

Michael J. Shafer
Senior Counsel

PPL
Two North Ninth Street
Allentown, PA 18101-1179
Tel. 610.774.2599 Fax 610.774.4102
MJShafer@pplweb.com



E-FILE

January 16, 2024

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, Pennsylvania 17120

**Re: Semi-Annual Report for the Period June 1, 2023 - November 30, 2023,
Program Year Fifteen (15), of PPL Electric Utilities
Corporation's Act 129 Plan
Docket No. M-2020-3020824**

Dear Ms. Chiavetta:

Enclosed on behalf of PPL Electric Utilities Corporation ("PPL Electric") is the Semi-Annual Report for Program Year Fifteen (15) of PPL Electric's Act 129 Plan.

Pursuant to 52 Pa. Code § 1.11, the enclosed document is deemed filed on January 16, 2024, which is the date it was submitted electronically via the Commission's E-filing system.

If you have any questions or need additional information, please do not hesitate to contact me.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "Michael J. Shafer", written over a light blue horizontal line.

Michael J. Shafer

Enclosures

cc via email: Greg Clendenning (NMR Group, Inc., Act 129 Statewide Evaluator)
Jesse Smith – Demand Side Analytics

PPL Electric Utilities Semi-Annual Report to the Pennsylvania Public Utility Commission

PHASE IV OF ACT 129 PY15 SEMI-ANNUAL REPORT
(JUNE 1, 2023 – NOVEMBER 30, 2023)
FOR PENNSYLVANIA ACT 129 OF 2008



Prepared by:
Cadmus

Prepared for:
PPL Electric Utilities

January 15, 2024

Table of Contents

PPL Electric Utilities Semi-Annual Report to the Pennsylvania Public Utility Commission.....	i
Table of Contents.....	i
Figures.....	ii
Tables.....	ii
Acronyms	iii
Types of Savings.....	iv
1. Introduction	1
2. Summary of Achievements.....	2
2.1. Carryover Savings from Phase III of Act 129.....	2
2.2. Phase IV Energy Efficiency Achievements to Date.....	3
2.3. Phase IV Performance by Customer Segment	6
3. Updates and Findings.....	7
3.1. Implementation Updates and Findings.....	7
3.1.1. Low-Income Program.....	7
3.1.2. Residential Program.....	7
3.1.3. Non-Residential Program.....	8
3.2. Evaluation Updates and Findings.....	9
4. Summary of Participation by Program	10
5. Summary of Energy Impacts by Program Component.....	11
6. Summary of Peak Demand Impacts by Program Component	13
7. Summary of Finances	16
7.1. Program and Portfolio Financials.....	16
7.2. Cost Recovery	17

Figures

Figure 1. Carryover Savings from Phase III of Act 129	2
Figure 2. Performance Toward Phase IV Portfolio Energy Target	4
Figure 3. Performance Toward Phase IV Portfolio Peak Demand Target	4
Figure 4. EE&C Plan Performance Toward Phase IV Low-Income Compliance Target	5
Figure 5. PY15 Reported Gross Energy Savings by Program Component	11
Figure 6. Phase IV PSA Gross Energy Savings by Program Component	12
Figure 7. PY15 RTD Gross Peak Demand Savings by Program Component (System Level)	13
Figure 8. Phase IV PSA Gross Peak Demand Savings by Program Component (System Level).....	14

Tables

Table 1. PY15 Summary Statistics by Customer Segment	6
Table 2. Phase IV Summary Statistics by Customer Segment.....	6
Table 3. PY15 Evaluation Activities	9
Table 4. EE&C Plan Participation by Program	10
Table 5. Energy Savings by Program Component (MWh/Year)	12
Table 6. System-Level Peak Demand Savings by Program Component (MW/Year).....	15
Table 7. Program Year to Date Financials (\$1,000).....	17
Table 8. Phase IV to Date Financials (\$1,000).....	17
Table 9. EE&C Plan Expenditures by Cost-Recovery Category.....	18

Acronyms

C&I	Commercial and Industrial
EDC	Electric distribution company
EE&C	Energy efficiency and conservation
EM&V	Evaluation, measurement, and verification
GNE	Government, nonprofit, educational
ICSP	Implementation Conservation Service Provider
M&V	Measurement and verification
MW	Megawatt
MWh	Megawatt-hour
NTG	Net-to-Gross
P4TD	Phase IV to date
PA PUC	Pennsylvania Public Utility Commission
PSA	Phase IV to date preliminary savings achieved; equal to VTD + PYRTD + PY14 unverified
PSA+CO	PSA savings plus carryover from Phase III
PY	Program Year: for example, PY15, from June 1, 2023, to May 31, 2024
PYRTD	Program year reported to date
PYVTD	Program year verified to date
PYTD	Program year to date
RTD	Phase IV to date reported gross savings
SWE	Statewide evaluator
TRC	Total resource cost
TRM	Technical reference manual
VTD	Phase IV to Date Verified

Types of Savings

Gross Savings: The change in energy consumption and/or peak demand that results directly from program-related actions taken by participants in an energy efficiency and conservation (EE&C) program, regardless of why they participated.

Net Savings: The total change in energy consumption and/or peak demand that is attributable to an EE&C program. Depending on the program delivery model and evaluation methodology, the net savings estimates may differ from the gross savings estimate due to adjustments for the effects of free riders, changes in codes and standards, market effects, participant and nonparticipant spillover, and other causes of changes in energy consumption or demand not directly attributable to the EE&C program.

Reported Gross: Also referred to as *ex ante* (Latin for “beforehand”) savings. The energy and peak demand savings values calculated by the electric distribution company (EDC) or its program Implementation Conservation Service Providers (ICSP) and stored in the program tracking system.

Verified Gross: Also referred to as *ex post* (Latin for “from something done afterward”) gross savings. The energy and peak demand savings estimates reported by the independent evaluation contractor after the gross impact evaluation and associated measurement and verification (M&V) efforts have been completed.

Verified Net: Also referred to as *ex post* net savings. The energy and peak demand savings estimates reported by the independent evaluation contractor after application of the results of the net impact evaluation. Typically calculated by multiplying the verified gross savings by a net-to-gross (NTG) ratio.

Annual Savings: Energy and demand savings expressed on an annual basis, or the amount of energy and/or peak demand an EE&C measure or program can be expected to save over the course of a typical year. Annualized savings are noted as MWh/year or MW/year. The Pennsylvania Technical Reference Manual (TRM) provides algorithms and assumptions to calculate annual savings, and Act 129 compliance targets for consumption reduction are based on the sum of the annual savings estimates of installed measures.

Lifetime Savings: Energy and demand savings expressed in terms of the total expected savings over the useful life of the measure. Typically calculated by multiplying the annual savings of a measure by its effective useful life. The TRC test uses savings from the full lifetime of a measure to calculate the cost-effectiveness of EE&C programs.

