

Semi-Annual Report to the Pennsylvania Public Utility Commission

Phase III of Act 129

Program Year 8

(December 1, 2016 – May 31, 2017)

For Pennsylvania Act 129 of 2008

Energy Efficiency and Conservation Plan

Prepared by ADM

and the FirstEnergy Pennsylvania EDCs for:

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Pennsylvania Electric Company	M-2015-2514768
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Acronyms

BDR	Behavioral Demand Response
C&I	Commercial and Industrial
CFL	Compact Fluorescent Lamp
CSP	Conservation Service Provider or Curtailment Service Provider
DLC	Direct Load Control
DR	Demand Response
EDC	Electric Distribution Company
EDT	Eastern Daylight Time
EE&C	Energy Efficiency and Conservation
EM&V	Evaluation, Measurement, and Verification
EUL	Effective Useful Life
GNI	Government, Non-Profit, Institutional
HVAC	Heating, Ventilating, and Air Conditioning
ICSP	Implementation Conservation Service Provider
kW	Kilowatt
kWh	Kilowatt-hour
LED	Light-Emitting Diode
LIURP	Low-Income Usage Reduction Program
M&V	Measurement and Verification
MW	Megawatt
MWh	Megawatt-hour
NTG	Net-to-Gross
P3TD	Phase III to Date
PA PUC	Pennsylvania Public Utility Commission
PSA	Phase III to Date Preliminary Savings Achieved; equal to VTD + PYTD
PSA+CO	PSA savings plus Carryover from Phase II
PY	Program Year: e.g. PY8, from June 1, 2016, to May 31, 2017
PYRTD	Program Year Reported to Date
PYVTD	Program Year Verified to Date
RTD	Phase III to Date Reported Gross Savings
SWE	Statewide Evaluator
TRC	Total Resource Cost
TRM	Technical Reference Manual
VTD	Phase III to Date Verified Gross Savings

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 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 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 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 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 or preliminary 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 III to Date (P3TD): The energy and peak demand savings achieved by an EE&C program or portfolio within Phase III of Act 129. Reported in several permutations described below.

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

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

Phase III to Date Preliminary Savings Achieved (PSA): The sum of the verified gross savings (VTD) from previous program years in Phase III where the impact evaluation is complete plus the reported gross savings from the current program year (PYTD). For PY8, the PSA savings will always equal the PYTD savings because PY8 is the first program year of the phase (no savings will be verified until the PY8 final annual report).

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

Table A below lists savings values for a hypothetical EDC as of the PY10 semi-annual report, when the first six months of PY10 reported savings are available. The calculations below are then used to illustrate the differences between various savings values.

Table A - P3TD Savings Calculation Example

Program Period	Reported Gross (MWh/year)	Verified Gross (MWh/year)
Phase II (Carryover)	N/A	400
PY8	800	700
PY9	900	850
PY10 (Q1+Q2)	500	N/A

PYRTD (PY10) = 500 MWh/year

RTD = 800 + 900 + 500 = 2,200 MWh/year

VTD = 700 + 850 = 1,550 MWh / year

PSA = 1,550 + 500 = 2,050 MWh/year

PSA + CO = 2,050 + 400 = 2,450 MWh/year

Section 1 Introduction

Pennsylvania Act 129 of 2008, signed on October 15, 2008, mandated energy savings and demand reduction goals for the largest electric distribution companies (EDCs) in Pennsylvania for Phase I (2008 through 2013). Phase II of Act 129 began in 2013 and concluded in 2016. In late 2015, each EDC filed a new energy efficiency and conservation (EE&C) plan with the PA PUC detailing the proposed design of its portfolio for Phase III. These plans were updated based on stakeholder input and subsequently approved by the PUC in 2016.

Implementation of Phase III of the Act 129 programs began on June 1, 2016. This report documents the progress and effectiveness of the Phase III EE&C accomplishments in Program Year 8 (PY8) for Metropolitan Edison Company (“Met-Ed” or “ME”), Pennsylvania Electric Company (“Penelec” or “PN”), Penn Power Company (“Penn Power” or “PP”), and West Penn Power Company (“West Penn Power” or “WPP”) (known collectively as the “FirstEnergy Pennsylvania EDCs” or “FirstEnergy” or “Companies”), as well as the cumulative accomplishments of the Phase III programs since inception. This report additionally documents the energy savings carried over from Phase II. The Phase II carryover savings count towards EDC savings compliance targets for Phase III.

This report details the participation, spending, and reported gross impacts of the energy efficiency programs in PY8. Compliance with Act 129 savings goals are ultimately based on verified gross savings. FirstEnergy has retained ADM Associates as an independent evaluation contractor for Phase III of Act 129. ADM Associates is responsible for the measurement and verification of the savings and calculation of verified gross savings. The verified gross savings for PY8 energy efficiency programs will be reported in the final annual report, to be filed on November 15, 2017.

Phase III of Act 129 includes a demand response goal for three of the FirstEnergy Pennsylvania EDCs: Metropolitan Edison, Penn Power and West Penn Power starting in 2017, or PY9. Beginning in 2017, demand response events are limited to the months of June through September, which are the first four months of the Act 129 program year. Because the demand response season is completed early in the program year, it is possible to complete the independent evaluation of verified gross savings for demand response sooner than is possible for energy efficiency programs. Starting with the first semi-annual report in PY9, Section 6.2 of this report will include the verified gross demand response impacts as well as the cumulative demand response performance of the EE&C program to date for Phase III of Act 129.

Section 2 Summary of Achievements

2.1 CARRYOVER SAVINGS FROM PHASE II OF ACT 129

Table 2-1 shows total MWh/year carryover savings from Phase II for each of the FirstEnergy EDCs.

Table 2-1: Phase II Carryover Savings

FirstEnergy EDC	Phase II Carryover Savings (MWh/Year)
Met-Ed	30,482
Penelec	49,695
Penn Power	13,866
West Penn Power	20,540

Figures 1A-1D: Carryover Savings from Phase II of Act 129 compare each of the EDC’s Phase II verified gross savings total to the Phase II compliance target to illustrate the carryover calculation.

