27	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	27	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	\$ 0.025	15	0.6515928	0
MetMT28	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	\$ 0.025	15	2.0909404	1
MetMT29	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	\$ 0.025	15	1.0078251	1
MetMT3	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	3	High Efficiency Motors	73.3%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	\$ 0.025	15	1.4570821	1
MetME30	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	30	Fan System Optimization	29.0%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	\$ 0.025	10	1.7283338	1
MetMT8	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	8	Material Handling	52.4%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	\$ 0.025	10	0.9520733	0
MetME4	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	4	Material Handling VFD	52.4%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	\$ 0.025	10	1.4299704	1
MetOT1	Primary_Metal_Mfg	Mfg. Metals	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	\$ 0.025	15	3.0185774	1
MetOE2	Primary_Metal_Mfg	Mfg. Metals	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	\$ 0.025	11	3.3412297	1
MetOE3	Primary_Metal_Mfg	Mfg. Metals	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	\$ 0.025	11	2.195776	1
MetOE4	Primary_Metal_Mfg	Mfg. Metals	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	\$ 0.025	10	3.5198522	1
MetOT5	Primary_Metal_Mfg	Mfg. Metals	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	\$ 0.025	15	1.8731544	1
OhCooT1	Miscellaneous_Mfg	Mfg. Other	Process Cooling	Turnover	1	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	\$ 0.025	15	2.3058829	1
OhCooE2	Miscellaneous_Mfg	Mfg. Other	Process Cooling	Existing	2	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	\$ 0.025	15	0.716372	0
OhCooT3	onc_Clay_Glass_Product	Mfg. Other	Process Cooling	Turnover	3	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	\$ 0.025	10	2.5285107	1
OhCooE4	Miscellaneous_Mfg	Mfg. Other	Process Cooling	Existing	4	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	\$ 0.025	3	1.3718163	1
OhCooT5	Miscellaneous_Mfg	Mfg. Other	Process Cooling	Turnover	5	Cold Storage: Retrofit	25.6%	20.7%	\$ 0.250	\$ 0.157	\$ 0.093	\$ 0.025	10	2.0799789	1
OhCooE6	Miscellaneous_Mfg	Mfg. Other	Process Cooling	Existing	6	Cold Storage: Tuneup	10.0%	15.6%	\$ 0.112	\$ 0.047	\$ 0.065	\$ 0.025	3	1.2653787	1
OhHeaE1	Miscellaneous_Mfg	Mfg. Other	Process Heating	existing	1	Improved Controls	41.7%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	\$ 0.025	10	2.1209929	1
OhHeaE2	Miscellaneous_Mfg	Mfg. Other	Process Heating	existing	2	Process Heat O&M	69.8%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	\$ 0.025	2	0.4185549	0
OhHT1	Miscellaneous_Mfg	Mfg. Other	HVAC	Turnover	1	Equipment Upgrades	64.4%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	\$ 0.025	15	2.6456759	1
OhHE2	Miscellaneous_Mfg	Mfg. Other	HVAC	Existing	2	Improved Controls	33.4%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	\$ 0.025	10	4.6569446	1
OhIE3	Miscellaneous_Mfg	Mfg. Other	HVAC	Existing	3	Recommissioning	74.3%	16.0%	\$ 0.271	\$ -	\$ 0.271	\$ 0.025	7	1.4040325	1
OhLT1	Miscellaneous_Mfg	Mfg. Other	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	\$ 0.025	10	3.3767624	1
OhLT2	Miscellaneous_Mfg	Mfg. Other	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	\$ 0.025	10	1.4759078	1
OhLE3	Miscellaneous_Mfg	Mfg. Other	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	\$ 0.025	10	2.4958494	1
OhMT1	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	\$ 0.025	15	0.6515928	0
OhMT11	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	11	Motors: Rewind 101-200 HP	26.0%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	\$ 0.025	10	4.4121465	1
OhMT12	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	12	Air Compressor Demand Reduction	25.3%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	\$ 0.025	10	4.4121465	1
OhME13	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	13	Material Handling	52.9%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	\$ 0.025	10	0.9520733	0
OhME14	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	14	Material Handling VFD	52.9%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	\$ 0.025	10	1.4299704	1
OhMT16	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	16	Motor Management Plan	50.0%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	3.6434981	1
OhMT16	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	16	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	2.482299	1
OhMT17	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	17	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	2.482299	1
OhMT18	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	18	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	\$ 0.025	15	1.8204628	1
OhMT19	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	19	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	2.482299	1
OhMT2	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	\$ 0.025	15	2.0909404	1
OhMT20	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	20	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	\$ 0.025	15	2.0100557	1
OhMT21	onc_Clay_Glass_Product	Mfg. Other	Motors	Turnover	21	Air Compressor Equipment	17.0%	8.8%	\$ 0.157	\$ 0.130	\$ 0.027	\$ 0.025	10	3.1862753	1
OhMT22	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	22	Properly Sized Fans	15.3%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	\$ 0.025	10	2.55712	1
OhME23	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	23	Pump Energy Management	31.2%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	3.6434981	1
OhMT24	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	24	Pump Equipment Upgrade	33.8%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	\$ 0.025	10	3.1999188	1
OhME25	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	25	Pump System Optimization	15.5%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	\$ 0.025	12	1.6441851	1
OhMT26	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	26	Switch from Belt drive to Direct Drive	10.5%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	12	2.3391305	1
OhMT27	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	27	Synchronous Belts	21.4%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	10	1.9833242	1
OhME28	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	28	Air Compressor Optimization	35.6%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	\$ 0.025	10	3.291247	1
OhMT29	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	29	Efficient Centrifugal Fan	10.7%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	\$ 0.025	10	2.2989361	1
OhMT3	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	\$ 0.025	15	1.0078251	1
OhMT30	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	\$ 0.025	15	0.3935323	0
OhMT31	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	31	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	\$ 0.025	15	1.8011275	1
OhME4	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	4	Fan System Optimization	30.1%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	\$ 0.025	10	1.7283338	1
OhMT5	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	5	High efficiency Compressor motors	75.1%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	\$ 0.025	15	1.8255905	1
OhMT6	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	6	High Efficiency Motors	75.6%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	\$ 0.025	15	1.4570821	1
OhOT1	Miscellaneous_Mfg	Mfg. Other	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	\$ 0.025	15	3.0185774	1
OhOE2	Miscellaneous_Mfg	Mfg. Other	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	\$ 0.025	11	3.3412297	1

Measure Lookup	Industry	New Segment	New End-Use	Vintage	Measure Num	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Admin Costs (\$/kWh Saved)	Life	TRC Test	Economic Flag
OhOE3	Miscellaneous_Mfg	Mfg. Other	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	\$ 0.025	11	2.195776	1
OhOE4	Miscellaneous_Mfg	Mfg. Other	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	\$ 0.025	10	3.5198522	1
OhOT3	Miscellaneous_Mfg	Mfg. Other	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	\$ 0.025	15	1.8731544	1
PapCoo11	Paper_Mfg	Mfg. Paper	Process Cooling	Turnover	1	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	\$ 0.025	15	2.3055829	1
PapCoo12	Paper_Mfg	Mfg. Paper	Process Cooling	Existing	2	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	\$ 0.025	15	0.716372	0
PapCoo13	Paper_Mfg	Mfg. Paper	Process Cooling	Turnover	3	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	\$ 0.025	10	2.5285107	1
PapCoo14	Paper_Mfg	Mfg. Paper	Process Cooling	Existing	4	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	\$ 0.025	3	1.3718163	1
PapHea11	Paper_Mfg	Mfg. Paper	Process Heating	Existing	1	Improved Controls	38.1%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	\$ 0.025	10	2.1209929	1
PapHea12	Paper_Mfg	Mfg. Paper	Process Heating	Existing	2	Process Heat O&M	63.9%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	\$ 0.025	2	0.4185549	0
PapHT1	Paper_Mfg	Mfg. Paper	HVAC	Turnover	1	Equipment Upgrades	62.4%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	\$ 0.025	15	2.6456759	1
PapHE2	Paper_Mfg	Mfg. Paper	HVAC	Existing	2	Improved Controls	32.4%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	\$ 0.025	10	4.6509446	1
PapHE3	Paper_Mfg	Mfg. Paper	HVAC	Existing	3	Recommissioning	72.0%	16.0%	\$ 0.271	\$ -	\$ 0.271	\$ 0.025	7	1.4040325	1
PapLT1	Paper_Mfg	Mfg. Paper	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	\$ 0.025	10	3.3767624	1
PapLT2	Paper_Mfg	Mfg. Paper	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	\$ 0.025	10	1.4759078	1
PapLE3	Paper_Mfg	Mfg. Paper	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	\$ 0.025	10	2.4958494	1
PapME1	Paper_Mfg	Mfg. Paper	Motors	Existing	1	Fan System Optimization	50.2%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	\$ 0.025	10	1.7283338	1
PapME10	Paper_Mfg	Mfg. Paper	Motors	Existing	10	Motor Management Plan	50.1%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	3.6434981	1
PapMT11	Paper_Mfg	Mfg. Paper	Motors	Turnover	11	Air Compressor Demand Reduction	25.8%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	\$ 0.025	10	4.4121465	1
PapMT13	Paper_Mfg	Mfg. Paper	Motors	Turnover	13	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	2.482299	1
PapMT14	Paper_Mfg	Mfg. Paper	Motors	Turnover	14	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	2.482299	1
PapMT15	Paper_Mfg	Mfg. Paper	Motors	Turnover	15	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	\$ 0.025	15	1.8204628	1
PapMT16	Paper_Mfg	Mfg. Paper	Motors	Turnover	16	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	2.482299	1
PapMT17	Paper_Mfg	Mfg. Paper	Motors	Turnover	17	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	\$ 0.025	15	2.0100557	1
PapMT18	Paper_Mfg	Mfg. Paper	Motors	Turnover	18	Paper: Large Material Handling	25.2%	9.7%	\$ 0.959	\$ 0.850	\$ 0.109	\$ 0.025	10	0.5900549	0
PapMT19	Paper_Mfg	Mfg. Paper	Motors	Turnover	19	Paper: Material Handling	25.2%	13.1%	\$ 0.801	\$ 0.710	\$ 0.091	\$ 0.025	10	0.7025395	0
PapMT2	Paper_Mfg	Mfg. Paper	Motors	Turnover	2	High efficiency Compressor motors	74.7%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	\$ 0.025	15	1.8255905	1
PapMT20	Paper_Mfg	Mfg. Paper	Motors	Turnover	20	Paper: Premium Control Large Material	25.2%	18.7%	\$ 0.549	\$ 0.486	\$ 0.062	\$ 0.025	10	1.0123185	1
PapME21	Paper_Mfg	Mfg. Paper	Motors	Existing	21	Air Compressor Optimization	35.4%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	\$ 0.025	10	3.291247	1
PapMT22	Paper_Mfg	Mfg. Paper	Motors	Turnover	22	Paper: Premium Fan	25.5%	20.0%	\$ 0.227	\$ 0.201	\$ 0.026	\$ 0.025	10	2.3070073	1
PapMT23	Paper_Mfg	Mfg. Paper	Motors	Turnover	23	Properly Sized Fans	15.3%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	\$ 0.025	10	2.55712	1
PapME24	Paper_Mfg	Mfg. Paper	Motors	Existing	24	Pump Energy Management	32.3%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	3.6434981	1
PapMT25	Paper_Mfg	Mfg. Paper	Motors	Turnover	25	Pump Equipment Upgrade	34.9%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	\$ 0.025	10	3.1999188	1
PapME26	Paper_Mfg	Mfg. Paper	Motors	Existing	26	Pump System Optimization	16.1%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	\$ 0.025	12	1.6441851	1
PapMT27	Paper_Mfg	Mfg. Paper	Motors	Turnover	27	Switch from Belt drive to Direct Drive	10.6%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	12	2.3391305	1
PapMT28	Paper_Mfg	Mfg. Paper	Motors	Turnover	28	Synchronous Belts	21.4%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	10	1.9833242	1
PapMT29	Paper_Mfg	Mfg. Paper	Motors	Turnover	29	Efficient Centrifugal Fan	10.7%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	\$ 0.025	10	2.2989361	1
PapMT3	Paper_Mfg	Mfg. Paper	Motors	Turnover	3	High Efficiency Motors	76.7%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	\$ 0.025	15	1.4570821	1
PapMT30	Paper_Mfg	Mfg. Paper	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	\$ 0.025	15	0.3935323	0
PapMT31	Paper_Mfg	Mfg. Paper	Motors	Turnover	31	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	\$ 0.025	15	1.8011275	1
PapMT32	Paper_Mfg	Mfg. Paper	Motors	Turnover	32	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	\$ 0.025	15	0.6515928	0
PapMT33	Paper_Mfg	Mfg. Paper	Motors	Turnover	33	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	\$ 0.025	15	2.0909404	1
PapMT34	Paper_Mfg	Mfg. Paper	Motors	Turnover	34	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	\$ 0.025	15	1.0078251	1
PapMT8	Paper_Mfg	Mfg. Paper	Motors	Turnover	8	Material Handling	53.4%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	\$ 0.025	10	0.9520733	0
PapME9	Paper_Mfg	Mfg. Paper	Motors	Existing	9	Material Handling VFD	53.4%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	\$ 0.025	10	1.4299704	1
PapOT1	Paper_Mfg	Mfg. Paper	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	\$ 0.025	15	3.0185774	1
PapOE10	Paper_Mfg	Mfg. Paper	Other	Existing	10	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	\$ 0.025	10	3.5198522	1
PapOT11	Paper_Mfg	Mfg. Paper	Other	Turnover	11	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	\$ 0.025	15	1.8731544	1
PapOE2	Paper_Mfg	Mfg. Paper	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	\$ 0.025	11	3.3412297	1
PapOE3	Paper_Mfg	Mfg. Paper	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	\$ 0.025	11	2.195776	1
PapOT4	Paper_Mfg	Mfg. Paper	Other	Turnover	4	Kraft: Efficient Agitator	13.8%	50.0%	\$ 0.104	\$ 0.093	\$ 0.012	\$ 0.025	10	4.4534037	1
PapOT5	Paper_Mfg	Mfg. Paper	Other	Turnover	5	Kraft: Effluent Treatment System	9.2%	15.0%	\$ 0.092	\$ 0.082	\$ 0.011	\$ 0.025	10	4.9076695	1
PapOT6	Paper_Mfg	Mfg. Paper	Other	Turnover	6	Mech Pulp: Premium Process	22.5%	0.2%	\$ 0.141	\$ 0.125	\$ 0.016	\$ 0.025	5	1.6991766	1
PapOT7	Paper_Mfg	Mfg. Paper	Other	Turnover	7	Mech Pulp: Refiner Plate Improvement	35.5%	0.4%	\$ 0.045	\$ 0.040	\$ 0.005	\$ 0.025	1	0.9055733	0
PapOT8	Paper_Mfg	Mfg. Paper	Other	Turnover	8	Mech Pulp: Refiner Replacement	23.7%	10.0%	\$ 0.735	\$ 0.652	\$ 0.084	\$ 0.025	12	0.8941989	0
PapOT9	Paper_Mfg	Mfg. Paper	Other	Turnover	9	Paper: Efficient Pulp Screen	13.8%	15.0%	\$ 0.226	\$ 0.200	\$ 0.026	\$ 0.025	10	2.309207	1
PlaCooE1	Chemical_Mfg	Mfg. Plastics	Process Cooling	Existing	1	Clean Room: Change Filter Strategy	10.0%	40.0%	\$ 0.016	\$ 0.012	\$ 0.005	\$ 0.025	1	1.5135301	1
PlaCooE2	Chemical_Mfg	Mfg. Plastics	Process Cooling	Existing	2	Clean Room: Chiller Optimize	28.3%	14.8%	\$ 0.248	\$ 0.124	\$ 0.124	\$ 0.025	10	2.096118	1
PlaCooT3	Chemical_Mfg	Mfg. Plastics	Process Cooling	Turnover	3	Clean Room: Clean Room HVAC	30.0%	9.0%	\$ 0.204	\$ 0.144	\$ 0.061	\$ 0.025	15	3.5705864	1
PlaCooT4	Chemical_Mfg	Mfg. Plastics	Process Cooling	Turnover	4	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	\$ 0.025	15	2.3055829	1
PlaCooL5	Chemical_Mfg	Mfg. Plastics	Process Cooling	Existing	5	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	\$ 0.025	15	0.716372	0
PlaCooT6	Chemical_Mfg	Mfg. Plastics	Process Cooling	Turnover	6	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	\$ 0.025	10	2.5285107	1
PlaCooE7	Chemical_Mfg	Mfg. Plastics	Process Cooling	Existing	7	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	\$ 0.025	3	1.3718163	1
PlaCooT8	Chemical_Mfg	Mfg. Plastics	Process Cooling	Turnover	8	Cold Storage: Retrofit	25.6%	20.7%	\$ 0.250	\$ 0.157	\$ 0.093	\$ 0.025	10	2.0799789	1
PlaCooE9	Chemical_Mfg	Mfg. Plastics	Process Cooling	Existing	9	Cold Storage: Tuneup	10.0%	15.6%	\$ 0.112	\$ 0.047	\$ 0.065	\$ 0.025	3	1.2635787	1
PlaHeaE1	Chemical_Mfg	Mfg. Plastics	Process Heating	Existing	1	Improved Controls	37.9%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	\$ 0.025	10	2.1209929	1
PlaHeaE2	Chemical_Mfg	Mfg. Plastics	Process Heating	Existing	2	Process Heat O&M	63.4%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	\$ 0.025	2	0.4185549	0
PlaHT1	Chemical_Mfg	Mfg. Plastics	HVAC	Turnover	1	Equipment Upgrades	62.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	\$ 0.025	15	2.6456759	1
PlaHE2	Chemical_Mfg	Mfg. Plastics	HVAC	Existing	2	Improved Controls	32.7%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	\$ 0.025	10	4.6509446	1
PlaHE3	Chemical_Mfg	Mfg. Plastics	HVAC	Existing	3	Recommissioning	72.6%	16.0%	\$ 0.271	\$ -	\$ 0.271	\$ 0.025	7	1.4040325	1
PlaLT1	Chemical_Mfg	Mfg. Plastics	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	\$ 0.025	10	3.3767624	1
PlaLT2	Chemical_Mfg	Mfg. Plastics	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	\$ 0.025	10	1.4759078	1
PlaLE3	Chemical_Mfg	Mfg. Plastics	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	\$ 0.025	10	2.4958494	1
PlaMT1	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%							