Program Year Reported to Date (PYRTD): The reported gross energy and peak demand savings achieved by an EE&C program or portfolio within the current program year. PYTD values for energy efficiency will always be reported gross savings in a semi-annual report.

Program Year Verified to Date (PYVTD): The verified gross energy and peak demand savings achieved by an EE&C program or portfolio within the current program year.

Phase IV to Date (P4TD): The energy and peak demand savings achieved by an EE&C program or portfolio within Phase IV of Act 129. Reported in several permutations described below.

Phase IV to Date Reported (RTD): The sum of the reported gross savings recorded to date in Phase IV of Act 129 for an EE&C program or portfolio.

Phase IV to Date Verified (VTD): The sum of the verified gross savings recorded to date in Phase IV of Act 129 for an EE&C program or portfolio, as determined by the impact evaluation finding of the independent evaluation contractor.

Phase IV to Date Preliminary Savings Achieved (PSA): The sum of the verified gross savings (VTD) from previous program years in Phase IV where the impact evaluation is complete plus the reported gross savings from the current program year (PYTD) plus the unverified savings from previous years.

Phase IV to Date Preliminary Savings Achieved + Carryover (PSA+CO): The sum of the verified gross savings from previous program years in Phase IV plus the reported gross savings from the current program year plus the unverified savings from previous years plus any verified gross carryover savings from Phase III of Act 129. This is the best estimate of an EDC's progress toward the Phase IV compliance targets.

1. Introduction

Pennsylvania Act 129 of 2008, signed on October 15, 2008, mandated energy savings and demand reduction goals for the largest EDCs in Pennsylvania for Phases I (2008 through 2013), II (2013 through 2016), and III (2016 through 2021). In late 2020, each EDC filed a new EE&C plan with the Pennsylvania Public Utility Commission (PA PUC) detailing the proposed design of its portfolio for Phase IV. These plans were updated based on stakeholder input and subsequently approved by the PA PUC in 2021.

Implementation of Phase IV of the Act 129 programs began on June 1, 2021. This report documents the progress and effectiveness of the Phase IV EE&C accomplishments for PPL Electric Utilities in Program Year 15 (PY15), as well as the cumulative accomplishments of the Phase IV programs since inception. This report additionally documents the energy savings carried over from Phase III. The Phase III carryover savings count toward EDC savings compliance targets for Phase IV.

This report details the participation, spending, and reported gross impacts of the energy efficiency programs during the first six months of PY15. Compliance with Act 129 savings goals are ultimately based on verified gross savings. PPL Electric Utilities has retained Cadmus as an independent evaluation contractor for Phase IV of Act 129. Cadmus is responsible for the measurement and verification of the savings and calculation of verified gross savings. The verified gross savings for PY15 energy efficiency programs will be reported in the final annual report, to be filed on September 30, 2024.

Phase IV of Act 129 includes a peak demand reduction goal for PPL Electric Utilities. Unlike previous phases of Act 129, Phase IV peak demand reduction targets must be met through coincident demand reductions from energy efficiency measures. The Act 129 peak demand reduction definition is non-holiday weekdays from 2:00 p.m. to 6:00 p.m. in June, July, and August. As in prior phases, compliance with Act 129 peak compliance goals is assessed at the system-level so all verified coincident peak demand impacts are adjusted for line losses.

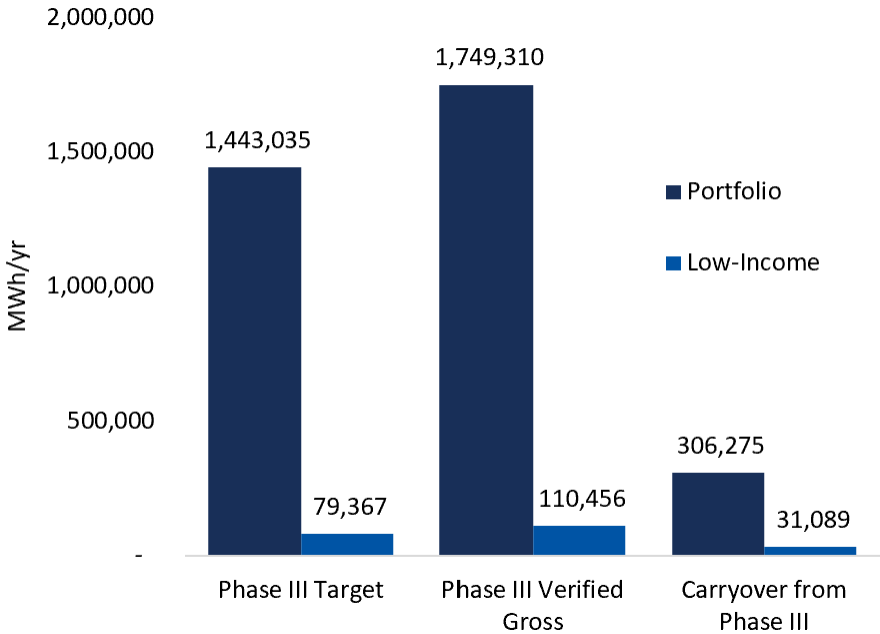
2. Summary of Achievements

2.1. Carryover Savings from Phase III of Act 129

The Commission’s Phase IV Implementation Order allowed EDCs to carry over verified savings above the Phase III portfolio and low-income savings goal and apply those savings toward Phase IV compliance targets.¹ PPL Electric Utilities has a total of 306,275 MWh/year of portfolio carryover savings and 31,089 MWh/year of low-income carryover savings from Phase III toward its Phase IV energy reduction targets.

Figure 1 compares PPL Electric Utilities’ Phase III verified gross savings total to the Phase III compliance target to illustrate the carryover calculation.

Figure 1. Carryover Savings from Phase III of Act 129



Phase III did not include a peak demand reduction target from energy efficiency, so there are no carryover savings toward the Phase IV peak demand reduction target.

¹ Pennsylvania Public Utility Commission, *Energy Efficiency and Conservation Program Implementation Order*, at Docket No. M-2020-3015228, (*Phase IV Implementation Order*), entered June 18, 2020.