Figures 1A-1D: Carryover Savings from Phase II of Act 129

Figure 1A: Carryover Savings from Phase II of Act 129 - Met-Ed

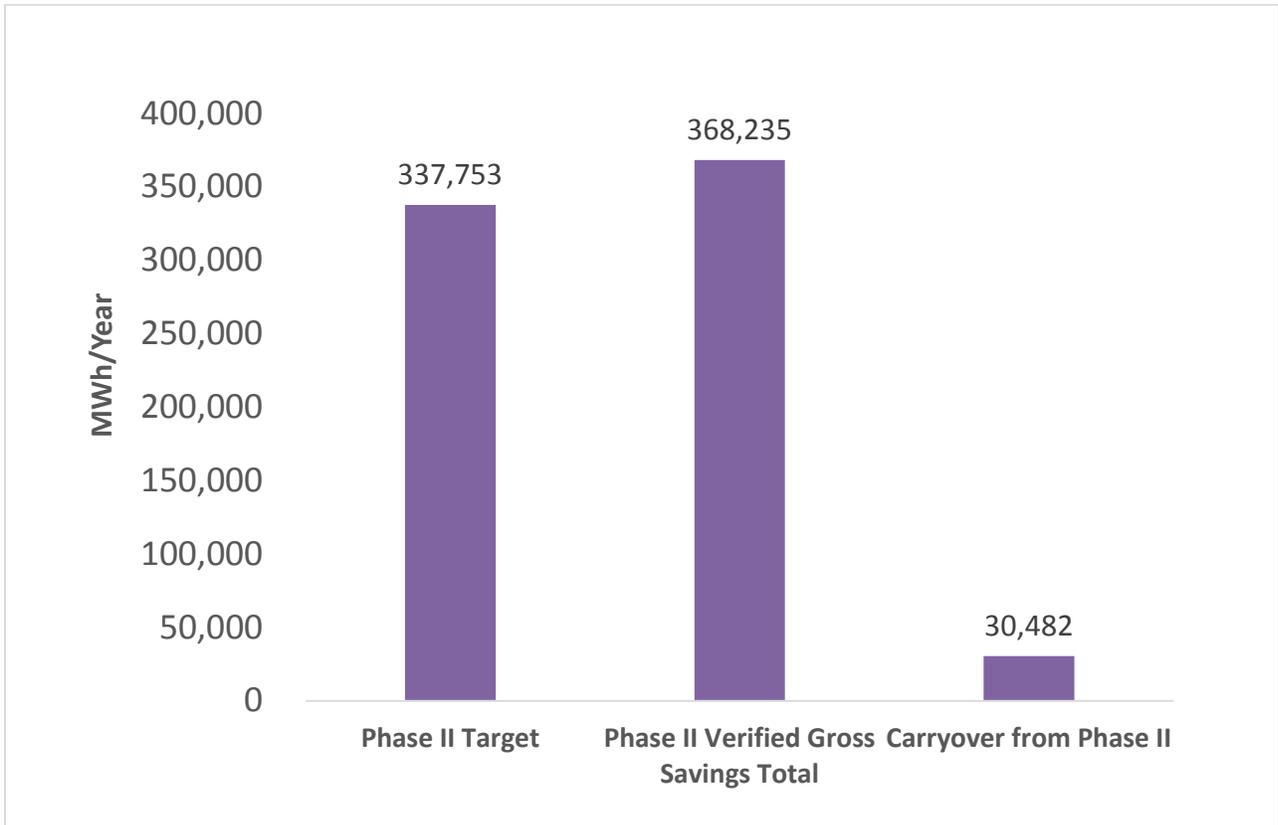


Figure 1B: Carryover Savings from Phase II of Act 129 – Penelec