Measure Lookup	Industry	New Segment	New End-Use	Vintage	Measure Num	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Admin Costs (\$/kWh Saved)	Life	TRC Test	Economic Flag
PlaME13	Chemical_Mfg	Mfg. Plastics	Motors	Existing	13	Motor Management Plan	51.6%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	3.6434981	1
PlaMT15	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	15	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	2.482299	1
PlaMT16	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	16	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	2.482299	1
PlaMT17	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	17	Motors: Rewind 20-50 HP	4.6%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	\$ 0.025	15	1.8204628	1
PlaMT18	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	18	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	2.482299	1
PlaMT19	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	19	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	\$ 0.025	15	2.0100557	1
PlaMT2	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	\$ 0.025	15	1.0078251	1
PlaMT20	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	20	Properly Sized Fans	14.7%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	\$ 0.025	10	2.55712	1
PlaME21	Chemical_Mfg	Mfg. Plastics	Motors	Existing	21	Air Compressor Optimization	38.3%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	\$ 0.025	10	3.291247	1
PlaME22	Chemical_Mfg	Mfg. Plastics	Motors	Existing	22	Pump Energy Management	31.4%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	3.6434981	1
PlaMT23	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	23	Pump Equipment Upgrade	34.0%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	\$ 0.025	10	3.1999188	1
PlaME24	Chemical_Mfg	Mfg. Plastics	Motors	Existing	24	Pump System Optimization	15.0%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	\$ 0.025	12	1.6441851	1
PlaMT25	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	25	Switch from Belt drive to Direct Drive	10.4%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	12	2.3391305	1
PlaMT26	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	26	Synchronous Belts	20.9%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	10	1.9833242	1
PlaMT27	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	27	Efficient Centrifugal Fan	10.3%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	\$ 0.025	10	2.2989361	1
PlaMT28	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	\$ 0.025	15	0.3935323	0
PlaMT29	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	\$ 0.025	15	1.8011275	1
PlaME3	Chemical_Mfg	Mfg. Plastics	Motors	Existing	3	Fan System Optimization	28.9%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	\$ 0.025	10	1.7283338	1
PlaMT30	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	\$ 0.025	15	0.6515928	0
PlaMT4	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	4	High efficiency Compressor motors	80.8%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	\$ 0.025	15	1.8255905	1
PlaMT5	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	5	High Efficiency Motors	74.4%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	\$ 0.025	15	1.4570821	1
PlaOT1	Chemical_Mfg	Mfg. Plastics	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	\$ 0.025	15	3.0185774	1
PlaOE2	Chemical_Mfg	Mfg. Plastics	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	\$ 0.025	11	3.3412997	1
PlaOE3	Chemical_Mfg	Mfg. Plastics	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	\$ 0.025	11	2.195776	1
PlaOE4	Chemical_Mfg	Mfg. Plastics	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	\$ 0.025	10	3.598522	1
PlaOT5	Chemical_Mfg	Mfg. Plastics	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	\$ 0.025	15	1.8731544	1
MinMT1	Mining	Mining	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	\$ 0.025	15	0.3935323	0
MinME10	Mining	Mining	Motors	Existing	10	Motor Management Plan	50.0%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	3.6434981	1
MinMT12	Mining	Mining	Motors	Turnover	12	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	2.482299	1
MinMT13	Mining	Mining	Motors	Turnover	13	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	2.482299	1
MinMT14	Mining	Mining	Motors	Turnover	14	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	\$ 0.025	15	1.8204628	1
MinMT15	Mining	Mining	Motors	Turnover	15	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	2.482299	1
MinMT16	Mining	Mining	Motors	Turnover	16	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	\$ 0.025	15	2.0100557	1
MinMT17	Mining	Mining	Motors	Turnover	17	Switch from Belt drive to Direct Drive	10.5%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	12	2.3391305	1
MinMT18	Mining	Mining	Motors	Turnover	18	Synchronous Belts	21.0%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	10	1.9833242	1
MinMT2	Mining	Mining	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	\$ 0.025	15	1.8011275	1
MinMT3	Mining	Mining	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	\$ 0.025	15	0.6515928	0
MinMT4	Mining	Mining	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	\$ 0.025	15	2.0909404	1
MinMT5	Mining	Mining	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	\$ 0.025	15	1.0078251	1
MinMT6	Mining	Mining	Motors	Turnover	6	High Efficiency Motors	75.0%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	\$ 0.025	15	1.4570821	1
MinMT8	Mining	Mining	Motors	Turnover	8	Material Handling	53.0%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	\$ 0.025	10	0.9520733	0
MinME9	Mining	Mining	Motors	Existing	9	Material Handling VFD	53.0%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	\$ 0.025	10	1.4299704	1
NonCooT1	lumber_Wood_Product	Other Non Mfg.	Process Cooling	Turnover	1	Equipment: Chillers	7.7%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	\$ 0.025	15	2.3055829	1
NonCooE2	lumber_Wood_Product	Other Non Mfg.	Process Cooling	Existing	2	Improved Controls	32.3%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	\$ 0.025	15	0.716372	0
NonCooE3	Agriculture	Other Non Mfg.	Process Cooling	Turnover	3	Milk Precooler - Dairy Plate Cooler	1.7%	3.24%	\$ 0.660	\$ 0.487	\$ 0.173	\$ 0.025	15	1.1947326	1
NonCooE4	lumber_Wood_Product	Other Non Mfg.	Process Cooling	Turnover	4	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	\$ 0.025	10	2.5285107	1
NonCooE5	lumber_Wood_Product	Other Non Mfg.	Process Cooling	Existing	5	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	\$ 0.025	3	1.3718163	1
NonHeaT1	Agriculture	Other Non Mfg.	Process Heating	Turnover	1	Grate Heating Pads	22.9%	17.51%	\$ 0.181	\$ 0.162	\$ 0.019	\$ 0.025	15	3.9776839	1
NonHeaT2	Agriculture	Other Non Mfg.	Process Heating	Turnover	2	Grain dryers	24.8%	23.52%	\$ 8.260	\$ 6.090	\$ 2.169	\$ 0.025	15	0.0988027	0
NonHeaE3	Agriculture	Other Non Mfg.	Process Heating	Existing	3	Heat Lamp Setback (Microzone)	22.9%	0.45%	\$ 0.210	\$ 0.210	\$ -	\$ 0.025	15	3.477567	1
NonHeaE4	Agriculture	Other Non Mfg.	Process Heating	Existing	4	Heat Lamp/Heating Pad Controller	22.9%	1.75%	\$ 0.129	\$ 0.129	\$ -	\$ 0.025	15	5.3022361	1
NonHeaE5	Agriculture	Other Non Mfg.	Process Heating	Turnover	5	Heat Lamps	22.9%	3.38%	\$ 0.023	\$ 0.023	\$ -	\$ 0.025	10	11.830707	1
NonHeaE6	lumber_Wood_Product	Other Non Mfg.	Process Heating	Existing	6	Improved Controls	37.9%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	\$ 0.025	10	2.1209929	1
NonHeaE7	lumber_Wood_Product	Other Non Mfg.	Process Heating	Existing	7	Process Heat O&M	63.4%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	\$ 0.025	2	0.4185549	0
NonHT1	Agriculture	Other Non Mfg.	HVAC	Turnover	1	Energy-Efficient Dehumidifier	49.7%	2.00%	\$ 1.072	\$ 0.791	\$ 0.282	\$ 0.025	15	0.7730361	0
NonHT2	lumber_Wood_Product	Other Non Mfg.	HVAC	Turnover	2	Equipment Upgrades	63.2%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	\$ 0.025	15	2.6456759	1
NonHT3	Agriculture	Other Non Mfg.	HVAC	Turnover	3	Heat Reclaimer	1.7%	42.00%	\$ 0.171	\$ 0.126	\$ 0.045	\$ 0.025	15	4.3188297	1
NonHT4	Agriculture	Other Non Mfg.	HVAC	Turnover	4	Heat Recovery Ventilators	49.7%	4.13%	\$ 0.448	\$ 0.330	\$ 0.118	\$ 0.025	10	1.2554155	1
NonHE5	lumber_Wood_Product	Other Non Mfg.	HVAC	Existing	5	Improved Controls	32.8%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	\$ 0.025	10	4.6509446	1
NonHT6	Agriculture	Other Non Mfg.	HVAC	Turnover	6	Infrared Film for Greenhouses	0.3%	11.06%	\$ 0.261	\$ 0.234	\$ 0.028	\$ 0.025	4	0.8232033	0
NonHT7	Agriculture	Other Non Mfg.	HVAC	Turnover	7	Programmable Ventilation Controller	49.7%	0.10%	\$ 0.140	\$ 0.140	\$ -	\$ 0.025	10	3.6059234	1
NonHE8	lumber_Wood_Product	Other Non Mfg.	HVAC	Existing	8	Recommissioning	72.9%	16.0%	\$ 0.271	\$ -	\$ 0.271	\$ 0.025	7	1.4040325	1
NonHT9	Agriculture	Other Non Mfg.	HVAC	Turnover	9	Scroll Compressor	1.7%	7.50%	\$ 1.006	\$ 0.899	\$ 0.107	\$ 0.025	15	0.8230289	0
NonLT1	lumber_Wood_Product	Other Non Mfg.	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	\$ 0.025	10	3.3767624	1
NonLT2	lumber_Wood_Product	Other Non Mfg.	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	\$ 0.025	10	1.4759078	1
NonLE3	lumber_Wood_Product	Other Non Mfg.	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	\$ 0.025	10	2.4958494	1
NonMT1	Other Non Mfg.	Motors	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	\$ 0.025	15	1.8011275	1
NonMT11	Agriculture	Other Non Mfg.	Motors	Turnover	11	Agricultural Exhaust Fans (Rate 21 CFM/Watt+)	49.7%	5.00%	\$ 0.316	\$ 0.283	\$ 0.034	\$ 0.025	15	2.4331686	1
NonMT15	Agriculture	Other Non Mfg.	Motors	Turnover	15	Low Pressure Irrigation	0.4%	50.00%	\$ 0.993	\$ 0.732	\$ 0.261	\$ 0.025	10	0.5705225	0
NonMT16	lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	16	Material Handling	53.2%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	\$ 0.025	10	0.9520733	0
NonME17	lumber_Wood_Product	Other Non Mfg.	Motors	Existing	17	Material Handling VFD	53.2%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	\$ 0.025	10	1.4299704	1
NonME18	lumber_Wood_Product	Other Non Mfg.	Motors	Existing	18	Motor Management Plan	50.9%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	3.6434981	1
NonMT2	Other Non Mfg.	Motors	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	\$ 0.025	15	0.6515928	0
NonMT21	lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	21	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	2.482299	1
NonMT22	lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	22	Air Compressor Demand Reduction	26.8%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	\$ 0.025	10	4.4121465	1
NonMT23	lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	23	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	2.482299	1