2.2. Phase IV Energy Efficiency Achievements to Date

Since the beginning of PY15 on June 1, 2023, PPL Electric Utilities has claimed the following savings:

- 92,642 MWh/year of reported gross electric energy savings (PYRTD)
- 15.92 MW/year of reported gross peak demand savings (system-level PYRTD)

Since the beginning of Phase IV of Act 129 on June 1, 2021, PPL Electric Utilities has achieved the following savings:

- 516,217 MWh/yr of reported gross electric savings (RTD)
- 88.05 MW/yr of reported gross peak demand savings (system-level RTD) from energy efficiency programs
- 430,558 MWh/year of verified gross electric energy savings (VTD)
- 70.22 MW/year of verified gross system-level peak demand savings (VTD) from energy efficiency programs
- 10,528 MWh/year of unverified PY14 gross electric savings
- 1.37 MW/year of unverified PY14 gross system-level peak demand savings from energy efficiency programs
- 533,728 MWh/year of gross electric energy savings (PSA). This total includes verified gross savings from previous Phase IV program years, unverified gross savings from PY14, and the PYTD reported gross savings from PY15.
- 87.52 MW/year of gross system-level peak demand savings (PSA) from energy efficiency programs

Note: All gross peak demand savings are reported at the system level, so they reflect adjustments for transmission and distribution losses.

Including carryover savings from Phase III, PPL Electric Utilities has achieved the following savings:

- 840,003 MWh/year of PSA+CO energy savings recorded to date in Phase IV. This represents 67% of the May 31, 2026, energy savings compliance target of 1,250,157 MWh/year.²

Figure 2 and Figure 3 show PPL Electric Utilities' EE&C plan progress toward Phase IV energy conservation and peak demand reduction compliance targets.

² From PPL Electric Utilities Corporation. *Energy Efficiency and Conservation Plan Act 129 Phase IV*. Docket No. M-2020-3020824. Revised December 2022.

Figure 2. Performance Toward Phase IV Portfolio Energy Target

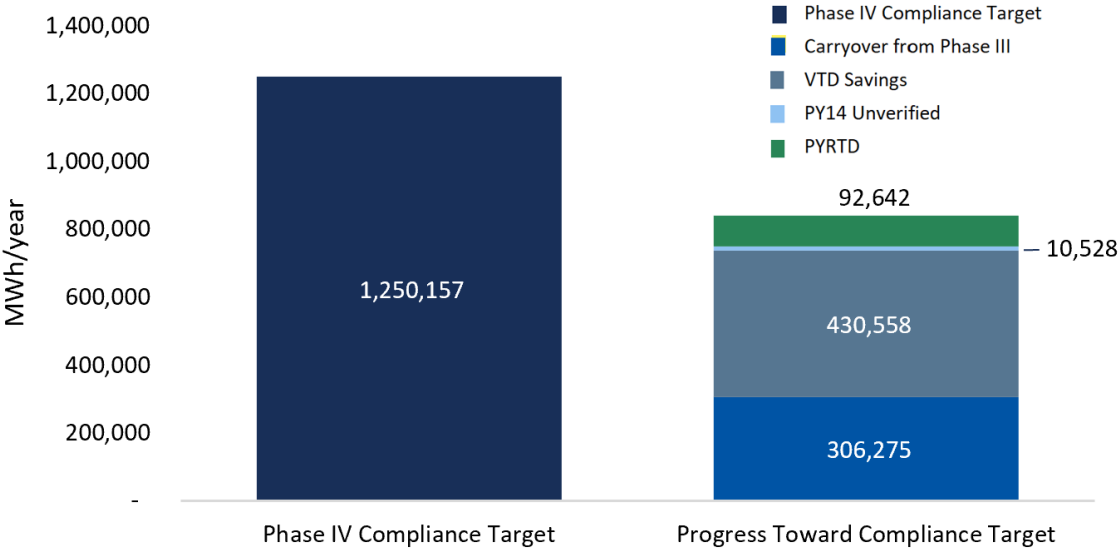
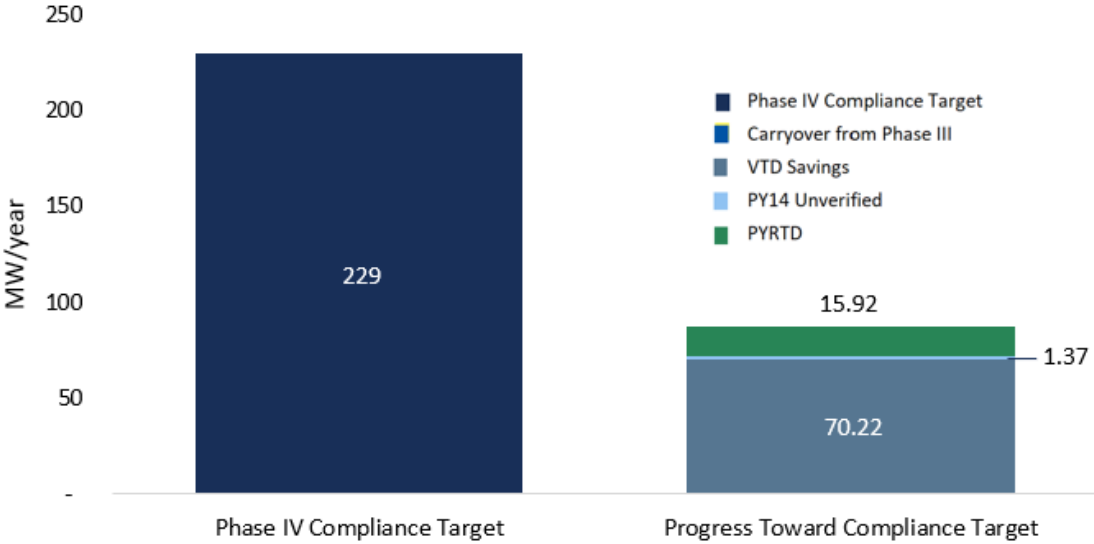


Figure 3. Performance Toward Phase IV Portfolio Peak Demand Target



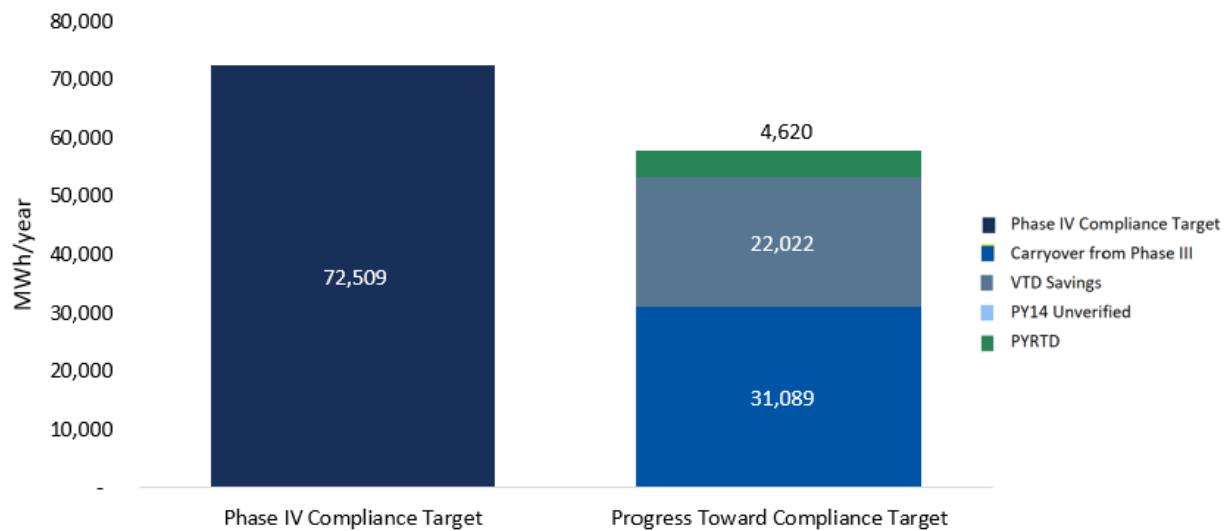
Note: All gross peak demand savings are reported at the system level, so they reflect adjustments for transmission and distribution losses.