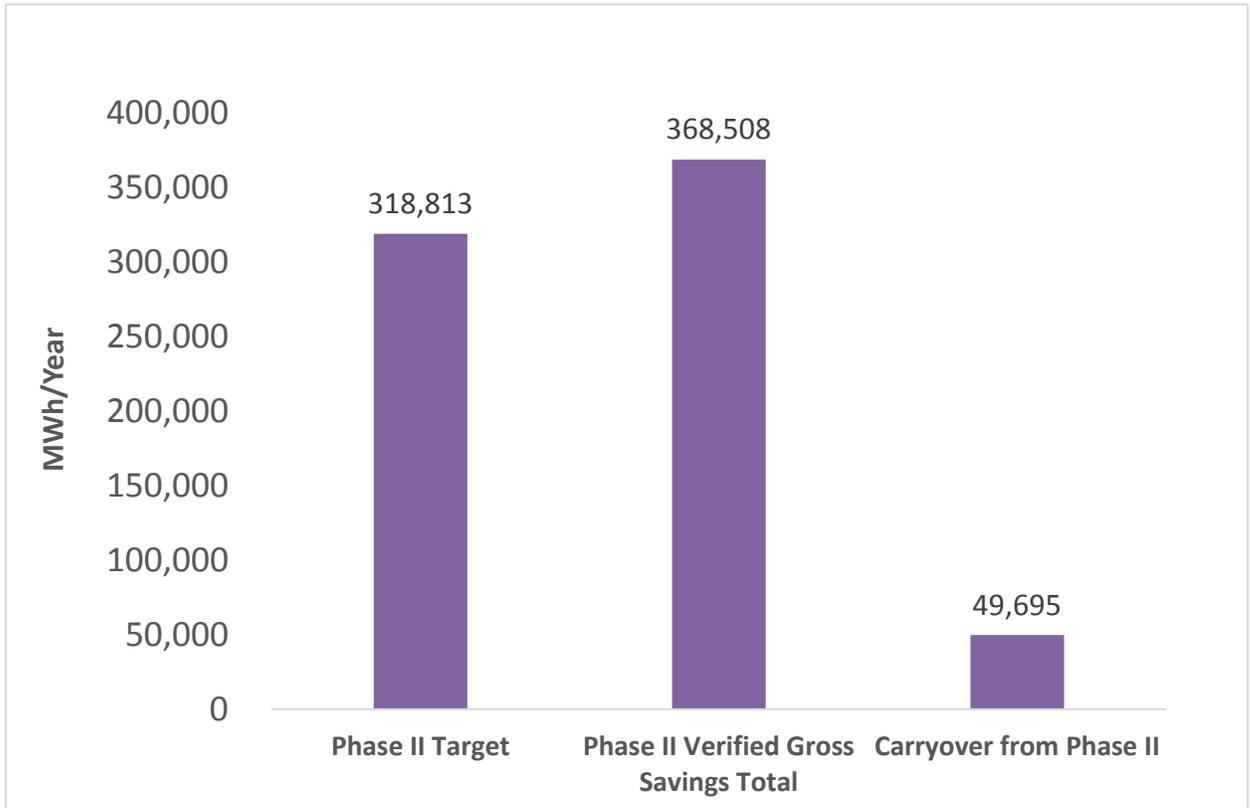


Figure 1C: Carryover Savings from Phase II of Act 129 – Penn Power

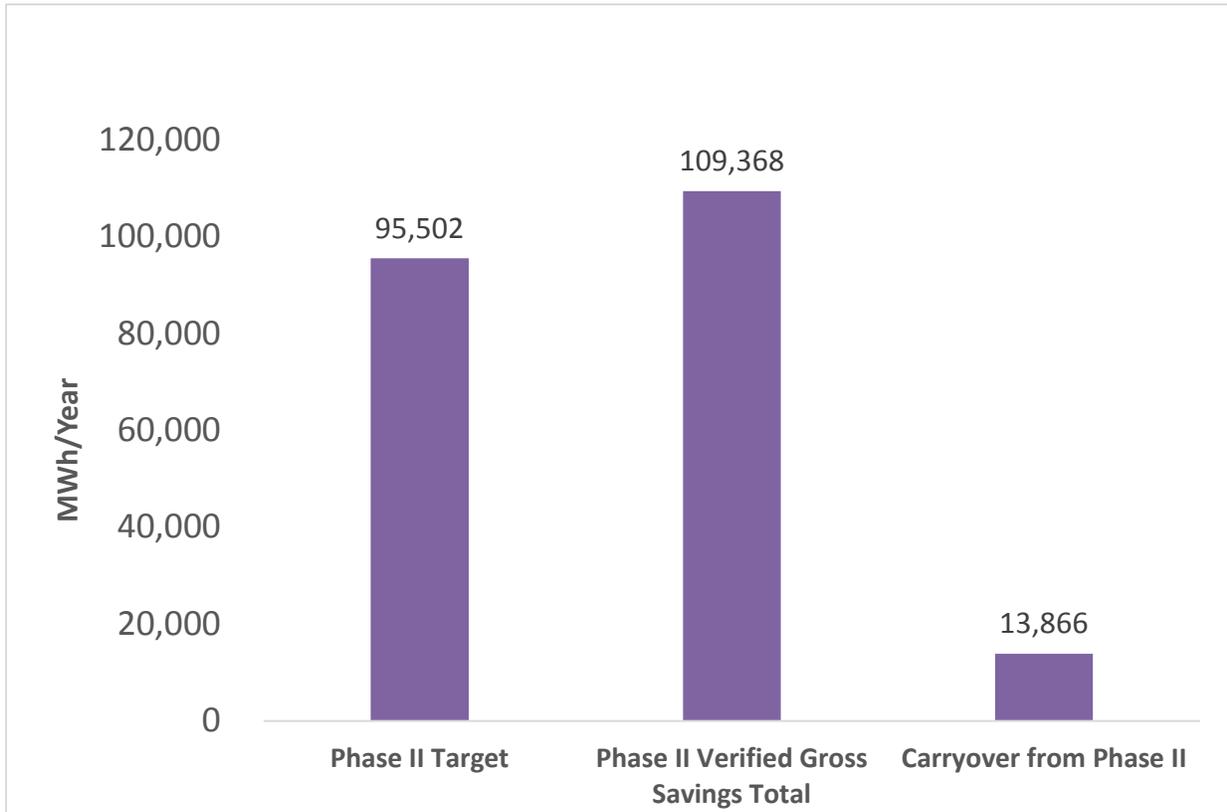
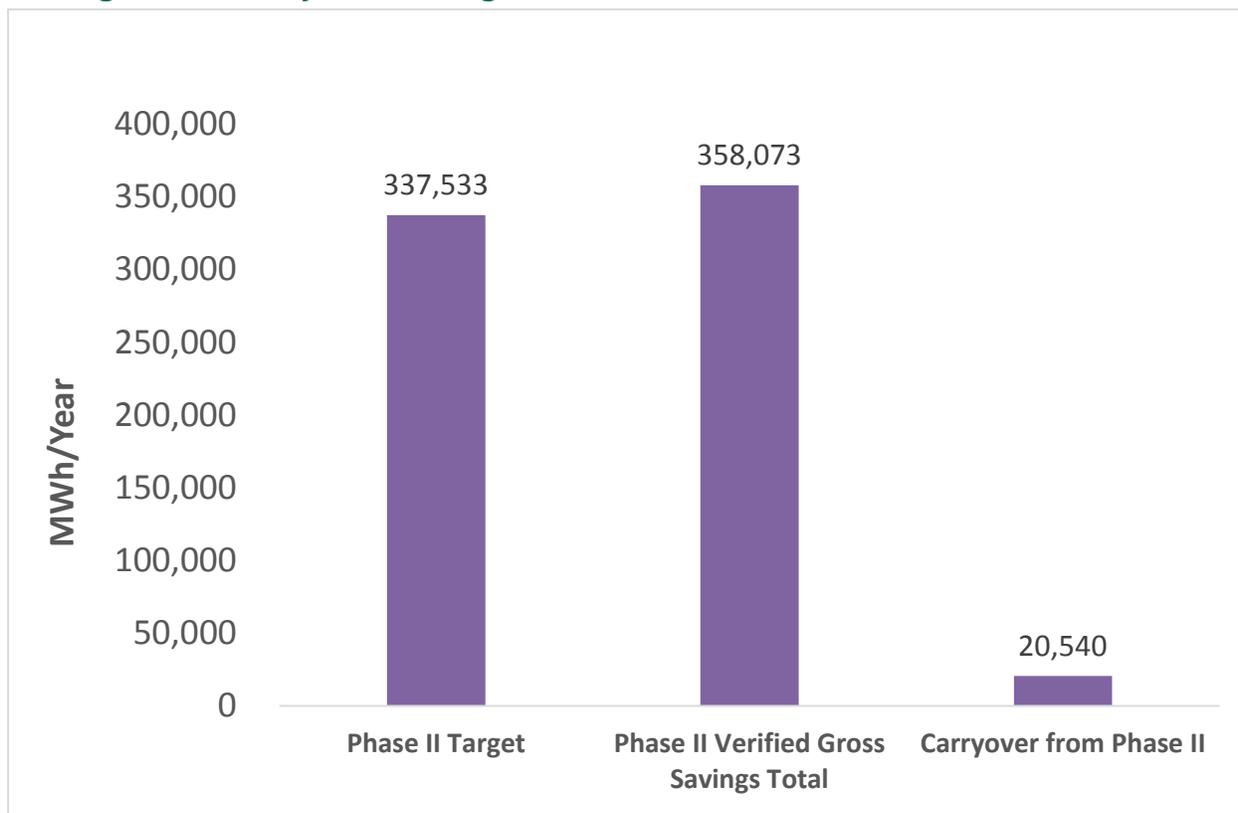