Measure Lookup	Industry	New Segment	New End-Use	Vintage	Measure Num	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Admin Costs (\$/kWh Saved)	Life	TRC Test	Economic Flag
NonMT24	Lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	24	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	\$ 0.025	15	1.8204628	1
NonMT25	Lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	25	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	2.482209	1
NonMT26	Lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	26	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	\$ 0.025	15	2.0106557	1
NonMT27	Lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	27	Properly Sized Fans	15.3%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	\$ 0.025	10	2.55712	1
NonME28	Lumber_Wood_Product	Other Non Mfg.	Motors	Existing	28	Pump Energy Management	29.8%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	3.6434981	1
NonMT29	Lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	29	Pump Equipment Upgrade	32.3%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	\$ 0.025	10	3.1999188	1
NonMT3	Lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	\$ 0.025	15	2.0094044	1
NonME30	Lumber_Wood_Product	Other Non Mfg.	Motors	Existing	30	Pump System Optimization	14.9%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	\$ 0.025	12	1.6441851	1
NonMT31	Irrigation	Other Non Mfg.	Motors	Turnover	31	SIS	76.5%	7.5%	\$ 1.051	\$ 0.869	\$ 0.183	\$ 0.025	7	0.3772236	0
NonMT32	Lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	32	Air Compressor Equipment	17.6%	8.8%	\$ 0.157	\$ 0.130	\$ 0.027	\$ 0.025	10	3.1862753	1
NonMT33	Lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	33	Switch from Belt drive to Direct Drive	10.5%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	12	2.3391305	1
NonMT34	Lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	34	Synchronous Belts	20.9%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	10	1.9833242	1
NonMT35	Irrigation	Other Non Mfg.	Motors	Turnover	35	System Improvements	85.0%	8.0%	\$ 0.416	\$ 0.344	\$ 0.072	\$ 0.025	5	0.6456327	0
NonMT36	Agriculture	Other Non Mfg.	Motors	Turnover	36	Variable Speed Drives for Dairy Vacuum Pumps	1.7%	36.89%	\$ 0.169	\$ 0.151	\$ 0.018	\$ 0.025	15	4.2773188	1
NonMT37	Agriculture	Other Non Mfg.	Motors	Turnover	37	VFDs on Small Milking Machines	1.7%	3.22%	\$ 0.832	\$ 0.614	\$ 0.219	\$ 0.025	15	0.96865	0
NonMT38	Lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	38	Wood: Replace Pneumatic Conveyor	50.2%	29.0%	\$ 0.018	\$ 0.016	\$ 0.002	\$ 0.025	10	13.477911	1
NonME39	Lumber_Wood_Product	Other Non Mfg.	Motors	Existing	39	Air Compressor Optimization	36.8%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	\$ 0.025	10	3.291247	1
NonMT4	Lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	\$ 0.025	15	1.0078251	1
NonMT40	Agriculture	Other Non Mfg.	Motors	Turnover	40	Automatic Milker Takeoff	1.7%	3.00%	\$ 0.763	\$ 0.563	\$ 0.200	\$ 0.025	15	1.053591	1
NonMT41	Agriculture	Other Non Mfg.	Motors	Turnover	41	Circulating Fans	49.7%	5.00%	\$ 0.152	\$ 0.136	\$ 0.016	\$ 0.025	10	3.2856034	1
NonMT42	Lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	42	Efficient Centrifugal Fan	10.7%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	\$ 0.025	10	2.2989361	1
NonMT43	Lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	43	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	\$ 0.025	15	0.3935323	0
NonME5	Lumber_Wood_Product	Other Non Mfg.	Motors	Existing	5	Fan System Optimization	30.2%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	\$ 0.025	10	1.7283338	1
NonMT6	Lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	6	High efficiency Compressor motors	77.5%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	\$ 0.025	15	1.8255905	1
NonMT7	Irrigation	Other Non Mfg.	Motors	Turnover	7	High Efficiency Motors	74.7%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	\$ 0.025	15	1.4570821	1
NonMT8	Agriculture	Other Non Mfg.	Motors	Turnover	8	High Volume Low Speed Fans	49.7%	46.61%	\$ 2.004	\$ 1.883	\$ 0.120	\$ 0.025	15	0.4093068	0
NonMT9	Agriculture	Other Non Mfg.	Motors	Turnover	9	High-Efficiency Ventilation System	49.7%	5.66%	\$ 1.366	\$ 1.366	\$ -	\$ 0.025	10	0.4173914	0
NonOT1	Lumber_Wood_Product	Other Non Mfg.	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	\$ 0.025	15	3.0185774	1
NonOT10	Lumber_Wood_Product	Other Non Mfg.	Other	Turnover	10	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	\$ 0.025	15	1.8731544	1
NonOT12	Agriculture	Other Non Mfg.	Other	Turnover	2	Block Heater Timer	25.0%	2.50%	\$ 0.048	\$ 0.048	\$ -	\$ 0.025	10	7.8614393	1
NonOE3	Lumber_Wood_Product	Other Non Mfg.	Other	Existing	3	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	\$ 0.025	11	3.3412297	1
NonOT4	Agriculture	Other Non Mfg.	Other	Turnover	4	Grain bin aeration control systems	24.8%	2.25%	\$ 0.168	\$ 0.124	\$ 0.044	\$ 0.025	15	4.2812644	1
NonOT5	Agriculture	Other Non Mfg.	Other	Turnover	5	Greenhouse Heat Curtain	0.3%	16.76%	\$ 0.056	\$ 0.056	\$ -	\$ 0.025	5	3.4728625	1
NonOT6	Agriculture	Other Non Mfg.	Other	Turnover	6	High Efficiency Stock tank	22.9%	3.75%	\$ 0.412	\$ 0.368	\$ 0.044	\$ 0.025	10	1.3186232	1
NonOE7	Lumber_Wood_Product	Other Non Mfg.	Other	Existing	7	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	\$ 0.025	11	2.195776	1
NonOT8	Agriculture	Other Non Mfg.	Other	Turnover	8	Livestock Waterers	22.9%	11.25%	\$ 0.327	\$ 0.292	\$ 0.035	\$ 0.025	10	1.6384917	1
NonOE9	Lumber_Wood_Product	Other Non Mfg.	Other	Existing	9	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	\$ 0.025	10	3.5198522	1
MetPT1	Mfg_Metals	Process EC	Process EC	Turnover	1	Electrical-Chemical Plating Bundle, Tank and Rectifier	65.0%	18.5%	\$ 0.550	\$ 0.450	\$ 0.100	\$ 0.025	15	1.4235345	1
MinHT1	Mining	Mining	HVAC	Turnover	1	Equipment Upgrades	62.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	\$ 0.025	15	2.6456759	1
MinHE2	Mining	Mining	HVAC	Existing	2	Improved Controls	32.7%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	\$ 0.025	10	4.6569446	1
MinHE3	Mining	Mining	HVAC	Existing	3	Recommissioning	72.6%	16.0%	\$ 0.271	\$ -	\$ 0.271	\$ 0.025	7	1.4040325	1
MinLT1	Mining	Mining	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	\$ 0.025	10	3.3767624	1
MinLT2	Mining	Mining	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	\$ 0.025	10	1.4759078	1
MinLE3	Mining	Mining	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	\$ 0.025	10	2.4958494	1