The Phase IV Implementation Order directed EDCs to offer conservation measures to the low-income customer segment based on the proportion of electric sales attributable to low-income households. The

proportionate number of measures for PPL Electric Utilities to target is 9.95%.³ PPL Electric Utilities offers a total of 70 EE&C measures to its residential and nonresidential customer classes. In Q1 and Q2 of PY15, there are 18 measures available to the low-income customer segment at no cost to the customer. This represents 26% of the total measures offered in the EE&C plan and exceeds the proportionate number of measures target.

The PA PUC also established a low-income energy savings target of 5.8% of the portfolio savings goal. The low-income savings target for PPL Electric Utilities is 72,509 MWh/year,⁴ based on verified gross savings. Figure 4 compares the PSA+CO performance to date for the low-income customer segment to the Phase IV savings target. Based on the latest available information, PPL Electric Utilities has achieved 80% of the Phase IV low-income energy savings target.

Figure 4. EE&C Plan Performance Toward Phase IV Low-Income Compliance Target



³ Pennsylvania Public Utility Commission, *Energy Efficiency and Conservation Program Implementation Order*, at Docket No. M-2020-3015228, (*Phase IV Implementation Order*), entered June 18, 2020.

⁴ From PPL Electric Utilities Corporation. *Energy Efficiency and Conservation Plan Act 129 Phase IV*. Docket No. M-2020-3020824. Revised December 2022.

2.3. Phase IV Performance by Customer Segment

Table 1 shows the participation, savings, and spending by customer sector for PY15, and Table 2 shows these same statistics for Phase IV. The residential, small commercial and industrial (C&I), and large C&I sectors are defined by the EDC tariff, and the residential low-income and government, nonprofit, educational (GNE) sector are defined by statute (66 Pa. C.S. § 2806.1). The residential low-income segment is a subset of the residential customer class, and the GNE segment may include customers who are part of the residential, small C&I, or large C&I rate classes. The savings, spending, and participation values for the low-income and GNE segments were removed from the parent sectors, as shown in Table 1 and Table 2.

Table 1. PY15 Summary Statistics by Customer Segment

Parameter	Residential (Non-Low-Income)	Residential Low-Income	Small C&I (Non-GNE)	Large C&I (Non-GNE)	GNE	Total ⁽¹⁾
# Participants	114,224	5,241	6,503	291	658	126,918
PYRTD MWh/yr	27,878	4,423	34,728	11,817	13,795	92,642
PYRTD MW/yr (system level)	3.83	0.53	7.02	1.56	2.99	15.92
Incentives (\$1,000) ⁽²⁾	\$3,572	\$1,399	\$4,653	\$917	\$1,906	\$12,447

⁽¹⁾ Total may not sum due to rounding.

⁽²⁾ PPL Electric Utilities reports number of participants and PYRTD using their participant tracking database but uses the incentive amounts from a separate accounting system since they are reported along with the other expenditures.

Table 2 summarizes plan performance by sector since the beginning of Phase IV.

Table 2. Phase IV Summary Statistics by Customer Segment

Parameter	Residential (Non-Low-Income)	Residential Low-Income	Small C&I (Non-GNE)	Large C&I (Non-GNE)	GNE	Total ⁽¹⁾
# Participants	1,621,026	55,810	126,256	2,134	4,141	1,809,367
PSA MWh/yr	106,605	26,351	230,762	120,811	49,198	533,728
PSA MW/yr (system level)	15.07	3.08	40.92	19.55	8.90	87.52
Incentives (\$1,000) ⁽²⁾	\$14,714	\$6,640	\$21,634	\$7,517	\$5,001	\$55,507

⁽¹⁾ Total may not sum due to rounding.

⁽²⁾ PPL Electric Utilities reports number of participants and PYRTD using their participant tracking database but uses the incentive amounts from a separate accounting system since they are reported along with the other expenditures.

3. Updates and Findings

3.1. Implementation Updates and Findings

This section contains implementation updates.

3.1.1. Low-Income Program

The Low-Income Program continues to offer a broad selection of no-cost energy-saving improvements and education to qualifying low-income customers residing in single-family homes, individually and mastered-metered multifamily units, and manufactured homes. The program continues to increase the number of in-home assessments, while still offering virtual appointments. The program will also continue to expand multifamily unit assessments in the remainder of Phase IV. Additionally, the program has begun dispersing water kits to customers who are eligible for the assessment to encourage their enrollment and increase water-saving measures. The program also continues to coordinate assessments with natural gas utilities when feasible. In PY15, the program began offering appointments during evening and weekend hours to allow for more flexible scheduling for low-income customers and is in the early stages of allowing customers to self-schedule their assessments.

3.1.2. Residential Program

This section outlines the program components offered in the Residential Program.

Appliance Recycling. This component continues to offer both contactless and in-home pickups, with over half of the participants still preferring the contactless option. PPL Electric Utilities held one small appliance pick-up event in PY15 in Bloomsburg. PPL Electric Utilities also added a recycling pick-up option that targets specific areas where customers can recycle small appliances without the need for a larger unit. PPL Electric Utilities plans to continue these sweeps throughout the remainder of Phase IV.

Efficient Lighting – Specialty Bulbs. This component has sunset and is no longer offered.

Energy Efficient Homes. PPL Electric Utilities launched additional instant discount measures in both retail and the online marketplace in June 2023 and is seeing high participation. The top three products are spray foam, advanced power strips, and pipe insulation. To help customers begin their energy efficiency journey, PPL Electric Utilities continues to offer virtual assessments and in-home audits. PPL Electric Utilities continues to engage with distributors to offer discounts at point-of-purchase through the midstream delivery channel. PPL Electric Utilities is currently working with two distributors and meeting with manufacturers to get additional onboard. Discussions have been taking place with heat pump water heater distributors to try and transform that market. The New Homes component continues to experience strong performance in efficient new home construction.