Figure 1D: Carryover Savings from Phase II of Act 129 – West Penn Power

The Commission's Phase III Implementation Order¹ also allowed EDCs to carry over savings in excess of the Phase II Government, Non-Profit, and Institutional (GNI) savings goal and excess savings from the low-income customer segment.² **Figures 2A-2D:** Customer Segment Specific Carryover from Phase II show the calculation of carryover savings for the low-income and GNI targets. To be eligible for Phase II carryover, all of the Phase II target must have been met and exceeded by Phase II program spending. For example, if the Phase II target was 1,000 MWh and 500 MWh was carried over from Phase I, the EDC would have had to show verified savings of at least 1,501 MWh to realize a Phase II carryover of 1 MWh. Carryover is calculated according to the allocation factor methodology explained on page 85 of Phase III Implementation order and as reported in the Companies' Phase II Final Annual reports.

¹ Pennsylvania Public Utility Commission, *Energy Efficiency and Conservation Program Implementation Order*, at Docket No. M-2014-2424864, (*Phase III Implementation Order*), entered June 11, 2015.

² Proportionate to those savings achieved by dedicated low-income programs in Phase III.

Figures 2A-2D: Customer Segment-Specific Carryover from Phase II

Figure 2A: Customer Segment-Specific Carryover from Phase II - Met-Ed

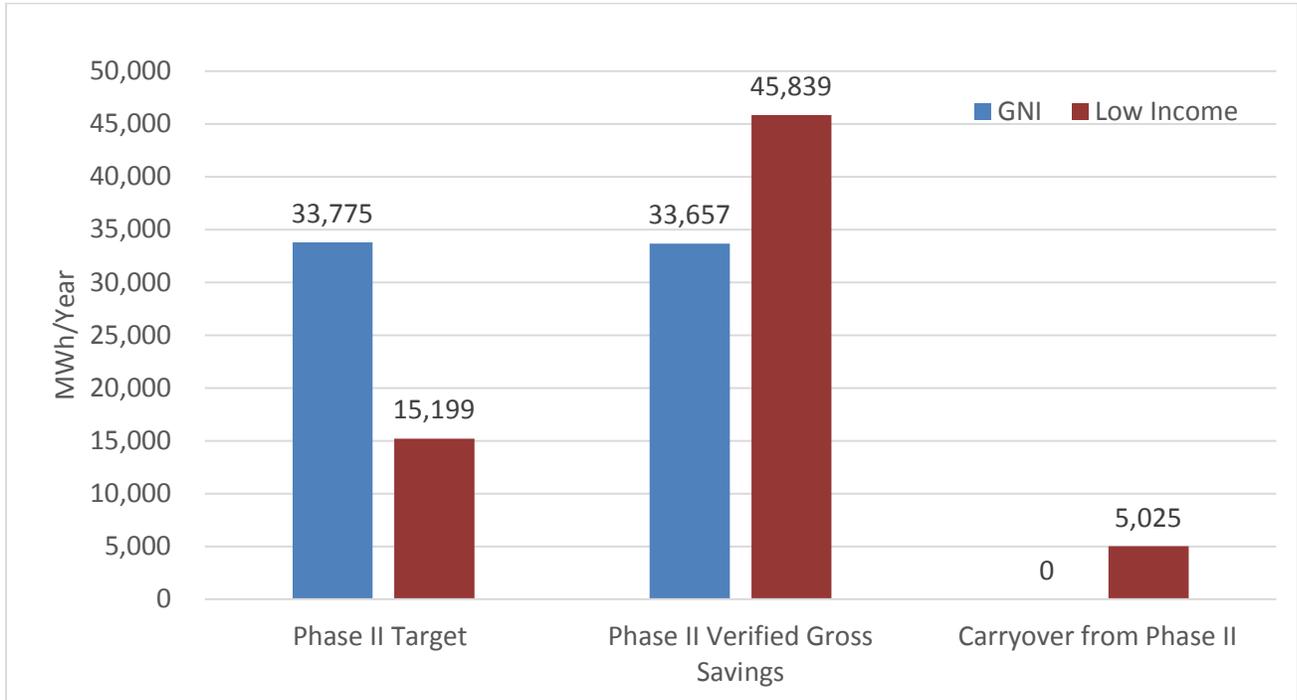


Figure 2B: Customer Segment-Specific Carryover from Phase II – Penelec

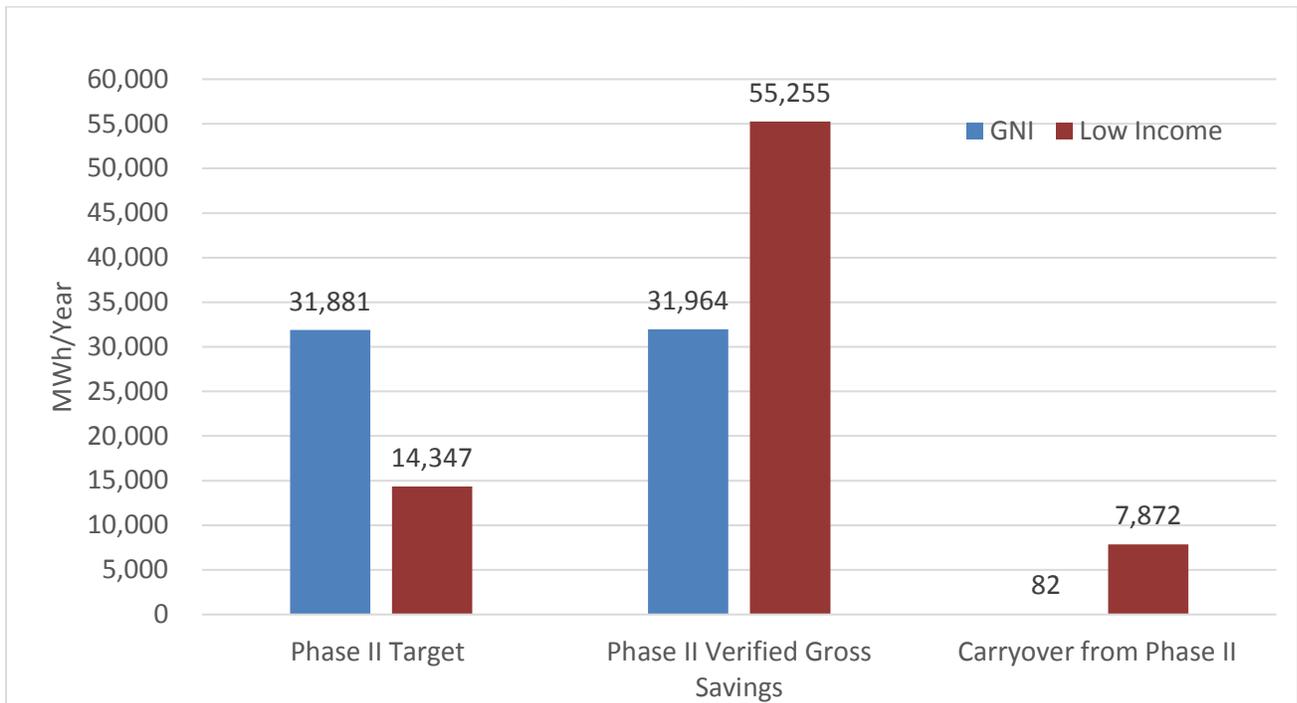


Figure 2C: Customer Segment-Specific Carryover from Phase II – Penn Power

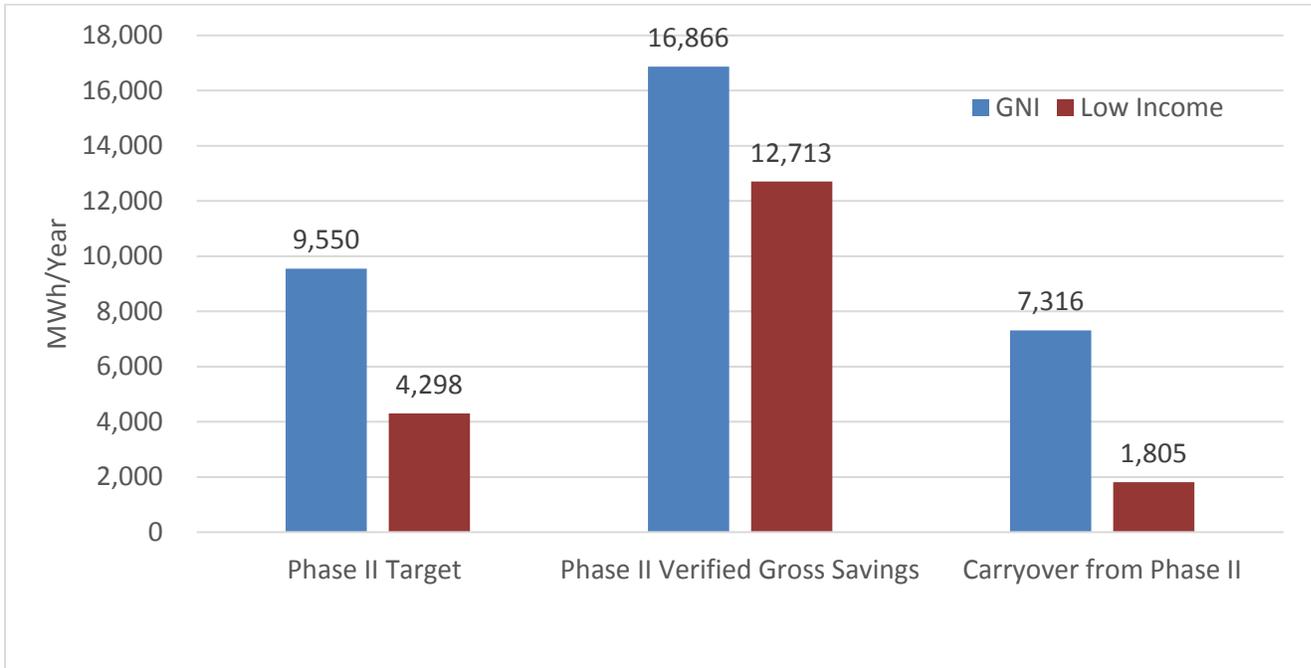
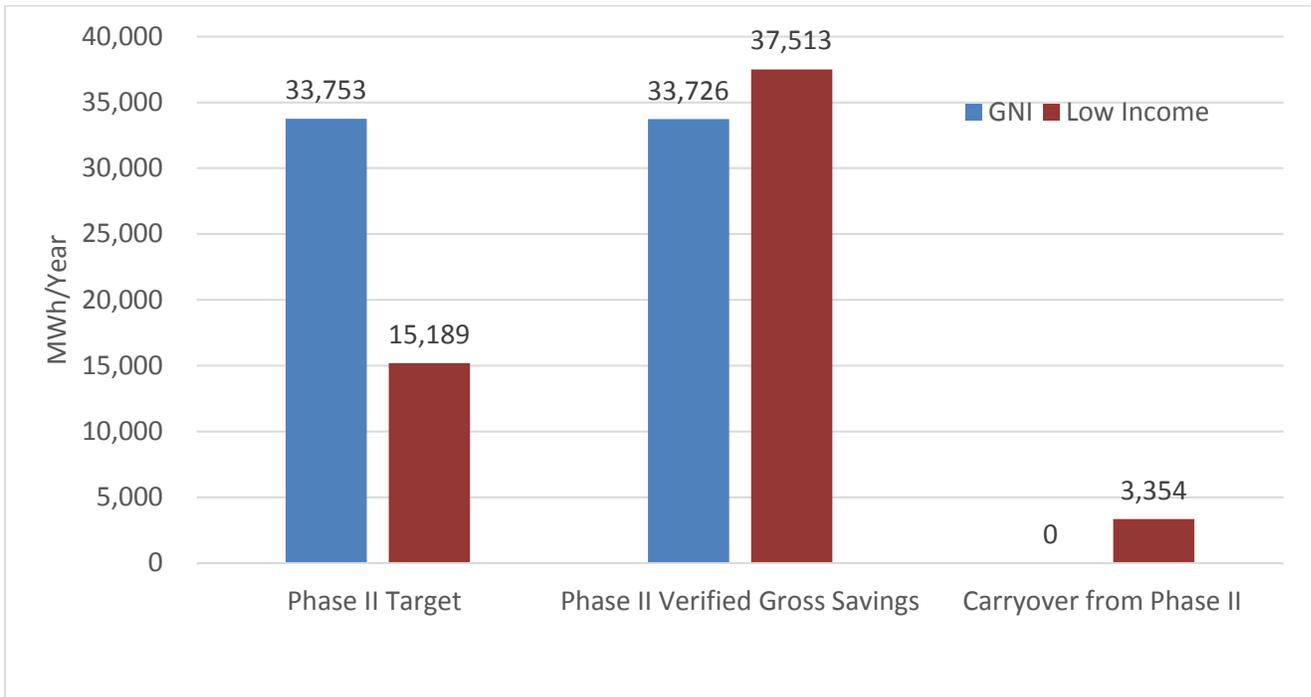