West Penn Industrial Measures

Measure Linkup	Industry	New Segment	New End-Use	Vintage	Measure Number	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Admin Costs (\$/kW/h Saved)	Life	TRC Test	Economic Flag
CheCooE1	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Existing	1	Clean Room: Change Filter Strategy	10.0%	40.0%	\$ 0.016	\$ 0.012	\$ 0.005	\$ 0.025	1	0.7571936	0
CheCooE2	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Existing	2	Clean Room: Chiller Optimize	28.3%	14.8%	\$ 0.248	\$ 0.124	\$ 0.124	\$ 0.025	10	1.171322	1
CheCooF3	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Turnover	3	Clean Room: Clean Room HVAC	30.0%	9.0%	\$ 0.204	\$ 0.144	\$ 0.061	\$ 0.025	15	2.3477936	1
CheCooF4	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Turnover	4	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	\$ 0.025	15	1.5160067	1
CheCooE5	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Existing	5	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	\$ 0.025	15	0.4710413	0
CheCooF6	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Turnover	6	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	\$ 0.025	10	1.4129454	1
CheCooE7	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Existing	7	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	\$ 0.025	3	0.777031	0
CheCooF8	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Turnover	8	Cold Storage Retrofit	25.6%	20.7%	\$ 0.250	\$ 0.157	\$ 0.093	\$ 0.025	10	1.1623034	1
CheCooE9	Chemical_Mfg	Mfg. Chemicals	Process Cooling	Existing	9	Cold Storage Tuneup	10.0%	15.6%	\$ 0.112	\$ 0.047	\$ 0.065	\$ 0.025	3	0.7167421	0
CheHeaF1	Chemical_Mfg	Mfg. Chemicals	Process Heating	Existing	1	Improved Controls	37.9%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	\$ 0.025	10	1.1852223	1
CheHeaE2	Chemical_Mfg	Mfg. Chemicals	Process Heating	Existing	2	Process Heat O&M	63.4%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	\$ 0.025	2	0.2267898	0
CheHT1	Chemical_Mfg	Mfg. Chemicals	HVAC	Turnover	1	Equipment Upgrades	62.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	\$ 0.025	15	1.7276904	1
CheHE2	Chemical_Mfg	Mfg. Chemicals	HVAC	Existing	2	Improved Controls	32.7%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	\$ 0.025	10	2.6083486	1
CheHE3	Chemical_Mfg	Mfg. Chemicals	HVAC	Existing	3	Recommissioning	72.6%	16.0%	\$ 0.271	\$ -	\$ 0.271	\$ 0.025	7	0.7996836	0
CheLT1	Chemical_Mfg	Mfg. Chemicals	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	\$ 0.025	10	1.8881036	1
CheLT2	Chemical_Mfg	Mfg. Chemicals	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	\$ 0.025	10	0.8252481	0
CheLE3	Chemical_Mfg	Mfg. Chemicals	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	\$ 0.025	10	1.3955445	1
CheMT1	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ -	\$ -	\$ 0.025	15	1.3774963	1
CheMT10	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	10	Material Handling	52.3%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	\$ 0.025	10	0.5365358	0
CheMT11	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	11	Air Compressor Demand Reduction	28.0%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	\$ 0.025	10	2.4864415	1
CheME6	Chemical_Mfg	Mfg. Chemicals	Motors	Existing	6	Material Handling VFD	52.3%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	\$ 0.025	10	0.8058521	0
CheME13	Chemical_Mfg	Mfg. Chemicals	Motors	Existing	13	Motor Management Plan	51.6%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	2.0532738	1
CheMT15	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	15	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.6353204	1
CheMT16	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	16	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.6353204	1
CheMT17	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	17	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	\$ 0.025	15	1.1993076	1
CheMT18	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	18	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.6353204	1
CheMT19	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	19	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	\$ 0.025	15	1.32421	1
CheMT2	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	\$ 0.025	15	0.6639478	0
CheMT20	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	20	Properly Sized Fans	14.7%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	\$ 0.025	10	1.4410513	1
CheME21	Chemical_Mfg	Mfg. Chemicals	Motors	Existing	21	Air Compressor Optimization	38.3%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	\$ 0.025	10	1.8547646	1
CheME22	Chemical_Mfg	Mfg. Chemicals	Motors	Existing	22	Pump Energy Management	31.4%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	2.0532738	1
CheMT23	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	23	Pump Equipment Upgrade	34.0%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	\$ 0.025	10	1.8032971	1
CheME24	Chemical_Mfg	Mfg. Chemicals	Motors	Existing	24	Pump System Optimization	15.6%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	\$ 0.025	12	1.0186118	1
CheMT25	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	25	Switch from Belt drive to Direct Drive	10.4%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	12	1.4491471	1
CheMT26	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	26	Synchronous Belts	20.9%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	10	1.1176917	1
CheMT27	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	27	Efficient Centrifugal Fan	10.3%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	\$ 0.025	10	1.2955531	1
CheMT28	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	\$ 0.025	15	0.2529562	0
CheMT29	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	\$ 0.025	15	1.1865697	1
CheME3	Chemical_Mfg	Mfg. Chemicals	Motors	Existing	3	Fan System Optimization	28.9%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	\$ 0.025	10	0.9739933	0
CheMT30	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	\$ 0.025	15	0.4292646	0
CheMT4	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	4	High efficiency Compressor motors	80.8%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	\$ 0.025	15	1.2026857	1
CheMT5	Chemical_Mfg	Mfg. Chemicals	Motors	Turnover	5	High Efficiency Motors	74.4%	1.5%	\$ 0.450	\$ 0.450	\$ 0.095	\$ 0.025	15	0.959915	0
CheOT1	Chemical_Mfg	Mfg. Chemicals	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	\$ 0.025	15	1.9820129	1
CheOE2	Chemical_Mfg	Mfg. Chemicals	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	\$ 0.025	11	1.9780551	1
CheOE3	Chemical_Mfg	Mfg. Chemicals	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	\$ 0.025	11	1.2999303	1
CheOE4	Chemical_Mfg	Mfg. Chemicals	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	\$ 0.025	10	1.968014	1
CheOT5	Chemical_Mfg	Mfg. Chemicals	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	\$ 0.025	15	1.2299225	1
ComCooE1	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Existing	1	Clean Room: Change Filter Strategy	10.0%	40.0%	\$ 0.016	\$ 0.012	\$ 0.005	\$ 0.025	1	0.7571936	0
ComCooE10	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Existing	10	Cold Storage Tuneup	10.0%	15.6%	\$ 0.112	\$ 0.047	\$ 0.065	\$ 0.025	3	0.7167421	0
ComCooE2	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Existing	2	Clean Room: Chiller Optimize	28.3%	14.8%	\$ 0.248	\$ 0.124	\$ 0.124	\$ 0.025	10	1.171322	1
ComCooF3	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Turnover	3	Clean Room: Clean Room HVAC	30.0%	9.0%	\$ 0.204	\$ 0.144	\$ 0.061	\$ 0.025	15	2.3477936	1
ComCooF4	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Turnover	4	Elec. Chip Fabr. Solidstate Chiller	20.0%	90.0%	\$ 0.634	\$ 0.562	\$ 0.072	\$ 0.025	10	0.485348	0
ComCooE5	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Existing	5	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	\$ 0.025	15	1.5160067	1
ComCooE6	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Existing	6	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	\$ 0.025	15	0.4710413	0
ComCooF7	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Turnover	7	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	\$ 0.025	10	1.4129454	1
ComCooE8	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Existing	8	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	\$ 0.025	3	0.777031	0
ComCooF9	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Turnover	9	Cold Storage Retrofit	25.6%	20.7%	\$ 0.250	\$ 0.157	\$ 0.093	\$ 0.025	10	1.1623034	1
ComHeaE1	Electronic_Equipment_M	Mfg. Computers	Process Heating	Existing	1	Improved Controls	41.5%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	\$ 0.025	10	1.1852223	1
ComHeaE2	Electronic_Equipment_M	Mfg. Computers	Process Heating	Existing	2	Process Heat O&M	69.5%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	\$ 0.025	2	0.2267898	0
ComHT1	Electronic_Equipment_M	Mfg. Computers	HVAC	Turnover	1	Equipment Upgrades	74.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	\$ 0.025	15	1.7276904	1
ComHE2	Electronic_Equipment_M	Mfg. Computers	HVAC	Existing	2	Improved Controls	38.9%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	\$ 0.025	10	2.6083486	1
ComHE3	Electronic_Equipment_M	Mfg. Computers	HVAC	Existing	3	Recommissioning	86.4%	16.0%	\$ 0.271	\$ -	\$ 0.271	\$ 0.025	7	0.7996836	0
ComLT1	Electronic_Equipment_M	Mfg. Computers	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	\$ 0.025	10	1.8881036	1
ComLT2	Electronic_Equipment_M	Mfg. Computers	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	\$ 0.025	10	0.8252481	0
ComLE3	Electronic_Equipment_M	Mfg. Computers	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	\$ 0.025	10	1.3955445	1
ComMT1	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ -	\$ -	\$ 0.025	15	1.3774963	1
ComMT10	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	10	Material Handling	52.9%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	\$ 0.025	10	0.5365358	0
ComMT11	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	11	Air Compressor Demand Reduction	25.5%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	\$ 0.025	10	2.4864415	1
ComME6	Electronic_Equipment_M	Mfg. Computers	Motors	Existing	6	Material Handling VFD	52.9%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	\$ 0.025	10	0.8058521	0
ComME13	Electronic_Equipment_M	Mfg. Computers	Motors	Existing	13	Motor Management Plan	49.2%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	2.0532738	1
ComMT15	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	15	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.6353204	1
ComMT16	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	16	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.6353204	