PPL Electric Utilities has been laying the groundwork for Net Zero Energy Ready Homes with this pilot. The homes satisfy the Department of Energy's Zero Energy Ready Home certification, and the pilot provides financial and technical support to four builders to upgrade five ENERGY STAR® homes to the Zero Energy Ready Home certification. PPL Electric Utilities has conducted virtual and in-person tours of

the homes as well as webinars on behind-the-walls upgrades and educational videos. In addition, the pilot website links the consumer to educational handouts and videos.

PPL Electric Utilities' Deep Energy Retrofit pilot offered comprehensive whole-home solutions, testing delivery approaches using a single lead contractor as a point of contact and helping customers take advantage of additional rebates. After working for months with four pilot trade allies to install a comprehensive package of energy efficiency treatments, it has become clear that market forces will not support the existing pilot design. PPL Electric Utilities is currently pivoting to address some of the barriers by changing the structure to make it easier for the trade allies to participate. In addition, monthly webinars are available for customers to help them understand and take advantage of a whole-home approach and savings opportunities.

PPL Electric Utilities is currently in the process of developing a behavioral program component that will begin in PY16. This component will encompass both paper and digital reports for treatment participants and will promote behavioral energy efficiency by motivating customers to become more efficient than their peers.

Student Energy Efficient Education. The Student Energy Efficient Education component is actively engaging students and teachers through interactive presentations. All three student cohorts, Bright Kids, Take Action, and Innovation, are fully subscribed. Both the poster contest and Innovation Challenge are underway.

3.1.3. Non-Residential Program

This section outlines the program components offered in the Non-Residential Program.

Efficient Equipment. This component continues to offer incentives through downstream and midstream delivery channels. Efficient equipment incentives were lowered at the start of PY15 due to strong participation while managing the budget. A limited-time-offer promotion will be offered beginning January 1, 2024 to large commercial and industrial (LCI) customers to energize participation from this sector. The component's focus is on new construction projects and compressed air opportunities. Technical webinars began in PY15, with four webinars completed in 2023.

Custom. Through the Custom component, customers can receive incentives to support completion of complex and comprehensive projects that involve measures not covered by the Efficient Equipment component. Custom incentives were lowered at the start of PY15 due to strong participation creating a large pipeline of custom projects. Technical outreach continues to identify custom opportunities for customers. Pre-approval is required for all custom projects. However, pre-approval may be waived on custom compressor and compressed air projects when project savings can still be accurately captured without pre-approval.

3.2. Evaluation Updates and Findings

Table 3 summarizes evaluation activities that have occurred to date in PY15.

Table 3. PY15 Evaluation Activities

Portfolio
<ul style="list-style-type: none"> • Prepared and submitted PY15 EM&V plans to PPL Electric Utilities and the statewide evaluator (SWE) • Cadmus received Q1 and Q2 participation data for program components and confirmed that the files contained the necessary data for evaluation activities • Provided Q1 and Q2 data sample for the SWE
Low-Income Assessment
<ul style="list-style-type: none"> • Reviewed Q1 project documentation • Reviewed Q1 and Q2 project data and compared them to other PIV data
Residential Program
Appliance Recycling
<ul style="list-style-type: none"> • Reviewed Q1 project documentation • Began drafting stakeholder interview guide • Began drafting participant survey
Efficient Lighting – Specialty Bulbs
<ul style="list-style-type: none"> • None; no evaluation activities are planned for PY15
Energy Efficient Homes
<ul style="list-style-type: none"> • Reviewed Q1 project documentation • Began drafting stakeholder interview guides • Began drafting midstream distributor interview guide
Student Energy Efficient Education
<ul style="list-style-type: none"> • Began drafting stakeholder interview guide
Non-Residential Program
Efficient Equipment Lighting
<ul style="list-style-type: none"> • Reviewed Q1 project documentation and began desk reviews • Began planning midstream interviews
Efficient Equipment Non-Lighting
<ul style="list-style-type: none"> • Reviewed Q1 project documentation • Began planning midstream interviews
Custom
<ul style="list-style-type: none"> • Drafted site-specific M&V plans as needed • Completed four site visits for large stratum projects • Submitted analysis and final reports for two large stratum solar PV projects to PPL Electric Utilities and the ICSP

4. Summary of Participation by Program

Participation is defined differently for each program component depending on the program delivery channel and data-tracking practices. The nuances of the participant definition vary by program component and are summarized by program and component in Table 4. The table provides the current participation totals for PY15 and Phase IV.

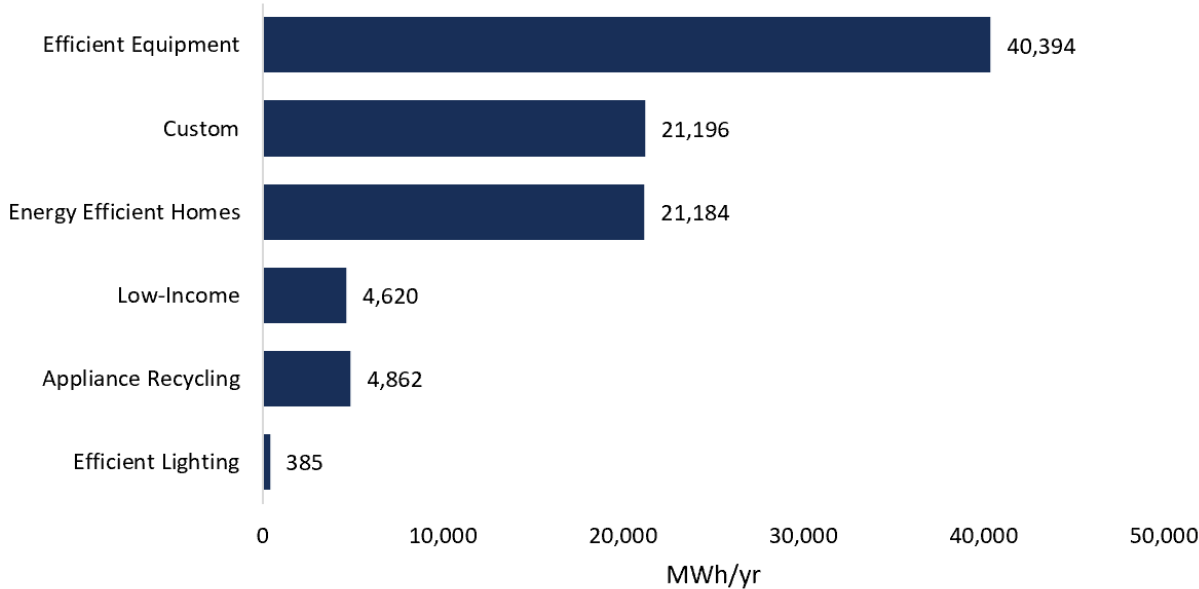
Table 4. EE&C Plan Participation by Program