Figure 2D: Customer Segment-Specific Carryover from Phase II – West Penn Power



2.2 PHASE III ENERGY EFFICIENCY ACHIEVEMENTS TO DATE

Table 2-2 presents performance to date for each of the FirstEnergy EDCs since the beginning of Program Year 8 on June 1, 2016. **Table 2-3** and **Table 2-4** show achievements to date in Phase III; **Figures 3A-3D**: Plan Performance toward Phase III Portfolio Compliance show results in graphic form.

Since the beginning of Phase III of Act 129 on June 1, 2016, the FirstEnergy EDCs have achieved:

Table 2-2: Gross Electric and Demand Savings for PY8

EDC	Gross MWh/yr Savings (PYRTD)	Gross Peak Demand MW Savings (PYRTD)
Met-Ed	131,611	17.47
Penelec	121,403	15.23
Penn Power	34,881	4.83
West Penn Power	123,339	17.16

Table 2-3: Gross Electric and Demand Savings since the beginning of Phase III of Act 129

EDC	Reported Gross Electric Energy Savings MWh/yr Savings (RTD)	Reported Gross Peak Demand MW Savings (RTD)	Gross Electric Energy Savings MWh/yr Savings (PSA)	Gross Peak Demand MW Savings (PSA)
Met-Ed	131,611	17.47	131,611	17.47
Penelec	121,403	15.23	121,403	15.23
Penn Power	34,881	4.83	34,881	4.83
West Penn Power	123,339	17.16	123,339	17.16

Table 2-4: Phase III Electric Savings including Phase II carryover

EDC	Gross/Verified MWh/yr Savings (PSA)	Carryover Savings MWh/yr (CO)	CO + Gross/Verified MWh/yr Savings (PSA + CO)	% of Compliance Target
Met-Ed	131,611	30,482	162,093	27%
Penelec	121,403	49,695	171,098	30%
Penn Power	34,881	13,866	48,747	31%
West Penn Power	123,339	20,540	143,879	27%

Figures 3A-3D: Plan Performance toward Phase III Portfolio Compliance

Figure 3A: EE&C Plan Performance toward Phase III Portfolio Compliance Target – Met-Ed

