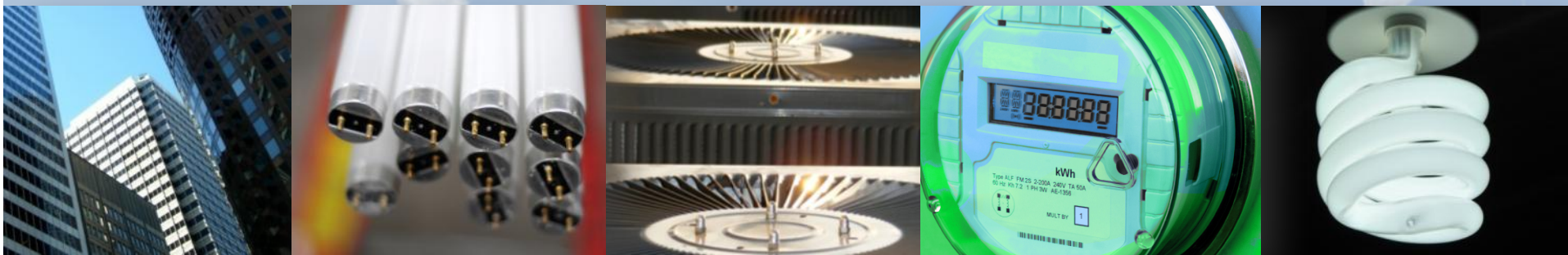


PENNSYLVANIA MARKET POTENTIAL STUDY SUMMARY

Meeting with Pennsylvania PUC Stakeholders
June 5, 2012



M O N D R E
ENERGY, INC.


GDS Associates, Inc.
Engineers and Consultants

 **Nexant**

AGENDA

1. Introduction by the PUC TUS Management
2. Overview of the Market Potential Study Results
3. Q&A Session with Stakeholders
4. Conclusion

POTENTIAL STUDY GOALS

- Evaluate the electric energy efficiency technical, economic, achievable and program potential savings in the overall Commonwealth of Pennsylvania, as well as in seven specific EDC service areas;
- Calculate the Total Resource Cost Test (“TRC”) benefit-cost ratio for the achievable potential savings for electric energy efficiency measures and programs and determine the electric energy efficiency economic potential savings for Pennsylvania homes and businesses.

POTENTIAL STUDY INPUTS

- Study followed approach outlined in National Action Plan for Energy-Efficiency (NAPEE) potential study guide
- Pennsylvania specific data utilized wherever possible
 - 2011-2012 Residential and Non-residential baseline study
 - EDC specific load forecasts and avoided cost structures
 - PA Act 129 Technical Reference Manual
- Current PA EDC program performance
 - Program Savings
 - Program acquisition costs

POTENTIAL STUDY INPUTS

- 579 unique energy efficiency measure characteristics researched and analyzed for specific PA parameters
 - Costs
 - Savings
 - Useful Life
- Includes impacts of Energy Independence and Security Act (EISA) baseline updates for:
 - Compact Fluorescent Lamps
 - Linear Fluorescent Lamps
 - Motor Efficiencies

TYPES OF PROGRAM POTENTIAL

Not Technically Feasible	Technical Potential			
Not Technically Feasible	Not Cost Effective	Economic Potential		
Not Technically Feasible	Not Cost Effective	Market & Adoption Barriers	Achievable Potential	
Not Technically Feasible	Not Cost Effective	Market & Adoption Barriers	Program Design, Budget, Staffing, & Time Constraints	Program Potential

SCENARIOS CONSIDERED

- Achievable Potential
 - Scenario#1 considers the incentive provided to implement an energy efficient measure to be 100% of incremental cost.
 - Scenario#2 considers the incentive provided to implement an energy efficient measure to be at the current funding level of incremental cost.
 - 45% for residential sector
 - 28% for non-residential sector