Program/Component	Participant Definition	PYTD Participation	P4TD Participation
Non-Residential Program			
Custom	Unique job number; commercially operable job that received an incentive payment during the reporting period	100	258
Efficient Equipment (downstream)	Unique job number; corresponds to each unique job that received a rebate	357	1,654
Efficient Equipment (midstream)	Unique job number; corresponds to each purchase of discounted products	1,879	12,400
Low-Income Program			
Low-Income Assessment	Unique bill account number; corresponds to an income-eligible household that receives an audit and program services or receives a welcome kit	5,261	55,832
Residential Program			
Appliance Recycling	Unique job number; corresponds with each unique appliance decommissioned through the program component during the program year	7,346	30,862
Efficient Lighting	Number of discounted bulbs sold	67,447	1,588,224
Energy Efficient Homes New Homes	Unique job number; corresponds to a rebated project	581	3,525
Energy Efficient Homes Audit and Weatherization	Unique job number; corresponds to a rebated project. Households could have more than one rebated project	566	2,662
Energy Efficient Homes Online Marketplace	Unique job number; corresponds to a rebated project	2,044	11,972
Energy Efficient Homes Equipment (downstream)	Unique job number; corresponds to a rebated project; households could have more than one rebated project	4,481	22,399
Energy Efficient Homes Equipment (midstream)	Unique job number; corresponds to each purchase of discounted products	-	-
Energy Efficient Homes Instant Discount	Unique job number; corresponds to each discounted item purchased	36,856	39,370
Student Energy Efficient Education	Number of participants is counted as the number of energy conservation kits delivered	-	40,209
Portfolio Total		126,918	1,809,367

5. Summary of Energy Impacts by Program Component

Figure 5 summarizes the PYTD reported gross energy savings by program component for PY15. The energy impacts in this section are presented at the meter level and do not reflect adjustments for transmission and distribution losses.

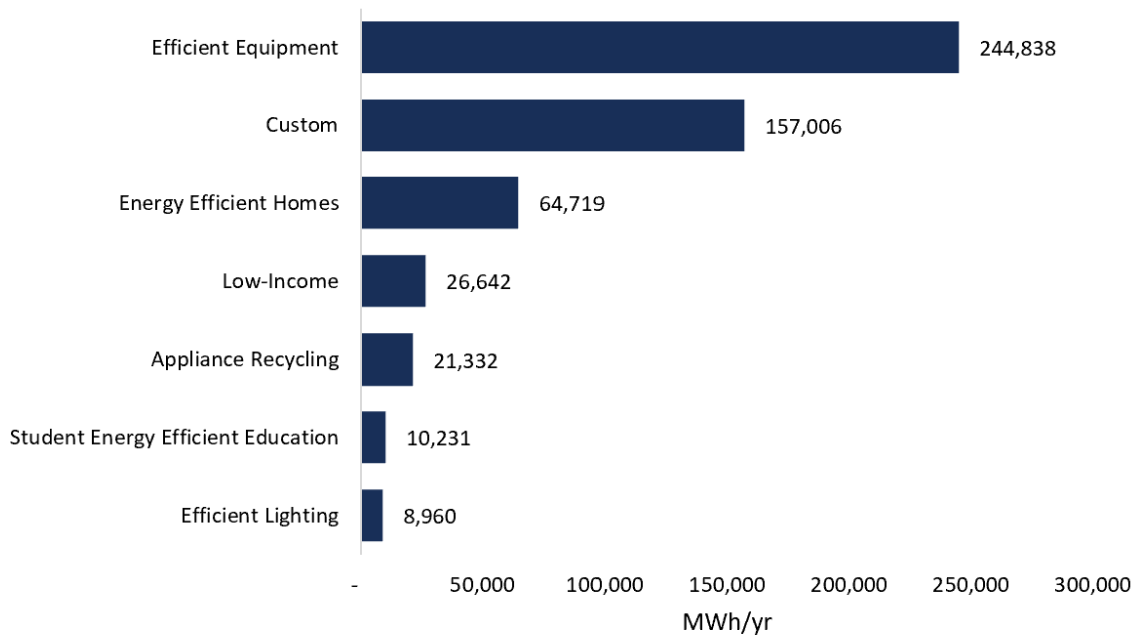
Figure 5. PY15 Reported Gross Energy Savings by Program Component



Note: Total of individual program component savings may not sum to total due to rounding.

Figure 6 summarizes the PSA gross energy savings by program component for Phase IV of Act 129. PSA savings include verified gross savings from previous program years, unverified savings from PY14, and the PYTD savings from the current program year.

Figure 6. Phase IV PSA Gross Energy Savings by Program Component



Note: Total of individual program component savings may not sum to total due to rounding.

Table 5 summarizes the energy impacts by program and component through the current reporting period.

Table 5. Energy Savings by Program Component (MWh/Year)

Program	PYRTD	RTD	VTD	PY14 Unverified	PSA ⁽¹⁾
Low-Income					
Low-Income	4,620	27,285	22,022	-	26,642
Residential					
Appliance Recycling	4,862	21,341	16,470	-	21,332
Efficient Lighting	385	8,763	8,575	-	8,960
Energy Efficient Homes	21,184	63,799	39,150	4,385	64,719
Student Energy Efficient Education	-	11,138	4,797	5,434	10,231
Residential Sub-Total ⁽¹⁾	26,432	105,041	68,991	9,819	105,242
Non-Residential					
Custom	21,196	156,087	135,810	-	157,006
Efficient Equipment	40,394	227,804	203,734	709	244,838
Non-Residential Sub-Total ⁽¹⁾	61,590	383,891	339,544	709	401,844
Portfolio Total ⁽¹⁾	92,642	516,217	430,558	10,528	533,728
Carry-Over Savings from Phase III	-	-	306,275	-	306,275
Adjusted Portfolio Total ⁽¹⁾	92,642	516,217	736,833	10,528	840,003

⁽¹⁾Totals may not sum due to rounding.