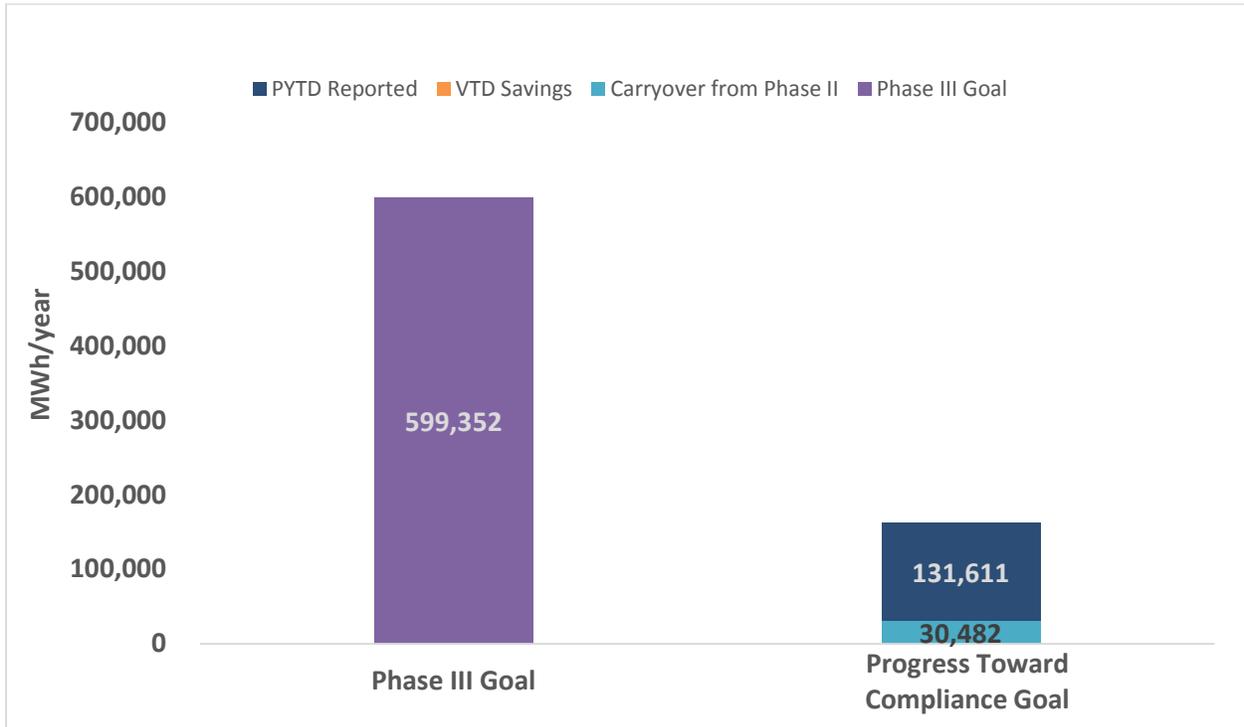


Figure 3B: EE&C Plan Performance toward Phase III Portfolio Compliance Target – Penelec

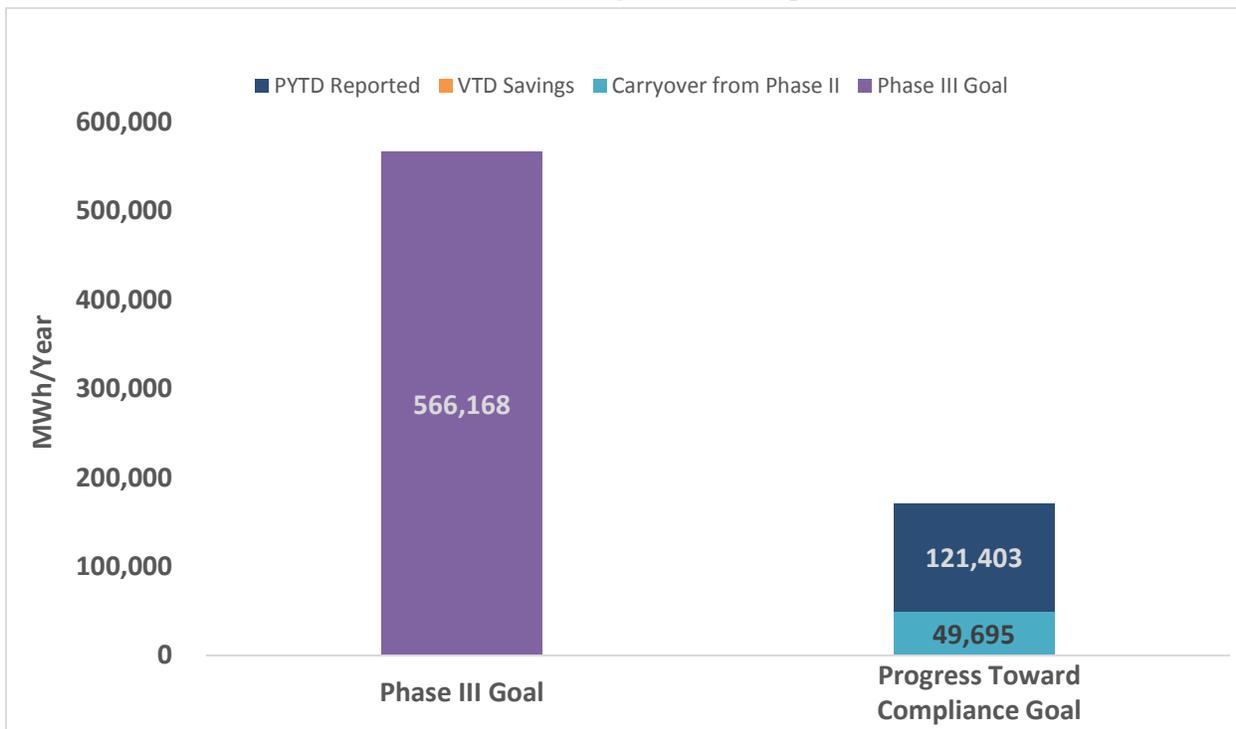


Figure 3C: EE&C Plan Performance toward Phase III Portfolio Compliance Target – Penn Power