SCENARIOS CONSIDERED

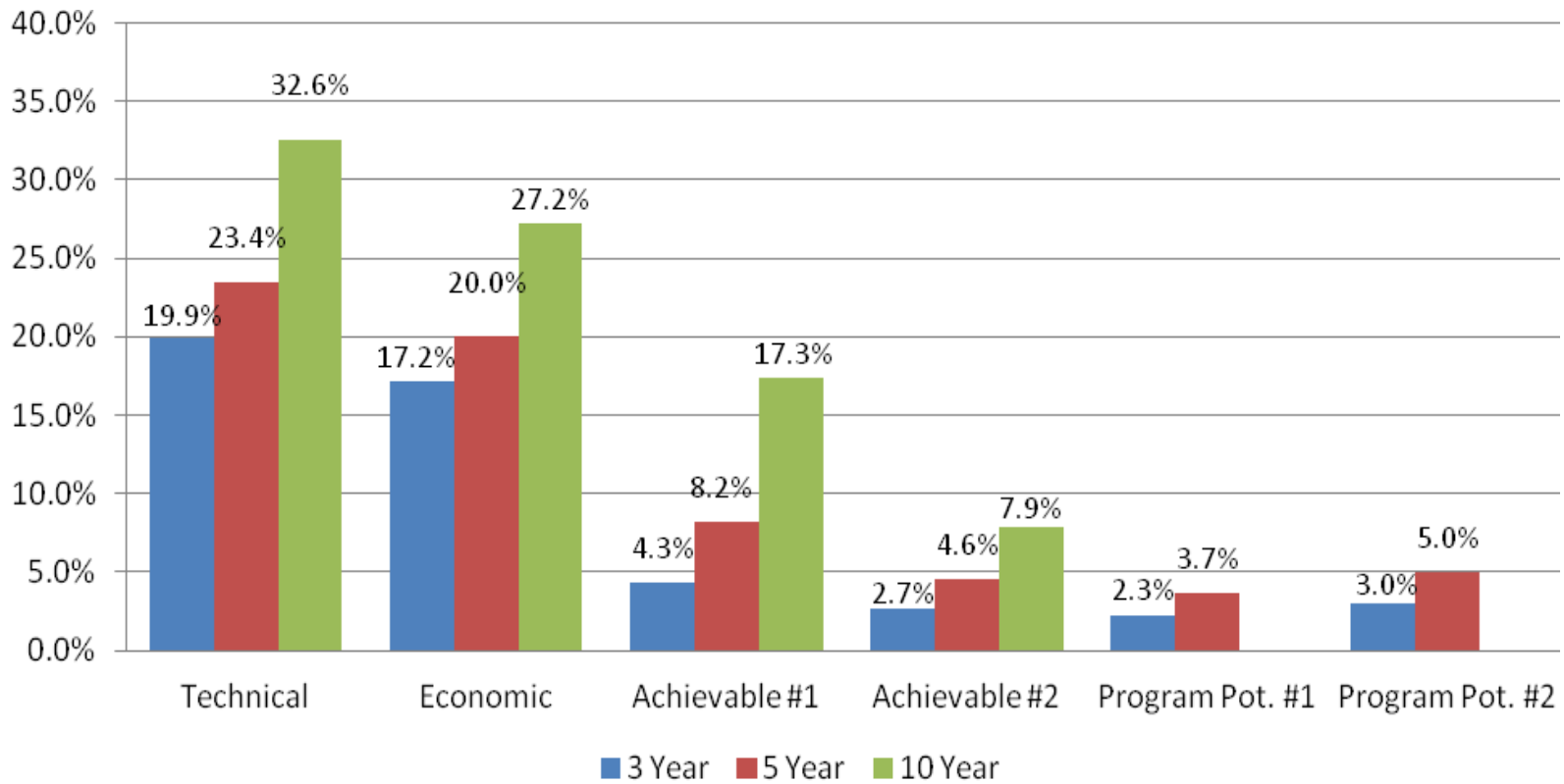
- Program Potential

- Data used to construct is based on achievable potential scenario #2 for both program potential scenarios.
- Scenario #1 determines savings goals with annual program funding limitations at 2% of 2006 EDC revenue.
 - Scenario #1 is the basis for recommendations for phase 2 program goals.
- Scenario #2 determines funding with an annual program savings of 1% of 2010 annual sales.