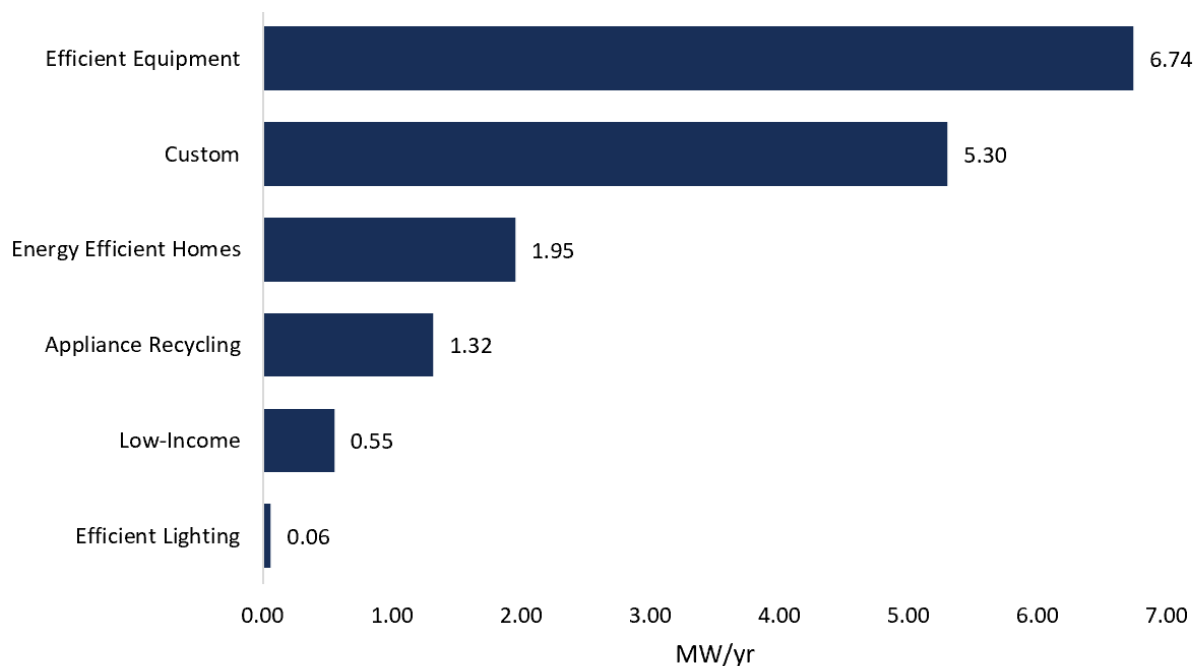
6. Summary of Peak Demand Impacts by Program Component

Act 129 defines peak demand savings from energy efficiency as the average expected reduction in electric demand from 2:00 p.m. to 6:00 p.m. (Eastern Daylight Time) on non-holiday weekdays from June to August. The peak demand impacts from energy efficiency in this report are presented at the system level, meaning they reflect adjustments for transmission and distribution losses. PPL Electric Utilities uses the following line loss percentages/multipliers by sector:^{5, 6}

- Residential = 1.0875
- Small C&I = 1.0875
- Large C&I = 1.0420
- GNE = 1.0818

Figure 7 summarizes the PYRTD reported gross peak demand savings by energy efficiency program component for PY15.

Figure 7. PY15 RTD Gross Peak Demand Savings by Program Component (System Level)



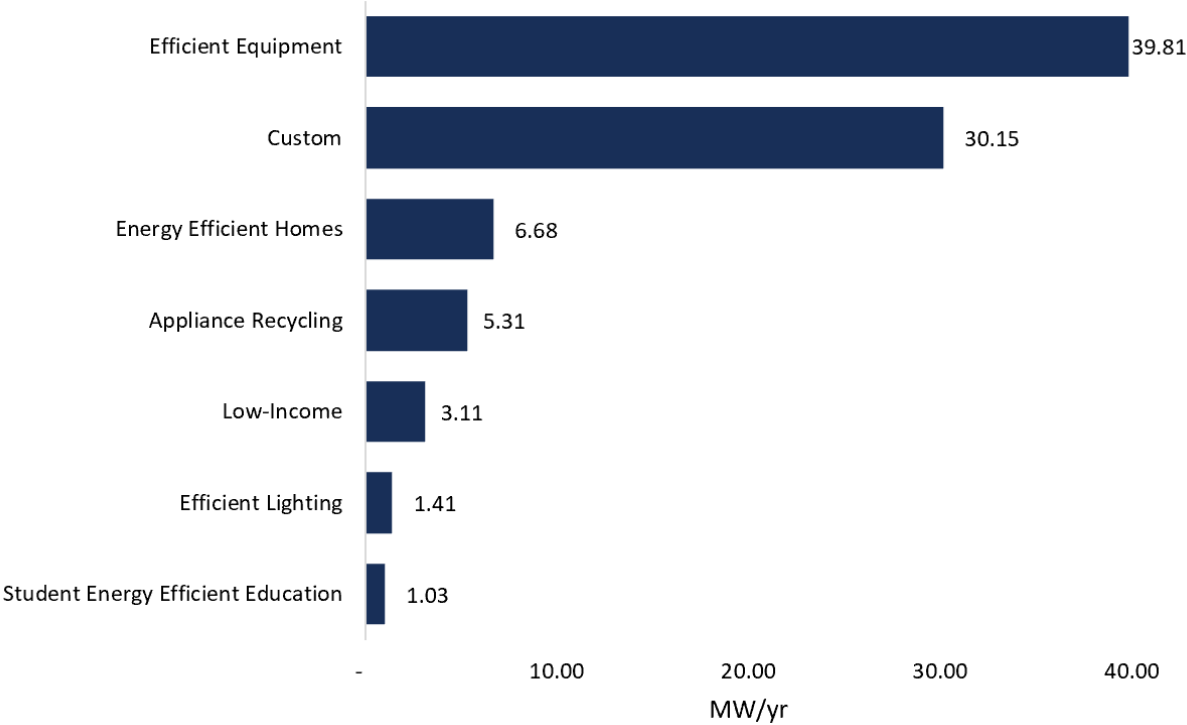
Note: Total of individual program component savings may not sum to total due to rounding.

⁵ Pennsylvania Public Utility Commission. February 2021. *Technical Reference Manual*. Act 129 Energy Efficiency and Conservation Program & Act 213 Alternative Energy Portfolio Standards.

⁶ For GNE records in PY15, the line loss multiplier was calculated as a blended rate of 1.0818 using the proportion of reported demand reductions of the residential, low-income, and small C&I sectors compared to the large C&I sector (87% and 13%, respectively). Cadmus applied a blended rate of 1.0788 to GNE records in PY13 and a blended rate of 1.0719 in PY14.

Figure 8 summarizes the PSA gross peak demand savings by energy efficiency program component for Phase IV of Act 129. PSA savings include verified gross peak demand savings from previous program years, unverified peak demand savings from PY14, and the PYTD peak demand savings from the current program year.

Figure 8. Phase IV PSA Gross Peak Demand Savings by Program Component (System Level)



Note: Total of individual program component savings may not sum to total due to rounding.

Table 6 summarizes the system-level peak demand impacts by program and component through the current reporting period.