West Penn Industrial Measures

Measure Linkup	Industry	New Segment	New End-Use	Vintage	Measure Number	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Admin Costs (\$/kW/h Saved)	Life	TRC Test	Economic Flag
ComMT20	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	20	Properly Sized Fans	14.8%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	\$ 0.025	10	1.4410513	1
ComME21	Electronic_Equipment_M	Mfg. Computers	Motors	Existing	21	Air Compressor Optimization	35.0%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	\$ 0.025	10	1.8547646	1
ComME22	Electronic_Equipment_M	Mfg. Computers	Motors	Existing	22	Pump Energy Management	30.1%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	2.0532738	1
ComMT23	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	23	Pump Equipment Upgrade	32.6%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	\$ 0.025	10	1.8032971	1
ComME24	Electronic_Equipment_M	Mfg. Computers	Motors	Existing	24	Pump System Optimization	15.0%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	\$ 0.025	12	1.0186118	1
ComMT25	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	25	Switch from Belt drive to Direct Drive	10.5%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	12	1.4491471	1
ComMT26	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	26	Synchronous Belts	20.8%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	10	1.1176917	1
ComMT27	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	27	Efficient Centrifugal Fan	10.3%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	\$ 0.025	10	1.2955531	1
ComMT28	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	\$ 0.025	15	0.2592562	0
ComMT29	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	\$ 0.025	15	1.1865697	1
ComME3	Electronic_Equipment_M	Mfg. Computers	Motors	Existing	3	Fan System Optimization	29.1%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	\$ 0.025	10	0.9739933	0
ComMT30	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	\$ 0.025	15	0.4292646	0
ComMT4	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	4	High efficiency Compressor motors	73.8%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	\$ 0.025	15	1.2026857	1
ComMT5	Electronic_Equipment_M	Mfg. Computers	Motors	Turnover	5	High Efficiency Motors	73.8%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	\$ 0.025	15	0.959915	0
ComOT1	Electronic_Equipment_M	Mfg. Computers	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	\$ 0.025	15	1.9820129	1
ComOT2	Electronic_Equipment_M	Mfg. Computers	Other	Turnover	2	Elec Chip Fab: Eliminate Exhaust	80.1%	5.0%	\$ 0.233	\$ 0.206	\$ 0.026	\$ 0.025	10	1.2506702	1
ComOT3	Electronic_Equipment_M	Mfg. Computers	Other	Turnover	3	Elec Chip Fab: Exhaust Injector	35.0%	100.0%	\$ 0.561	\$ 0.498	\$ 0.064	\$ 0.025	10	0.5476133	0
ComCooT11	Electronic_Equipment_M	Mfg. Computers	Process Cooling	Turnover	11	Elec Chip Fab: Reduce Gas Pressure	5.0%	10.0%	\$ 0.063	\$ -	\$ 0.063	\$ 0.025	10	3.6337459	1
ComOE5	Electronic_Equipment_M	Mfg. Computers	Other	Existing	5	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	\$ 0.025	11	1.9780551	1
ComOE6	Electronic_Equipment_M	Mfg. Computers	Other	Existing	6	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	\$ 0.025	11	1.2999303	1
ComOE7	Electronic_Equipment_M	Mfg. Computers	Other	Existing	7	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	\$ 0.025	10	1.968014	1
ComOT8	Electronic_Equipment_M	Mfg. Computers	Other	Turnover	8	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	\$ 0.025	15	1.2299225	1
FooCooT1	Food_Mfg	Mfg. Food	Process Cooling	Turnover	1	Equipment: Chillers	8.3%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	\$ 0.025	15	1.5160067	1
FooCooE2	Food_Mfg	Mfg. Food	Process Cooling	Existing	2	Improved Controls	35.2%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	\$ 0.025	15	0.4710413	0
FooCooT3	Food_Mfg	Mfg. Food	Process Cooling	Turnover	3	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	\$ 0.025	10	1.4129454	1
FooCooT4	Food_Mfg	Mfg. Food	Process Cooling	Turnover	4	Food: Cooling and Storage	15.0%	15.4%	\$ 0.258	\$ 0.162	\$ 0.096	\$ 0.025	10	1.1299811	1
FooCooT5	Food_Mfg	Mfg. Food	Process Cooling	Turnover	5	Food: Refrig Storage Tuneup	7.5%	14.4%	\$ 0.056	\$ 0.023	\$ 0.033	\$ 0.025	3	1.2118521	1
FooCooT6	Food_Mfg	Mfg. Food	Process Cooling	Turnover	6	Fruit Storage Refer Retrofit	60.7%	38.2%	\$ 0.214	\$ 0.135	\$ 0.079	\$ 0.025	10	1.3358225	1
FooCooT7	Food_Mfg	Mfg. Food	Process Cooling	Turnover	7	Fruit Storage Tuneup	10.0%	15.6%	\$ 0.056	\$ 0.023	\$ 0.033	\$ 0.025	3	1.2118521	1
FooCooE8	Food_Mfg	Mfg. Food	Process Cooling	Existing	8	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	\$ 0.025	3	0.777031	0
FooHeaT1	Food_Mfg	Mfg. Food	Process Heating	Existing	1	Improved Controls	38.8%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	\$ 0.025	10	1.1852223	1
FooHeaE2	Food_Mfg	Mfg. Food	Process Heating	Existing	2	Process Heat O&M	65.0%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	\$ 0.025	2	0.2267899	0
FooHT1	Food_Mfg	Mfg. Food	HVAC	Turnover	1	Equipment Upgrades	62.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	\$ 0.025	15	1.7276904	1
FooHE2	Food_Mfg	Mfg. Food	HVAC	Existing	2	Improved Controls	32.7%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	\$ 0.025	10	2.6083486	1
FooHE3	Food_Mfg	Mfg. Food	HVAC	Existing	3	Recommissioning	72.6%	16.0%	\$ 0.271	\$ -	\$ 0.271	\$ 0.025	7	0.7996836	0
FooLT1	Food_Mfg	Mfg. Food	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	\$ 0.025	10	1.8881036	1
FooLT2	Food_Mfg	Mfg. Food	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	\$ 0.025	10	0.8252481	0
FooLE3	Food_Mfg	Mfg. Food	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	\$ 0.025	10	1.3955445	1
FooME1	Food_Mfg	Mfg. Food	Motors	Existing	1	Fan System Optimization	29.6%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	\$ 0.025	10	0.9739933	0
FooME4	Food_Mfg	Mfg. Food	Motors	Existing	4	Material Handling VFD	51.6%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	\$ 0.025	10	0.8058521	0
FooME11	Food_Mfg	Mfg. Food	Motors	Existing	11	Motor Management Plan	48.9%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	2.0532738	1
FooMT13	Food_Mfg	Mfg. Food	Motors	Turnover	13	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.6353204	1
FooMT14	Food_Mfg	Mfg. Food	Motors	Turnover	14	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.6353204	1
FooMT15	Food_Mfg	Mfg. Food	Motors	Turnover	15	Motors: Rewind 20-50 HP	4.6%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	\$ 0.025	15	1.1993076	1
FooMT16	Food_Mfg	Mfg. Food	Motors	Turnover	16	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.6353204	1
FooMT17	Food_Mfg	Mfg. Food	Motors	Turnover	17	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	\$ 0.025	15	1.32421	1
FooME18	Food_Mfg	Mfg. Food	Motors	Existing	18	Air Compressor Optimization	35.0%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	\$ 0.025	10	1.8547646	1
FooMT19	Food_Mfg	Mfg. Food	Motors	Turnover	19	Properly Sized Fans	15.0%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	\$ 0.025	10	1.4410513	1
FooMT2	Food_Mfg	Mfg. Food	Motors	Turnover	2	High efficiency Compressor motors	73.8%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	\$ 0.025	15	1.2026857	1
FooME20	Food_Mfg	Mfg. Food	Motors	Existing	20	Pump Energy Management	30.5%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	2.0532738	1
FooMT21	Food_Mfg	Mfg. Food	Motors	Turnover	21	Pump Equipment Upgrade	33.0%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	\$ 0.025	10	1.8032971	1
FooME22	Food_Mfg	Mfg. Food	Motors	Existing	22	Pump System Optimization	15.2%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	\$ 0.025	12	1.0186118	1
FooMT23	Food_Mfg	Mfg. Food	Motors	Turnover	23	Switch from Belt drive to Direct Drive	10.2%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	12	1.4491471	1
FooMT24	Food_Mfg	Mfg. Food	Motors	Turnover	24	Synchronous Belts	20.8%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	10	1.1176917	1
FooMT25	Food_Mfg	Mfg. Food	Motors	Turnover	25	Efficient Centrifugal Fan	10.5%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	\$ 0.025	10	1.2955531	1
FooMT26	Food_Mfg	Mfg. Food	Motors	Turnover	26	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	\$ 0.025	15	0.2592562	0
FooMT27	Food_Mfg	Mfg. Food	Motors	Turnover	27	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	\$ 0.025	15	1.1865697	1
FooMT28	Food_Mfg	Mfg. Food	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	\$ 0.025	15	0.4292646	0
FooMT29	Food_Mfg	Mfg. Food	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	\$ 0.025	15	1.3774963	1
FooMT3	Food_Mfg	Mfg. Food	Motors	Turnover	3	High Efficiency Motors	74.0%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	\$ 0.025	15	0.959915	0
FooMT30	Food_Mfg	Mfg. Food	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	\$ 0.025	15	0.6639478	0
FooMT7	Food_Mfg	Mfg. Food	Motors	Turnover	7	Air Compressor Demand Reduction	25.5%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	\$ 0.025	10	2.4864415	1
FooMT9	Food_Mfg	Mfg. Food	Motors	Turnover	9	Material Handling	51.6%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	\$ 0.025	10	0.5363538	0
FooOT1	Food_Mfg	Mfg. Food	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	\$ 0.025	15	1.9820129	1
FooOE2	Food_Mfg	Mfg. Food	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	\$ 0.025	11	1.9780551	1
FooOE3	Food_Mfg	Mfg. Food	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	\$ 0.025	11	1.2999303	1
FooOE4	Food_Mfg	Mfg. Food	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	\$ 0.025	10	1.968014	1
FooOT5	Food_Mfg	Mfg. Food	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	\$ 0.025	15	1.2299225	1
MetCooT1	Primary_Metal_Mfg	Mfg. Metals	Process Cooling	Turnover	1	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	\$ 0.025	15	1.5160067	1
MetCooE2	Primary_Metal_Mfg	Mfg. Metals	Process Cooling	Existing	2	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	\$ 0.025	15	0.4710413	0
MetCooE3	Primary_Metal_Mfg	Mfg. Metals	Process Cooling	Existing	3	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	\$ 0.025	3	0.777031	0
MetHeaT1	Primary_Metal_Mfg	Mfg. Metals	Process Heating	Existing	1	Improved Controls	40.1%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	\$ 0.025	10	1.1852223	1
MetHeaT2	Primary_Metal_Mfg	Mfg. Metals	Process Heating	Turnover	2										

West Penn Industrial Measures

Measure Linkup	Industry	New Segment	New End-Use	Vintage	Measure Number	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Admin Costs (\$/kW/h Saved)	Life	TRC Test	Economic Flag
MetHE3	Primary_Metal_Mfg	Mfg. Metals	HVAC	Existing	3	Recommissioning	74.7%	16.0%	\$ 0.271	\$ -	\$ 0.271	\$ 0.025	7	0.7996836	0
MetLT1	Primary_Metal_Mfg	Mfg. Metals	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	\$ 0.025	10	1.8881036	1
MetLT2	Primary_Metal_Mfg	Mfg. Metals	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	\$ 0.025	10	0.8252481	0
MetLE3	Primary_Metal_Mfg	Mfg. Metals	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	\$ 0.025	10	1.3955445	1
MetMT1	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	1	Air Compressor Demand Reduction	25.3%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	\$ 0.025	10	2.4864415	1
MetME10	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	10	Motor Management Plan	49.1%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	2.0532738	1
MetME12	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	12	Air Compressor Optimization	34.7%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	\$ 0.025	10	1.8547646	1
MetMT13	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	13	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.6353204	1
MetMT14	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	14	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.6353204	1
MetMT15	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	15	Motors: Rewind 20-50 HP	4.6%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	\$ 0.025	15	1.1993076	1
MetMT16	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	16	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.6353204	1
MetMT17	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	17	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	\$ 0.025	15	1.32421	1
MetMT18	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	18	Properly Sized Fans	14.7%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	\$ 0.025	10	1.4410513	1
MetME19	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	19	Pump Energy Management	29.8%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	2.0532738	1
MetMT2	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	2	High efficiency Compressor motors	73.1%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	\$ 0.025	15	1.2026857	1
MetMT20	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	20	Pump Equipment Upgrade	32.3%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	\$ 0.025	10	1.8032971	1
MetME21	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	21	Pump System Optimization	14.9%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	\$ 0.025	12	1.0186118	1
MetMT22	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	22	Efficient Centrifugal Fan	10.3%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	\$ 0.025	10	1.2955331	1
MetMT23	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	23	Switch from Belt drive to Direct Drive	10.4%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	12	1.4491471	1
MetMT24	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	24	Synchronous Belts	20.6%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	10	1.1176917	1
MetMT25	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	25	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	\$ 0.025	15	0.2592562	0
MetMT26	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	26	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	\$ 0.025	15	1.1865697	1
MetMT27	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	27	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	\$ 0.025	15	0.4292646	0
MetMT28	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	\$ 0.025	15	1.3774963	1
MetMT29	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	\$ 0.025	15	0.6639478	0
MetMT3	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	3	High Efficiency Motors	73.3%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	\$ 0.025	15	0.959915	0
MetME30	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	30	Fan System Optimization	29.0%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	\$ 0.025	10	0.9739933	0
MetMT8	Primary_Metal_Mfg	Mfg. Metals	Motors	Turnover	8	Material Handling	52.4%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	\$ 0.025	10	0.5363358	0
MetME4	Primary_Metal_Mfg	Mfg. Metals	Motors	Existing	4	Material Handling VFD	52.4%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	\$ 0.025	10	0.8058521	0
MetOT1	Primary_Metal_Mfg	Mfg. Metals	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	\$ 0.025	15	1.9820129	1
MetOE2	Primary_Metal_Mfg	Mfg. Metals	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	\$ 0.025	11	1.9780551	1
MetOE3	Primary_Metal_Mfg	Mfg. Metals	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	\$ 0.025	11	1.2999303	1
MetOE4	Primary_Metal_Mfg	Mfg. Metals	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	\$ 0.025	11	1.968014	1
MetOT5	Primary_Metal_Mfg	Mfg. Metals	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	\$ 0.025	15	1.2299223	1
OhCooT1	Miscellaneous_Mfg	Mfg. Other	Process Cooling	Turnover	1	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	\$ 0.025	15	1.5160067	1
OhCooE2	Miscellaneous_Mfg	Mfg. Other	Process Cooling	Existing	2	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	\$ 0.025	15	0.4710413	0
OhCooT3	onc_Clay_Glass_Products	Mfg. Other	Process Cooling	Turnover	3	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	\$ 0.025	10	1.4129454	1
OhCooE4	Miscellaneous_Mfg	Mfg. Other	Process Cooling	Existing	4	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	\$ 0.025	3	0.777031	0
OhCooT5	Miscellaneous_Mfg	Mfg. Other	Process Cooling	Turnover	5	Cold Storage: Retrofit	25.6%	20.7%	\$ 0.250	\$ 0.157	\$ 0.093	\$ 0.025	10	1.1629304	1
OhCooE6	Miscellaneous_Mfg	Mfg. Other	Process Cooling	Existing	6	Cold Storage: Tuneup	10.0%	15.6%	\$ 0.112	\$ 0.047	\$ 0.065	\$ 0.025	3	0.7167421	0
OhHeaE1	Miscellaneous_Mfg	Mfg. Other	Process Heating	existing	1	Improved Controls	41.7%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	\$ 0.025	10	1.1852223	1
OhHeaE2	Miscellaneous_Mfg	Mfg. Other	Process Heating	existing	2	Process Heat O&M	69.8%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	\$ 0.025	2	0.2267898	0
OhHT1	Miscellaneous_Mfg	Mfg. Other	HVAC	Turnover	1	Equipment Upgrades	64.4%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	\$ 0.025	15	1.7276004	1
OhHE2	Miscellaneous_Mfg	Mfg. Other	HVAC	Existing	2	Improved Controls	33.4%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	\$ 0.025	10	2.6083486	1
OhHE3	Miscellaneous_Mfg	Mfg. Other	HVAC	Existing	3	Recommissioning	74.3%	16.0%	\$ 0.271	\$ -	\$ 0.271	\$ 0.025	7	0.7996836	0
OhLT1	Miscellaneous_Mfg	Mfg. Other	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	\$ 0.025	10	1.8881036	1
OhLT2	Miscellaneous_Mfg	Mfg. Other	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	\$ 0.025	10	0.8252481	0
OhLE3	Miscellaneous_Mfg	Mfg. Other	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	\$ 0.025	10	1.3955445	1
OhMT1	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	\$ 0.025	15	0.4292646	0
OhMT11	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	11	Air Compressor Demand Reduction	26.0%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	\$ 0.025	10	2.4864415	1
OhMT12	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	12	Material Handling	52.9%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	\$ 0.025	10	0.5363358	0
OhME13	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	13	Material Handling VFD	52.9%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	\$ 0.025	10	0.8058521	0
OhME14	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	14	Motor Management Plan	50.0%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	2.0532738	1
OhMT16	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	16	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.6353204	1
OhMT17	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	17	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.6353204	1
OhMT18	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	18	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	\$ 0.025	15	1.1993076	1
OhMT19	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	19	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.6353204	1
OhMT2	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	\$ 0.025	15	1.3774963	1
OhMT20	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	20	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	\$ 0.025	15	1.32421	1
OhMT21	onc_Clay_Glass_Products	Mfg. Other	Motors	Turnover	21	Air Compressor Equipment	17.0%	8.8%	\$ 0.157	\$ 0.130	\$ 0.027	\$ 0.025	10	1.7956084	1
OhMT22	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	22	Properly Sized Fans	15.3%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	\$ 0.025	10	1.4410513	1
OhME23	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	23	Pump Energy Management	31.2%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	2.0532738	1
OhMT24	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	24	Pump Equipment Upgrade	33.8%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	\$ 0.025	10	1.8032971	1
OhME25	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	25	Pump System Optimization	15.5%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	\$ 0.025	12	1.0186118	1
OhMT26	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	26	Switch from Belt drive to Direct Drive	10.5%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	12	1.4491471	1
OhMT27	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	27	Synchronous Belts	21.4%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	10	1.1176917	1
OhME28	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	28	Air Compressor Optimization	35.6%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	\$ 0.025	10	1.8547646	1
OhMT29	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	29	Efficient Centrifugal Fan	10.7%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	\$ 0.025	10	1.2955331	1
OhMT3	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	\$ 0.025	15	0.6639478	0
OhMT30	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	\$ 0.025	15	0.2592562	0
OhMT31	Miscellaneous_Mfg	Mfg. Other	Motors	Turnover	31	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	\$ 0.025	15	1.1865697	1
OhME4	Miscellaneous_Mfg	Mfg. Other	Motors	Existing	4										