MARKET POTENTIAL STUDY FINDINGS COST-EFFECTIVENESS

- Study found remaining cost-effective energy-efficient savings.
- Total Resource Cost Test (“TRC”) benefit-cost ratio for the achievable potential savings is 1.97 over the ten-year horizon.

MARKET POTENTIAL STUDY RESULTS



(Energy Efficiency Potential as a Percent of Forecasted Pennsylvania kWh Sales For the Baseline Period of June 2009 through May 2010)

MARKET POTENTIAL STUDY FINDINGS

Energy Efficiency 3-year Program Potential #1 Savings Summary

EDC	3 Year Spending Ceiling (total portfolio)	3 Year Program Potential Savings (MWh)	3 Year Program Acquisition Cost (\$/MWh)	3 Year % of 2009/10 Forecast	Probable Range of 2009/10 Forecast
Duquesne	\$58,637,855	276,722	\$211.90	2.0%	1.7% - 2.5%
Met-Ed	\$74,600,676	337,753	\$220.87	2.3%	2.0% - 2.7%
Penelec	\$68,924,232	318,813	\$216.19	2.2%	1.9% - 2.7%
Penn Power	\$19,979,352	95,502	\$209.20	2.0%	1.7% - 2.5%
PPL	\$184,504,128	821,072	\$224.71	2.1%	1.9% - 2.7%
PECO	\$256,185,476	1,125,851	\$227.55	2.9%	2.6% - 3.1%
West Penn	\$70,687,404	337,533	\$209.42	1.6%	1.4% - 2.1%
Statewide	\$733,519,122	3,313,247	\$221.39	2.3%	2.0% - 2.7%