Table 6. System-Level Peak Demand Savings by Program Component (MW/Year)

Program Component	PYRTD	RTD	VTD	PY14 Unverified	PSA ⁽¹⁾
Low-Income					
Low-Income	0.55	3.27	2.56	-	3.11
Residential					
Appliance Recycling	1.32	5.31	4.00	-	5.31
Efficient Lighting	0.06	1.38	1.35	0	1.41
Energy Efficient Homes	1.95	7.67	4.22	0.52	6.68
Student Energy Efficient Education	-	1.09	0.47	0.56	1.03
Residential Sub-Total⁽¹⁾	3.33	15.46	10.03	1.08	14.44
Non-Residential					
Custom	5.30	29.68	24.85	0	30.15
Efficient Equipment	6.74	39.65	32.78	0.29	39.81
Non-Residential Sub-Total ⁽¹⁾	12.04	69.33	57.63	0.29	69.96
Portfolio Total ⁽¹⁾	15.92	88.05	70.22	1.37	87.52
Carry-Over Savings from Phase III	-	-	-	-	-
Adjusted Portfolio Total ⁽¹⁾	15.92	88.05	70.22	1.37	87.52

⁽¹⁾ Totals may not sum due to rounding.

7. Summary of Finances

This section provides an overview of the expenditures associated with PPL Electric Utilities' portfolio and the recovery of those costs from ratepayers.

7.1. Program and Portfolio Financials

Table 7 summarizes program-specific and portfolio total finances through the end of Q2 for PY15. The columns in Table 7 are adapted from the list of Program Cost Elements in the PA PUC's EE&C plan template for Phase IV.⁷

Thus far in PY15, 56% of all EE&C plan expenditures were incentives paid to participants and trade allies. The dollar amounts are based on EDC tracking of expenditures, with no adjustments to account for inflation.⁸ PPL Electric Utilities uses a separate accounting system for financial reporting, so totals in these tables may not match those reported in PPL Electric Utilities' participant tracking database.

Additional notes for table values include the following:

- The incentives column includes rebates, point-of-sale buydowns, kits, and direct install materials and labor.
- The EDC materials, labor, and administration column includes costs associated with an EDC's own employees.
- ICSP materials, labor, and administration column includes the costs of program implementation contractor and any other outside vendors an EDC employs to support program delivery and evaluation.

⁷ Pennsylvania Public Utility Commission. September 9, 2020. *Implementation of Act 129 of 2008—Phase IV Energy Efficiency and Conservation Plan Template, Docket No. M-2020-3015228.*
<https://www.puc.pa.gov/pcdocs/1676672.docx>

⁸ The cost-recovery of program expenses through riders generally happens promptly so that costs are being recovered from ratepayers in the same dollars that they are incurred.

Table 7. Program Year to Date Financials (\$1,000)

Program	Incentives	EDC Materials, Labor, and Administration	ICSP Materials, Labor, and Administration	Total Cost ⁽¹⁾
Non-Residential	\$7,766	\$93	\$3,087	\$10,946
Low-Income	\$1,492	\$110	\$1,355	\$2,957
Residential	\$3,189	\$88	\$2,132	\$5,409
Common Portfolio Costs ⁽²⁾	-	\$1,477	\$1,121	\$2,598
Portfolio Total ⁽¹⁾	\$12,447	\$1,768	\$7,696	\$21,910
SWE Costs ⁽³⁾	-	-	-	\$396
Total ⁽¹⁾	\$12,447	\$1,768	\$7,696	\$22,306

⁽¹⁾ Total may not sum due to rounding.

⁽²⁾ Common portfolio costs are costs applicable to more than one customer class or more than one program or that provide portfolio-wide benefits. These costs include PPL Electric Utilities labor and materials, legal review, PPL Electric Utilities' tracking system, EE&C plan development, etc.

⁽³⁾ SWE costs are outside of the 2% spending cap.

Table 8 summarizes program-specific and portfolio total finances since the inception of Phase IV. Thus far in Phase IV, 53% of all expenditures were incentives paid to participants and trade allies.

Table 8. Phase IV to Date Financials (\$1,000)

Program	Incentives	EDC Materials, Labor, and Administration	ICSP Materials, Labor, and Administration	Total Cost ⁽¹⁾
Non-Residential	\$34,588	\$443	\$15,639	\$50,670
Low-Income	\$6,770	\$489	\$7,227	\$14,485
Residential	\$14,149	\$440	\$10,474	\$25,063
Common Portfolio Costs ⁽²⁾	-	\$6,926	\$6,729	\$13,655
Portfolio Total ⁽¹⁾	\$55,507	\$8,298	\$40,068	\$103,873
SWE Costs ⁽³⁾	-	-	-	\$1,188
Total ⁽¹⁾	\$55,507	\$8,298	\$40,068	\$105,061

⁽¹⁾ Total may not sum due to rounding.

⁽²⁾ Common portfolio costs are costs applicable to more than one customer class or more than one program or that provide portfolio-wide benefits. These costs include PPL Electric Utilities' labor and materials, legal review, tracking system, EE&C plan development, etc.

⁽³⁾ SWE costs are outside of the 2% spending cap.

Cost-effectiveness testing for Act 129 EE&C programs is performed using the total resource cost (TRC) test. Benefit-cost modeling is conducted annually using verified gross and verified net savings once the results of the independent impact evaluation are completed. TRC test results for PY15 will be presented in the final annual report to the PA PUC on September 30, 2024, along with a more granular breakdown of portfolio costs.

7.2. Cost Recovery

Act 129 allows Pennsylvania EDCs to recover EE&C plan costs through a cost-recovery mechanism. PPL Electric Utilities' cost-recovery charges are organized separately by customer sectors to ensure that the electric rate classes that finance the programs are the rate classes that receive the direct energy and

conservation benefits. Cost recovery is necessarily tied to the way customers are metered and charged for electric service. Readers should be mindful of the differences between Table 9 and Section 2.3. For example, the low-income customer segment is a subset of PPL Electric Utilities’ residential tariff(s) and therefore not listed in Table 9.

Table 9. EE&C Plan Expenditures by Cost-Recovery Category⁹

Cost-Recovery Sector	Rate Classes Included	PYTD Spending (\$1000)	P4TD Spending (\$1000)
Residential and Low-Income	Residential (primarily RS)	\$7,716	\$41,827
Small C&I	Small C&I (primarily GS1 & GS3)	\$5,836	\$30,484
Large C&I	Large C&I (primarily LP4 & LP5)	\$1,346	\$12,546
GNE	Residential, Small C&I, and Large C&I	\$2,837	\$9,198
Common costs ⁽¹⁾		\$4,571	\$11,006
Portfolio Total ⁽²⁾	-	\$22,306	\$105,061

⁽¹⁾ Includes costs not collected at the sector level. These costs are allocated to the sectors at the end of the phase.

⁽²⁾ Totals may not sum due to rounding.

⁹ Includes SWE costs.