West Penn Industrial Measures

Measure Lookup	Industry	New Segment	New End-Use	Vintage	Measure Number	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Admin Costs (\$/kW/h Saved)	Life	TRC Test	Economic Flag
OhOE3	Miscellaneous_Mfg	Mfg, Other	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	\$ 0.025	11	1.2999303	1
OhOE4	Miscellaneous_Mfg	Mfg, Other	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	\$ 0.025	10	1.968014	1
OhOT3	Miscellaneous_Mfg	Mfg, Other	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	\$ 0.025	15	1.2292225	1
PapCoo11	Paper_Mfg	Mfg, Paper	Process Cooling	Turnover	1	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	\$ 0.025	15	1.5160067	1
PapCoo12	Paper_Mfg	Mfg, Paper	Process Cooling	Existing	2	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	\$ 0.025	15	0.4710413	0
PapCoo13	Paper_Mfg	Mfg, Paper	Process Cooling	Turnover	3	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	\$ 0.025	10	1.4129454	1
PapCoo14	Paper_Mfg	Mfg, Paper	Process Cooling	Existing	4	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	\$ 0.025	3	0.777031	0
PapHea11	Paper_Mfg	Mfg, Paper	Process Heating	Existing	1	Improved Controls	38.1%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	\$ 0.025	10	1.1852223	1
PapHea12	Paper_Mfg	Mfg, Paper	Process Heating	Existing	2	Process Heat O&M	63.9%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	\$ 0.025	2	0.2267898	0
PapHT1	Paper_Mfg	Mfg, Paper	HVAC	Turnover	1	Equipment Upgrades	62.4%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	\$ 0.025	15	1.7276904	1
PapHE2	Paper_Mfg	Mfg, Paper	HVAC	Existing	2	Improved Controls	32.4%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	\$ 0.025	10	2.6083486	1
PapHE3	Paper_Mfg	Mfg, Paper	HVAC	Existing	3	Recommissioning	72.0%	16.0%	\$ 0.271	\$ -	\$ 0.271	\$ 0.025	7	0.7996836	0
PapLT1	Paper_Mfg	Mfg, Paper	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	\$ 0.025	10	1.8881036	1
PapLT2	Paper_Mfg	Mfg, Paper	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	\$ 0.025	10	0.8252481	0
PapLE3	Paper_Mfg	Mfg, Paper	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	\$ 0.025	10	1.3955445	1
PapME1	Paper_Mfg	Mfg, Paper	Motors	Existing	1	Fan System Optimization	50.2%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	\$ 0.025	10	0.9739933	0
PapME10	Paper_Mfg	Mfg, Paper	Motors	Existing	10	Motor Management Plan	50.1%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	2.0532738	1
PapMT11	Paper_Mfg	Mfg, Paper	Motors	Turnover	11	Air Compressor Demand Reduction	25.8%	15.9%	\$ 0.107	\$ 0.081	\$ 0.026	\$ 0.025	10	2.4864415	1
PapMT13	Paper_Mfg	Mfg, Paper	Motors	Turnover	13	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.6353204	1
PapMT14	Paper_Mfg	Mfg, Paper	Motors	Turnover	14	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.6353204	1
PapMT15	Paper_Mfg	Mfg, Paper	Motors	Turnover	15	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	\$ 0.025	15	1.1993076	1
PapMT16	Paper_Mfg	Mfg, Paper	Motors	Turnover	16	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.6353204	1
PapMT17	Paper_Mfg	Mfg, Paper	Motors	Turnover	17	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	\$ 0.025	15	1.32421	1
PapMT18	Paper_Mfg	Mfg, Paper	Motors	Turnover	18	Paper: Large Material Handling	25.2%	9.7%	\$ 0.959	\$ 0.850	\$ 0.109	\$ 0.025	10	0.3325223	0
PapMT19	Paper_Mfg	Mfg, Paper	Motors	Turnover	19	Paper: Material Handling	25.2%	13.1%	\$ 0.801	\$ 0.710	\$ 0.091	\$ 0.025	10	0.3959124	0
PapMT2	Paper_Mfg	Mfg, Paper	Motors	Turnover	2	High efficiency Compressor motors	74.7%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	\$ 0.025	15	1.2026857	1
PapMT20	Paper_Mfg	Mfg, Paper	Motors	Turnover	20	Paper: Premium Control Large Material	25.2%	18.7%	\$ 0.549	\$ 0.486	\$ 0.062	\$ 0.025	10	0.5704866	0
PapME21	Paper_Mfg	Mfg, Paper	Motors	Existing	21	Air Compressor Optimization	35.4%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	\$ 0.025	10	1.8547646	1
PapMT22	Paper_Mfg	Mfg, Paper	Motors	Turnover	22	Paper: Premium Fan	25.5%	20.0%	\$ 0.227	\$ 0.201	\$ 0.026	\$ 0.025	10	1.3001016	1
PapMT23	Paper_Mfg	Mfg, Paper	Motors	Turnover	23	Properly Sized Fans	15.3%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	\$ 0.025	10	1.4410513	1
PapME24	Paper_Mfg	Mfg, Paper	Motors	Existing	24	Pump Energy Management	32.3%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	2.0532738	1
PapMT25	Paper_Mfg	Mfg, Paper	Motors	Turnover	25	Pump Equipment Upgrade	34.9%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	\$ 0.025	10	1.8032971	1
PapME26	Paper_Mfg	Mfg, Paper	Motors	Existing	26	Pump System Optimization	16.1%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	\$ 0.025	12	1.0186118	1
PapMT27	Paper_Mfg	Mfg, Paper	Motors	Turnover	27	Switch from Belt drive to Direct Drive	10.6%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	12	1.4491471	1
PapMT28	Paper_Mfg	Mfg, Paper	Motors	Turnover	28	Synchronous Belts	21.4%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	10	1.1176917	1
PapMT29	Paper_Mfg	Mfg, Paper	Motors	Turnover	29	Efficient Centrifugal Fan	10.7%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	\$ 0.025	10	1.2955531	1
PapMT3	Paper_Mfg	Mfg, Paper	Motors	Turnover	3	High Efficiency Motors	76.7%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	\$ 0.025	15	0.959915	0
PapMT30	Paper_Mfg	Mfg, Paper	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	\$ 0.025	15	0.2592562	0
PapMT31	Paper_Mfg	Mfg, Paper	Motors	Turnover	31	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	\$ 0.025	15	1.1865697	1
PapMT32	Paper_Mfg	Mfg, Paper	Motors	Turnover	32	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	\$ 0.025	15	0.4292646	0
PapMT33	Paper_Mfg	Mfg, Paper	Motors	Turnover	33	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	\$ 0.025	15	1.3774963	1
PapMT34	Paper_Mfg	Mfg, Paper	Motors	Turnover	34	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	\$ 0.025	15	0.6639478	0
PapMT8	Paper_Mfg	Mfg, Paper	Motors	Turnover	8	Material Handling	53.4%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	\$ 0.025	10	0.5363538	0
PapME9	Paper_Mfg	Mfg, Paper	Motors	Existing	9	Material Handling VFD	53.4%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	\$ 0.025	10	0.8058521	0
PapOT1	Paper_Mfg	Mfg, Paper	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	\$ 0.025	15	1.9820129	1
PapOE10	Paper_Mfg	Mfg, Paper	Other	Existing	10	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	\$ 0.025	10	1.968014	1
PapOT11	Paper_Mfg	Mfg, Paper	Other	Turnover	11	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	\$ 0.025	15	1.2292225	1
PapOE2	Paper_Mfg	Mfg, Paper	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	\$ 0.025	11	1.9780551	1
PapOE3	Paper_Mfg	Mfg, Paper	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	\$ 0.025	11	1.2999303	1
PapOT4	Paper_Mfg	Mfg, Paper	Other	Turnover	4	Kraft: Efficient Agitator	13.8%	50.0%	\$ 0.104	\$ 0.093	\$ 0.012	\$ 0.025	10	2.4899799	1
PapOT5	Paper_Mfg	Mfg, Paper	Other	Turnover	5	Kraft: Effluent Treatment System	9.2%	15.0%	\$ 0.092	\$ 0.082	\$ 0.011	\$ 0.025	10	2.7439682	1
PapOT6	Paper_Mfg	Mfg, Paper	Other	Turnover	6	Mech Pulp: Premium Process	22.5%	0.2%	\$ 0.141	\$ 0.125	\$ 0.016	\$ 0.025	5	0.9576841	0
PapOT7	Paper_Mfg	Mfg, Paper	Other	Turnover	7	Mech Pulp: Refiner Plate Improvement	35.5%	0.4%	\$ 0.045	\$ 0.040	\$ 0.005	\$ 0.025	1	0.4539346	0
PapOT8	Paper_Mfg	Mfg, Paper	Other	Turnover	8	Mech Pulp: Refiner Replacement	23.7%	10.0%	\$ 0.735	\$ 0.652	\$ 0.084	\$ 0.025	12	0.5510549	1
PapOT9	Paper_Mfg	Mfg, Paper	Other	Turnover	9	Paper: Efficient Pulp Screen	13.8%	15.0%	\$ 0.226	\$ 0.200	\$ 0.026	\$ 0.025	10	1.2864871	1
PlaCooE1	Chemical_Mfg	Mfg, Plastics	Process Cooling	Existing	1	Clean Room: Change Filter Strategy	10.0%	40.0%	\$ 0.016	\$ 0.012	\$ 0.005	\$ 0.025	1	0.7571936	0
PlaCooE2	Chemical_Mfg	Mfg, Plastics	Process Cooling	Existing	2	Clean Room: Chiller Optimize	28.3%	14.8%	\$ 0.248	\$ 0.124	\$ 0.124	\$ 0.025	10	1.171322	1
PlaCooT3	Chemical_Mfg	Mfg, Plastics	Process Cooling	Turnover	3	Clean Room: Clean Room HVAC	30.0%	9.0%	\$ 0.204	\$ 0.144	\$ 0.061	\$ 0.025	15	2.3477936	1
PlaCooT4	Chemical_Mfg	Mfg, Plastics	Process Cooling	Turnover	4	Equipment: Chillers	8.0%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	\$ 0.025	15	1.5160067	1
PlaCooL5	Chemical_Mfg	Mfg, Plastics	Process Cooling	Existing	5	Improved Controls	33.8%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	\$ 0.025	15	0.4710413	0
PlaCooT6	Chemical_Mfg	Mfg, Plastics	Process Cooling	Turnover	6	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	\$ 0.025	10	1.4129454	1
PlaCooE7	Chemical_Mfg	Mfg, Plastics	Process Cooling	Existing	7	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	\$ 0.025	3	0.777031	0
PlaCooT8	Chemical_Mfg	Mfg, Plastics	Process Cooling	Turnover	8	Cold Storage: Retrofit	25.6%	20.7%	\$ 0.250	\$ 0.157	\$ 0.093	\$ 0.025	10	1.1623034	1
PlaCooE9	Chemical_Mfg	Mfg, Plastics	Process Cooling	Existing	9	Cold Storage: Tuneup	10.0%	15.6%	\$ 0.112	\$ 0.047	\$ 0.065	\$ 0.025	3	0.7167421	0
PlaHeaE1	Chemical_Mfg	Mfg, Plastics	Process Heating	Existing	1	Improved Controls	37.9%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	\$ 0.025	10	1.1852223	1
PlaHeaE2	Chemical_Mfg	Mfg, Plastics	Process Heating	Existing	2	Process Heat O&M	63.4%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	\$ 0.025	2	0.2267898	0
PlaHT1	Chemical_Mfg	Mfg, Plastics	HVAC	Turnover	1	Equipment Upgrades	62.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	\$ 0.025	15	1.7276904	1
PlaHE2	Chemical_Mfg	Mfg, Plastics	HVAC	Existing	2	Improved Controls	32.7%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	\$ 0.025	10	2.6083486	1
PlaHE3	Chemical_Mfg	Mfg, Plastics	HVAC	Existing	3	Recommissioning	72.6%	16.0%	\$ 0.271	\$ -	\$ 0.271	\$ 0.025	7	0.7996836	0
PlaLT1	Chemical_Mfg	Mfg, Plastics	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	\$ 0.025	10	1.8881036	1
PlaLT2	Chemical_Mfg	Mfg, Plastics	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	\$ 0.025	10	0.8252481	0
PlaLE3	Chemical_Mfg	Mfg, Plastics	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	\$ 0.025	10	1.3955445	1
PlaMT1	Chemical_Mfg	Mfg, Plastics	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0							