MARKET POTENTIAL STUDY FINDINGS

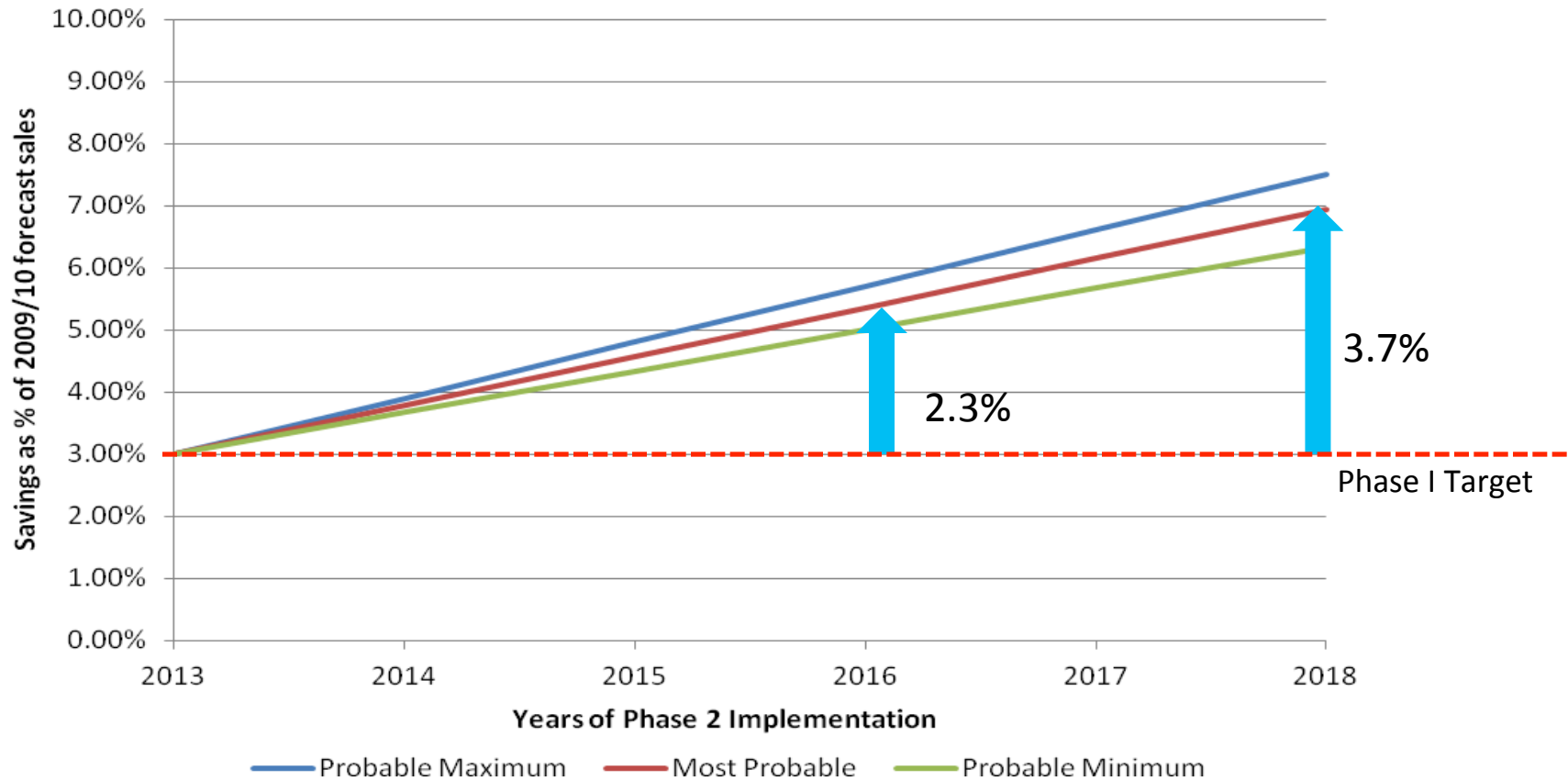
Energy Efficiency 5-year Program Potential #1 Savings Summary

EDC	5 Year Spending Ceiling (total portfolio)	5 Year Program Potential Savings (MWh)	5 Year Program Acquisition Cost (\$/MWh)	5 Year % of 2009/10 Forecast	Probable Range of 2009/10 Forecast
Duquesne	\$97,729,758	442,451	\$220.88	3.1%	2.8% - 4.2%
Met-Ed	\$124,334,460	540,210	\$230.16	3.6%	3.4% - 4.5%
Penelec	\$114,873,720	513,332	\$223.78	3.6%	3.2% - 4.4%
Penn Power	\$33,298,920	154,500	\$215.53	3.2%	2.8% - 4.1%
PPL	\$307,506,880	1,332,001	\$230.86	3.5%	3.2% - 4.5%
PECO	\$426,975,793	1,884,517	\$226.57	4.8%	4.3% - 5.2%
West Penn	\$117,812,340	547,332	\$215.25	2.6%	2.3% - 3.5%
Statewide	\$1,222,531,870	5,414,343	\$225.80	3.7%	3.3% - 4.5%

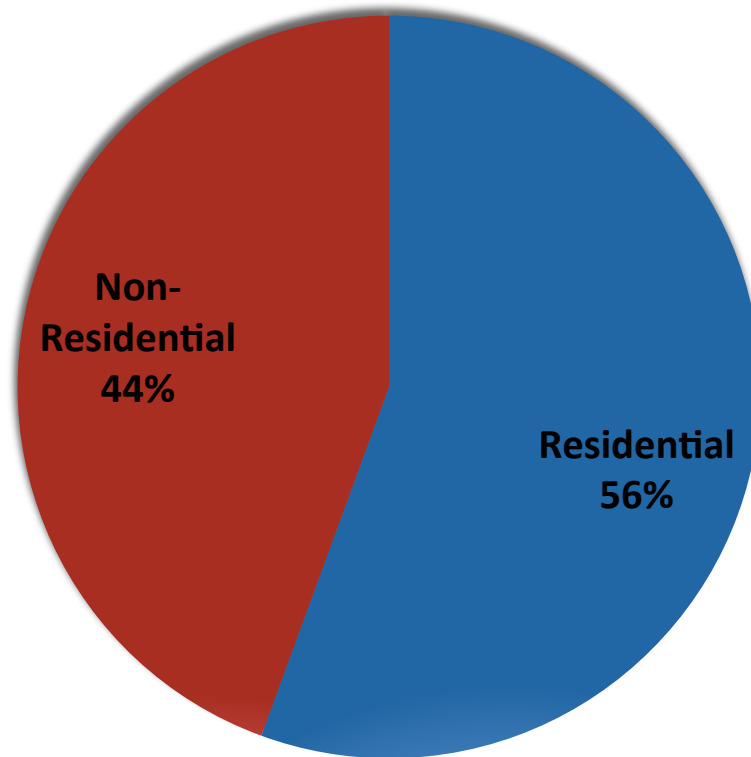
POTENTIAL STUDY BENCHMARK COMPARISON

	Spending (total portfolio)	Program Savings (MWh)	Program Acquisition Cost (\$/ MWh)	% of 2009/10 Forecast
3-year Projection (2013-2016)	\$733,519,122	3,313,247	\$221.39	2.3%
5 – year Projection (2013-2018)	\$1,222,531,870	5,414,343	\$225.80	3.7%
2 - year Actual (2009-2010)	\$386,941,909	1,743,883	\$139.35	1.9%
4 –year Budget (2009-2012)	\$978,025,496	4,399,854	\$222.29	3%

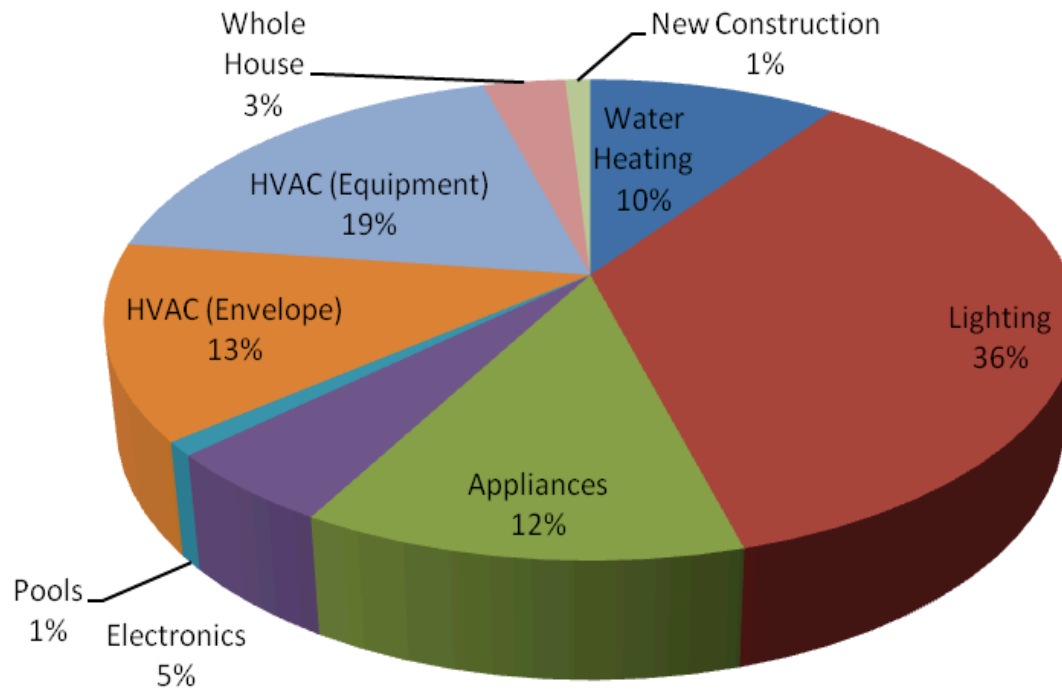
MARKET POTENTIAL STUDY FINDINGS - UNCERTAINTY