West Penn Industrial Measures

Measure Lookup	Industry	Non-Segment	New End-Use	Vintage	Measure Number	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Admin Costs (\$/kW/h Saved)	Life	TRC Test	Economic Flag
PlaME13	Chemical_Mfg	Mfg. Plastics	Motors	Existing	13	Motor Management Plan	51.6%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	2.0532738	1
PlaMT15	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	15	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.6353204	1
PlaMT16	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	16	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.6353204	1
PlaMT17	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	17	Motors: Rewind 20-50 HP	4.6%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	\$ 0.025	15	1.1993076	1
PlaMT18	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	18	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.6353204	1
PlaMT19	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	19	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	\$ 0.025	15	1.32421	1
PlaMT2		Mfg. Plastics	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	\$ 0.025	15	0.6639478	0
PlaMT20	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	20	Properly Sized Fans	14.7%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	\$ 0.025	10	1.4410513	1
PlaME21	Chemical_Mfg	Mfg. Plastics	Motors	Existing	21	Air Compressor Optimization	38.3%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	\$ 0.025	10	1.8547646	1
PlaME22	Chemical_Mfg	Mfg. Plastics	Motors	Existing	22	Pump Energy Management	31.4%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	2.0532738	1
PlaMT23	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	23	Pump Equipment Upgrade	34.0%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	\$ 0.025	10	1.8032971	1
PlaME24	Chemical_Mfg	Mfg. Plastics	Motors	Existing	24	Pump System Optimization	15.6%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	\$ 0.025	12	1.0186118	1
PlaMT25	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	25	Switch from Belt drive to Direct Drive	10.4%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	12	1.4491471	1
PlaMT26	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	26	Synchronous Belts	20.9%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	10	1.1176917	1
PlaMT27	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	27	Efficient Centrifugal Fan	10.3%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	\$ 0.025	10	1.2955531	1
PlaMT28	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	28	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	\$ 0.025	15	0.2592562	0
PlaMT29	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	29	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	\$ 0.025	15	1.1865697	1
PlaME3	Chemical_Mfg	Mfg. Plastics	Motors	Existing	3	Fan System Optimization	28.9%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	\$ 0.025	10	0.9739933	0
PlaMT30	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	30	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	\$ 0.025	15	0.4292646	0
PlaMT4	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	4	High efficiency Compressor motors	80.8%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	\$ 0.025	15	1.2026857	1
PlaMT5	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	5	High Efficiency Motors	74.4%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	\$ 0.025	15	0.959915	0
PlaOT1	Chemical_Mfg	Mfg. Plastics	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	\$ 0.025	15	1.9820129	1
PlaOE2	Chemical_Mfg	Mfg. Plastics	Other	Existing	2	Energy Project Management	27.0%	29.0%	\$ 0.134	\$ 0.029	\$ 0.029	\$ 0.025	11	1.9780551	1
PlaOE3	Chemical_Mfg	Mfg. Plastics	Other	Existing	3	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	\$ 0.025	11	1.2999303	1
PlaOE4	Chemical_Mfg	Mfg. Plastics	Other	Existing	4	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	\$ 0.025	10	1.968014	1
PlaOT5	Chemical_Mfg	Mfg. Plastics	Other	Turnover	5	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	\$ 0.025	15	1.229225	1
MinMT1	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	\$ 0.025	15	0.2592562	0
MinME10	Mining	Mining	Motors	Existing	10	Motor Management Plan	50.0%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	2.0532738	1
MinMT12	Mining	Mining	Motors	Turnover	12	Motors: Rewind 101-200 HP	25.4%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.6353204	1
MinMT13	Mining	Mining	Motors	Turnover	13	Motors: Rewind 201-500 HP	35.6%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.6353204	1
MinMT14	Mining	Mining	Motors	Turnover	14	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	\$ 0.025	15	1.1993076	1
MinMT15	Mining	Mining	Motors	Turnover	15	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.6353204	1
MinMT16	Mining	Mining	Motors	Turnover	16	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	\$ 0.025	15	1.32421	1
MinMT17	Mining	Mining	Motors	Turnover	17	Switch from Belt drive to Direct Drive	10.5%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	12	1.4491471	1
MinMT18	Mining	Mining	Motors	Turnover	18	Synchronous Belts	21.0%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	10	1.1176917	1
MinMT2	Mining	Mining	Motors	Turnover	2	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	\$ 0.025	15	1.1865697	1
MinMT3	Mining	Mining	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 20-40 HP, 1200-3600 RPM	74.4%	0.7%	\$ 1.249	\$ 1.249	\$ -	\$ 0.025	15	0.4292646	0
MinMT4	Mining	Mining	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	\$ 0.025	15	1.3774963	1
MinMT5	Mining	Mining	Motors	Turnover	5	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	\$ 0.025	15	0.6639478	0
MinMT6	Mining	Mining	Motors	Turnover	6	High Efficiency Motors	75.0%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	\$ 0.025	15	0.959915	0
MinMT8	Mining	Mining	Motors	Turnover	8	Material Handling	53.0%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	\$ 0.025	10	0.5365358	0
MinME9	Mining	Mining	Motors	Existing	9	Material Handling VFD	53.0%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	\$ 0.025	10	0.8058521	0
NonCooT1	lumber_Wood_Product	Other Non Mfg.	Process Cooling	Turnover	1	Equipment: Chillers	7.7%	17.9%	\$ 0.330	\$ 0.249	\$ 0.081	\$ 0.025	15	1.5160667	1
NonCooE2	lumber_Wood_Product	Other Non Mfg.	Process Cooling	Existing	2	Improved Controls	32.3%	6.0%	\$ 1.118	\$ 0.673	\$ 0.445	\$ 0.025	15	0.4710413	1
NonCooE3	Agriculture	Other Non Mfg.	Process Cooling	Turnover	3	Milk Precooler - Dairy Plate Cooler	1.7%	3.24%	\$ 0.660	\$ 0.487	\$ 0.173	\$ 0.025	15	0.7855812	0
NonCooE4	lumber_Wood_Product	Other Non Mfg.	Process Cooling	Turnover	4	Adjustable speed drive on compressors	34.0%	11.7%	\$ 0.201	\$ 0.121	\$ 0.080	\$ 0.025	10	1.4129454	1
NonCooE5	lumber_Wood_Product	Other Non Mfg.	Process Cooling	Existing	5	Optimization of operating parameters	35.0%	13.1%	\$ 0.101	\$ 0.039	\$ 0.063	\$ 0.025	3	0.777031	0
NonHeaT1	Agriculture	Other Non Mfg.	Process Heating	Turnover	1	Grate Heating Pads	22.9%	17.51%	\$ 0.181	\$ 0.162	\$ 0.019	\$ 0.025	15	2.6154754	1
NonHeaT2	Agriculture	Other Non Mfg.	Process Heating	Turnover	2	Grain dryers	24.8%	23.52%	\$ 8.260	\$ 6.090	\$ 2.169	\$ 0.025	15	0.0649665	0
NonHeaE3	Agriculture	Other Non Mfg.	Process Heating	Existing	3	Heat Lamp Setback (Microzone)	22.9%	0.45%	\$ 0.210	\$ 0.210	\$ -	\$ 0.025	15	2.286299	1
NonHeaE4	Agriculture	Other Non Mfg.	Process Heating	Existing	4	Heat Lamp/Heating Pad Controller	22.9%	1.75%	\$ 0.129	\$ 0.129	\$ -	\$ 0.025	15	3.4864178	1
NonHeaE5	Agriculture	Other Non Mfg.	Process Heating	Turnover	5	Heat Lamps	22.9%	3.38%	\$ 0.023	\$ 0.023	\$ -	\$ 0.025	10	0.6110631	1
NonHeaE6	lumber_Wood_Product	Other Non Mfg.	Process Heating	Existing	6	Improved Controls	37.9%	30.4%	\$ 0.245	\$ 0.147	\$ 0.098	\$ 0.025	10	1.1852223	1
NonHeaE7	lumber_Wood_Product	Other Non Mfg.	Process Heating	Existing	7	Process Heat O&M	63.4%	28.6%	\$ 0.257	\$ 0.225	\$ 0.032	\$ 0.025	2	0.2267898	0
NonHT1	Agriculture	Other Non Mfg.	HVAC	Turnover	1	Energy-Efficient Dehumidifier	49.7%	2.00%	\$ 1.072	\$ 0.791	\$ 0.282	\$ 0.025	15	0.5048113	0
NonHT2	lumber_Wood_Product	Other Non Mfg.	HVAC	Turnover	2	Equipment Upgrades	63.2%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	\$ 0.025	15	1.7276904	1
NonHT3	Agriculture	Other Non Mfg.	HVAC	Turnover	3	Heat Reclaimer	1.7%	42.00%	\$ 0.171	\$ 0.126	\$ 0.045	\$ 0.025	15	2.8203003	1
NonHT4	Agriculture	Other Non Mfg.	HVAC	Turnover	4	Heat Recovery Ventilators	49.7%	4.13%	\$ 0.448	\$ 0.330	\$ 0.118	\$ 0.025	10	0.7031566	0
NonHE5	lumber_Wood_Product	Other Non Mfg.	HVAC	Existing	5	Improved Controls	32.8%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	\$ 0.025	10	2.6083486	1
NonHT6	Agriculture	Other Non Mfg.	HVAC	Turnover	6	Infrared Film for Greenhouses	0.3%	11.06%	\$ 0.261	\$ 0.234	\$ 0.028	\$ 0.025	4	0.4758249	0
NonHT7	Agriculture	Other Non Mfg.	HVAC	Turnover	7	Programmable Ventilation Controller	49.7%	0.10%	\$ 0.140	\$ 0.140	\$ -	\$ 0.025	10	2.019673	1
NonHE8	lumber_Wood_Product	Other Non Mfg.	HVAC	Existing	8	Recommissioning	72.9%	16.0%	\$ 0.271	\$ -	\$ 0.271	\$ 0.025	7	0.7996836	0
NonHT9	Agriculture	Other Non Mfg.	HVAC	Turnover	9	Scroll Compressor	1.7%	7.50%	\$ 1.006	\$ 0.899	\$ 0.107	\$ 0.025	15	0.5374578	0
NonLT1	lumber_Wood_Product	Other Non Mfg.	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	\$ 0.025	10	1.8881036	1
NonLT2	lumber_Wood_Product	Other Non Mfg.	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	\$ 0.025	10	0.8252481	0
NonLE3	lumber_Wood_Product	Other Non Mfg.	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	\$ 0.025	10	1.3955445	1
NonMT1	Chemical_Mfg	Mfg. Plastics	Motors	Turnover	1	Enhanced (Ultra-PE) Motor 125-200 HP, 1200-3600 RPM	55.8%	0.39%	\$ 0.436	\$ 0.436	\$ -	\$ 0.025	15	1.1865697	1
NonMT11	Agriculture	Other Non Mfg.	Motors	Turnover	11	Agricultural Exhaust Fans (Rate 21 CFM/Watt+)	49.7%	5.00%	\$ 0.316	\$ 0.283	\$ 0.034	\$ 0.025	15	1.6029537	1
NonMT15	Agriculture	Other Non Mfg.	Motors	Turnover	15	Low Pressure Irrigation	0.4%	50.00%	\$ 0.993	\$ 0.732	\$ 0.261	\$ 0.025	10	0.3215149	0
NonMT16	lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	16	Material Handling	53.2%	5.0%	\$ 0.585	\$ 0.483	\$ 0.102	\$ 0.025	10	0.5365358	0
NonME17	lumber_Wood_Product	Other Non Mfg.	Motors	Existing	17	Material Handling VFD	53.2%	18.7%	\$ 0.381	\$ 0.229	\$ 0.152	\$ 0.025	10	0.8058521	0
NonME18	lumber_Wood_Product	Other Non Mfg.	Motors	Existing	18	Motor Management Plan	50.9%	2.9%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025			