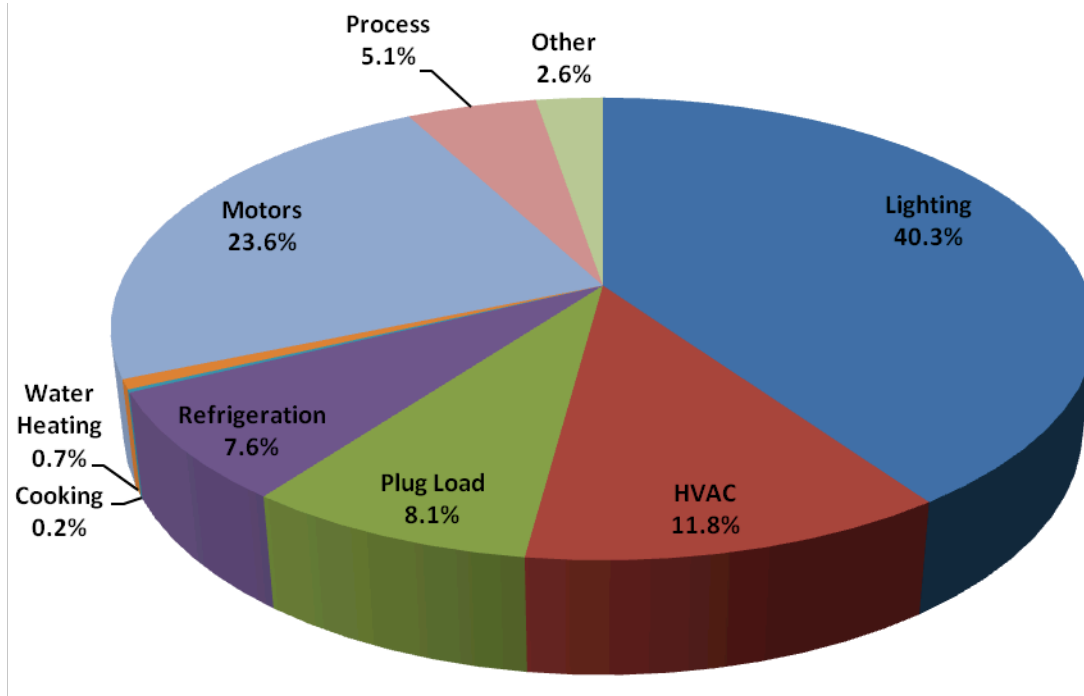
WHERE IS THE POTENTIAL?



WHERE IS THE POTENTIAL - RESIDENTIAL?



WHERE IS THE POTENTIAL – NON-RESIDENTIAL?



IMPORTANT FINDINGS

- Future program saving potential will be less in future years.
 - Expected incentive share of participant cost is equal to current program
- Future program costs will be higher in future years.
 - “Low hanging fruit” will be captured within 2009-2012 programs
 - More “expensive” and “deeper” measures contribute a larger share in the future
- Uncertainty in the market place due to current federal code standards.

EDC DIFFERENCES

- Potential targets for each EDC are unique, because savings are a function of:
 - Relative budget cap based on revenue in relationship to EDC specific sales
 - PECO has the highest relative cap
 - West Penn has the lowest relative cap
 - EDC avoided costs
 - EDC's with higher avoided costs will have more measures that pass cost-effectiveness test
 - Customer sector shares (residential, commercial and industrial)
 - Residential sector has the highest relative potential
 - Industrial sector has the lowest relative potential

IMPORTANT CONSIDERATIONS

- EDC specific targets
- No sector specific “carve-outs” or “set-asides” included.
 - High spending programs, such as low-income, will reduce savings potential with fixed spending budget.
- 100% of EDC budget is allocated to energy-efficiency.
 - No budgets for demand response or renewable energy generation.



QUESTIONS?