West Penn Industrial Measures

Measure Lookup	Industry	New Segment	New End-Use	Vintage	Measure Number	Measure	Applicability	Savings	Total Cost (\$/kW Saved)	Equipment Cost	Labor Cost	Admin Costs (\$/kW-h Saved)	Life	TRC Test	Economic Flag
NonMT24	lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	24	Motors: Rewind 20-50 HP	4.7%	0.9%	\$ 0.431	\$ 0.356	\$ 0.075	\$ 0.025	15	1.1993076	1
NonMT25	lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	25	Motors: Rewind 500+ HP	55.2%	0.5%	\$ 0.309	\$ 0.256	\$ 0.054	\$ 0.025	15	1.6353204	1
NonMT26	lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	26	Motors: Rewind 51-100 HP	15.2%	0.6%	\$ 0.388	\$ 0.321	\$ 0.067	\$ 0.025	15	1.32421	1
NonMT27	lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	27	Properly Sized Fans	15.3%	10.4%	\$ 0.202	\$ 0.122	\$ 0.080	\$ 0.025	10	1.4410513	1
NonME28	lumber_Wood_Product	Other Non Mfg.	Motors	Existing	28	Pump Energy Management	29.8%	7.5%	\$ 0.134	\$ 0.054	\$ 0.080	\$ 0.025	10	2.0532738	1
NonMT29	lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	29	Pump Equipment Upgrade	32.3%	20.0%	\$ 0.156	\$ 0.129	\$ 0.027	\$ 0.025	10	1.8032971	1
NonMT3		Other Non Mfg.	Motors	Turnover	3	Enhanced (Ultra-PE) Motor 250-500 HP, 1200-3600 RPM	42.8%	0.9%	\$ 0.372	\$ 0.372	\$ -	\$ 0.025	15	1.3774963	1
NonME30	lumber_Wood_Product	Other Non Mfg.	Motors	Existing	30	Pump System Optimization	14.9%	12.1%	\$ 0.391	\$ 0.196	\$ 0.195	\$ 0.025	12	1.0186118	1
NonMT31	Irrigation	Other Non Mfg.	Motors	Turnover	31	SIS	76.5%	7.5%	\$ 1.051	\$ 0.869	\$ 0.183	\$ 0.025	7	0.2160587	0
NonMT32	lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	32	Air Compressor Equipment	17.6%	8.8%	\$ 0.157	\$ 0.130	\$ 0.027	\$ 0.025	10	1.7956084	1
NonMT33	lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	33	Switch from Belt drive to Direct Drive	10.5%	7.5%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	12	1.4491471	1
NonMT34	lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	34	Synchronous Belts	20.9%	1.1%	\$ 0.268	\$ 0.221	\$ 0.046	\$ 0.025	10	1.1176917	1
NonMT35	Irrigation	Other Non Mfg.	Motors	Turnover	35	System Improvements	85.0%	8.0%	\$ 0.416	\$ 0.344	\$ 0.072	\$ 0.025	5	0.3694434	0
NonMT36	Agriculture	Other Non Mfg.	Motors	Turnover	36	Variable Speed Drives for Dairy Vacuum Pumps	1.7%	36.89%	\$ 0.169	\$ 0.151	\$ 0.018	\$ 0.025	15	2.8178663	1
NonMT37	Agriculture	Other Non Mfg.	Motors	Turnover	37	VFDs on Small Milking Machines	1.7%	3.22%	\$ 0.832	\$ 0.614	\$ 0.219	\$ 0.025	15	0.6381395	0
NonMT38	lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	38	Wood: Replace Pneumatic Conveyor	50.2%	29.0%	\$ 0.018	\$ 0.016	\$ 0.002	\$ 0.025	10	7.5954048	1
NonME39	lumber_Wood_Product	Other Non Mfg.	Motors	Existing	39	Air Compressor Optimization	36.8%	30.1%	\$ 0.151	\$ 0.058	\$ 0.093	\$ 0.025	10	1.8547646	1
NonMT4		Other Non Mfg.	Motors	Turnover	4	Enhanced (Ultra-PE) Motor 50-100 HP, 1200-3600 RPM	66.3%	0.4%	\$ 0.799	\$ 0.799	\$ -	\$ 0.025	15	0.6639478	0
NonMT40	Agriculture	Other Non Mfg.	Motors	Turnover	40	Automatic Milker Takeoff	1.7%	3.00%	\$ 0.763	\$ 0.563	\$ 0.200	\$ 0.025	15	0.6940981	0
NonMT41	Agriculture	Other Non Mfg.	Motors	Turnover	41	Circulating Fans	49.7%	5.00%	\$ 0.152	\$ 0.136	\$ 0.016	\$ 0.025	10	1.8515842	1
NonMT42	lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	42	Efficient Centrifugal Fan	10.7%	20.0%	\$ 0.228	\$ 0.188	\$ 0.040	\$ 0.025	10	1.2955531	1
NonMT43		Other Non Mfg.	Motors	Turnover	43	Enhanced (Ultra-PE) Motor 1-15 HP, 1200-3600 RPM	74.4%	0.91%	\$ 2.085	\$ 2.085	\$ -	\$ 0.025	15	0.2592562	0
NonME5	lumber_Wood_Product	Other Non Mfg.	Motors	Existing	5	Fan System Optimization	30.2%	7.7%	\$ 0.311	\$ 0.156	\$ 0.155	\$ 0.025	10	0.9739933	0
NonMT6	lumber_Wood_Product	Other Non Mfg.	Motors	Turnover	6	High efficiency Compressor motors	77.5%	1.1%	\$ 0.430	\$ 0.355	\$ 0.075	\$ 0.025	15	1.2026857	1
NonMT7	Irrigation	Other Non Mfg.	Motors	Turnover	7	High Efficiency Motors	74.7%	1.5%	\$ 0.545	\$ 0.450	\$ 0.095	\$ 0.025	15	0.959915	0
NonMT8	Agriculture	Other Non Mfg.	Motors	Turnover	8	High Volume Low Speed Fans	49.7%	46.61%	\$ 2.004	\$ 1.883	\$ 0.120	\$ 0.025	15	0.2696483	0
NonMT9	Agriculture	Other Non Mfg.	Motors	Turnover	9	High-Efficiency Ventilation System	49.7%	5.66%	\$ 1.366	\$ 1.366	\$ -	\$ 0.025	10	0.2352187	0
NonOT1	lumber_Wood_Product	Other Non Mfg.	Other	Turnover	1	Bldg Improvements	35.0%	20.4%	\$ 0.248	\$ 0.162	\$ 0.087	\$ 0.025	15	1.9820129	1
NonOT10	lumber_Wood_Product	Other Non Mfg.	Other	Turnover	10	Transformers	20.0%	1.6%	\$ 0.415	\$ 0.399	\$ 0.016	\$ 0.025	15	1.2299225	1
NonOT2	Agriculture	Other Non Mfg.	Other	Turnover	2	Block Heater Timer	25.0%	2.50%	\$ 0.048	\$ 0.048	\$ -	\$ 0.025	10	4.394752	1
NonOE3	lumber_Wood_Product	Other Non Mfg.	Other	Existing	3	Energy Project Management	27.0%	29.0%	\$ 0.163	\$ 0.134	\$ 0.029	\$ 0.025	11	1.9780551	1
NonOT4	Agriculture	Other Non Mfg.	Other	Turnover	4	Grain bin aeration control systems	24.8%	2.25%	\$ 0.168	\$ 0.124	\$ 0.044	\$ 0.025	15	2.8110995	1
NonOT5	Agriculture	Other Non Mfg.	Other	Turnover	5	Greenhouse Heat Curtain	0.3%	16.76%	\$ 0.056	\$ 0.056	\$ -	\$ 0.025	5	1.9573629	1
NonOT6	Agriculture	Other Non Mfg.	Other	Turnover	6	High Efficiency Stock tank	22.9%	3.75%	\$ 0.412	\$ 0.368	\$ 0.044	\$ 0.025	10	0.7372664	0
NonOE7	lumber_Wood_Product	Other Non Mfg.	Other	Existing	7	Integrated Plant Energy Management	22.0%	50.0%	\$ 0.261	\$ 0.215	\$ 0.047	\$ 0.025	11	1.2999303	1
NonOT8	Agriculture	Other Non Mfg.	Other	Turnover	8	Livestock Waterers	22.9%	11.25%	\$ 0.327	\$ 0.292	\$ 0.035	\$ 0.025	10	0.9161108	0
NonOE9	lumber_Wood_Product	Other Non Mfg.	Other	Existing	9	Plant Energy Management	27.0%	12.0%	\$ 0.139	\$ 0.114	\$ 0.025	\$ 0.025	10	1.968014	1
MetPT1		Mfg. Metals	Process EC	Turnover	1	Electrical-Chemical Plating Bundle, Tank and Rectifier	65.0%	18.5%	\$ 0.550	\$ 0.450	\$ 0.100	\$ 0.025	15	0.936027	0
MinHT1	Mining	Mining	HVAC	Turnover	1	Equipment Upgrades	62.9%	16.4%	\$ 0.296	\$ 0.252	\$ 0.044	\$ 0.025	15	1.7276904	1
MinHE2	Mining	Mining	HVAC	Existing	2	Improved Controls	32.7%	20.9%	\$ 0.102	\$ 0.077	\$ 0.025	\$ 0.025	10	2.6083486	1
MinHE3	Mining	Mining	HVAC	Existing	3	Recommissioning	72.6%	16.0%	\$ 0.271	\$ -	\$ 0.271	\$ 0.025	7	0.7996836	0
MinLT1	Mining	Mining	Lighting	Turnover	1	Efficient Lighting Equipment	30.4%	19.9%	\$ 0.150	\$ 0.103	\$ 0.047	\$ 0.025	10	1.8881036	1
MinLT2	Mining	Mining	Lighting	Turnover	2	HighBay Lighting Equipment	55.1%	34.1%	\$ 0.376	\$ 0.295	\$ 0.081	\$ 0.025	10	0.8252481	0
MinLE3	Mining	Mining	Lighting	Existing	3	Lighting Controls	42.3%	30.0%	\$ 0.212	\$ 0.157	\$ 0.055	\$ 0.025	10	1.3955445	1