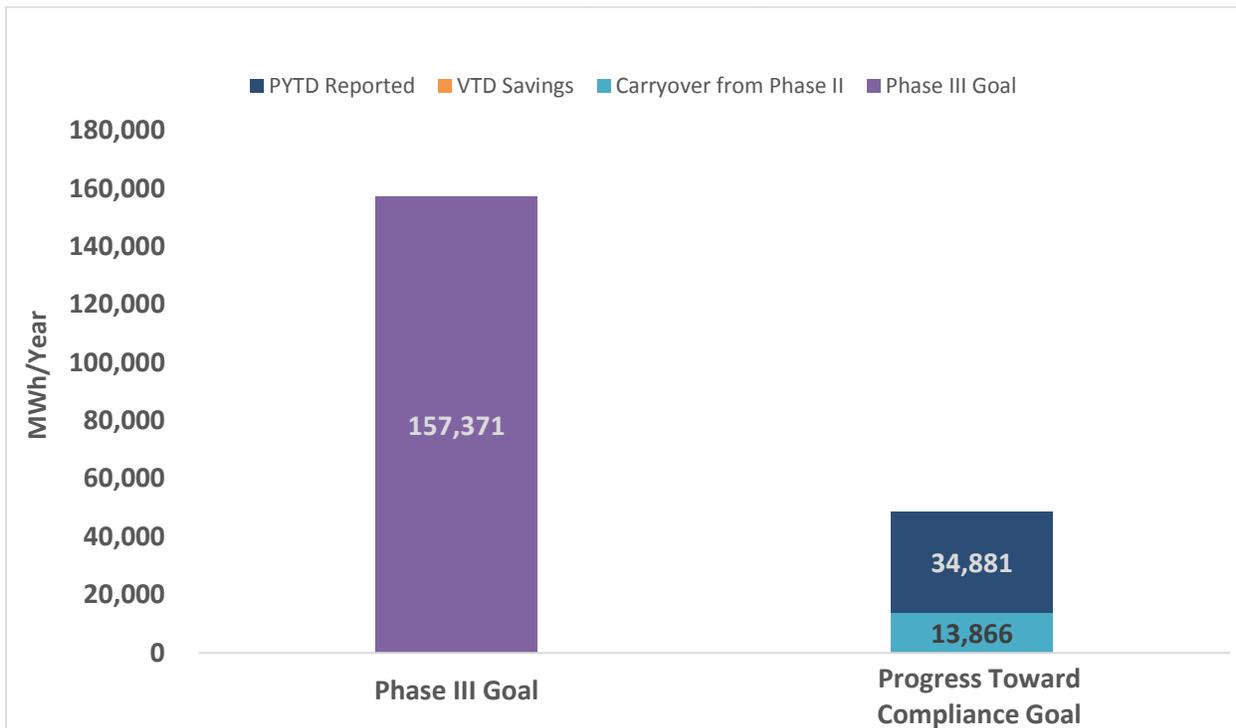
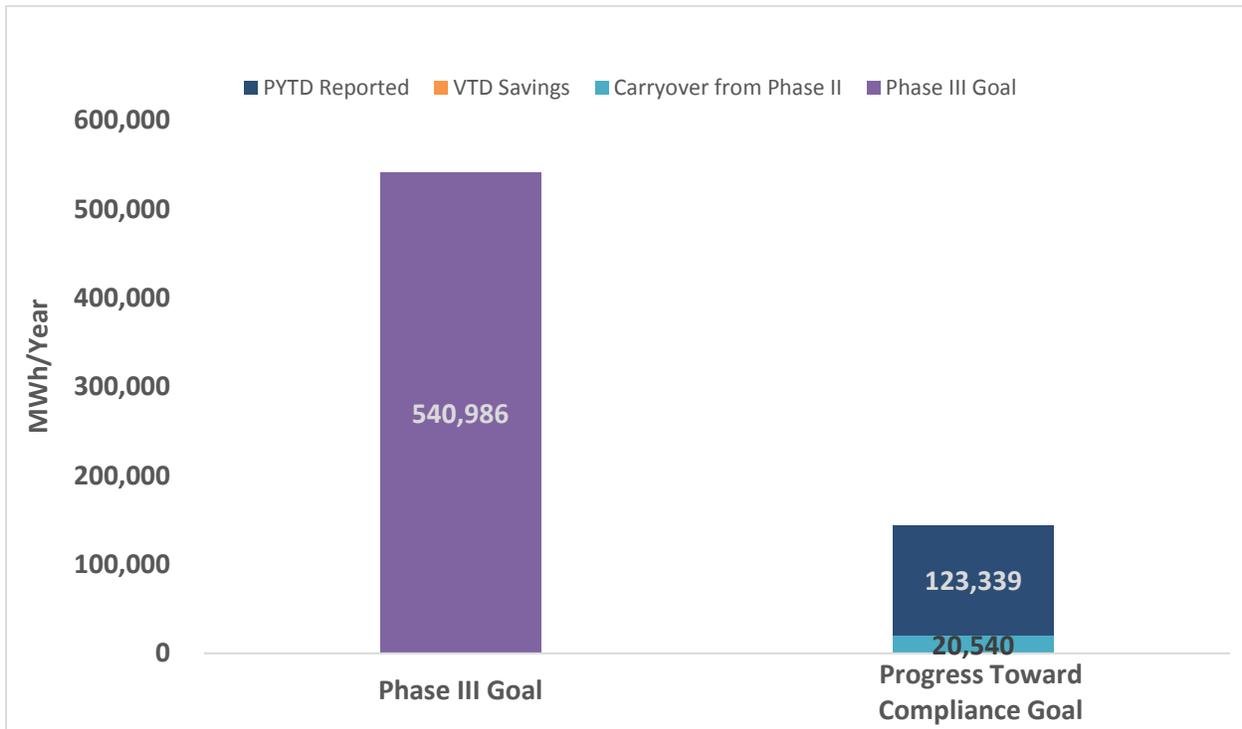


Figure 3D: EE&C Plan Performance toward Phase III Portfolio Compliance Target – West Penn Power



The Phase III 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 target for each FirstEnergy EDC is 8.79% for Met-Ed, 10.23% for Penelec, 10.64% for Penn Power and 8.79% for West Penn Power. Each FirstEnergy EDC offers a total of 158 EE&C measures to its residential and non-residential customer classes. There are 59 measures available to each of the FirstEnergy EDC low-income customer segments at no cost to the customer. This represents 37.34% of the total measures offered in the EE&C plan and exceeds the proportionate number of measures target for each of the EDCs.

The PA PUC also established a low-income energy savings target of 5.5% of the portfolio savings goal. The low-income savings target for the FirstEnergy EDCs is presented in **Table 2.5** and is based on verified gross savings. **Table 2-5** and **Figures 4A-4D: Plan Performance toward Phase III**

Low-Income Compliance Target compare the PSA+CO performance to date for the low-income customer segments to the Phase III savings targets as well as, the percent achievement of each EDC's Phase III low-income energy savings target based on the latest available information.

Table 2-5: Low-Income Program Energy Savings and Targets

EDC	Low-Income Target (MWh/yr) (PYRTD)	PSA + CO (MWh/yr)	% of Low-Income Savings Target Achieved
Met-Ed	32,964	14,272	43%
Penelec	31,139	18,810	60%
Penn Power	8,655	4,708	54%
West Penn Power	29,754	13,800	46%

Figures 4A-4D: Plan Performance toward Phase III Low-Income Compliance Target

Figure 4A: EE&C Plan Performance toward Phase III Low-Income Compliance Target – Met-Ed

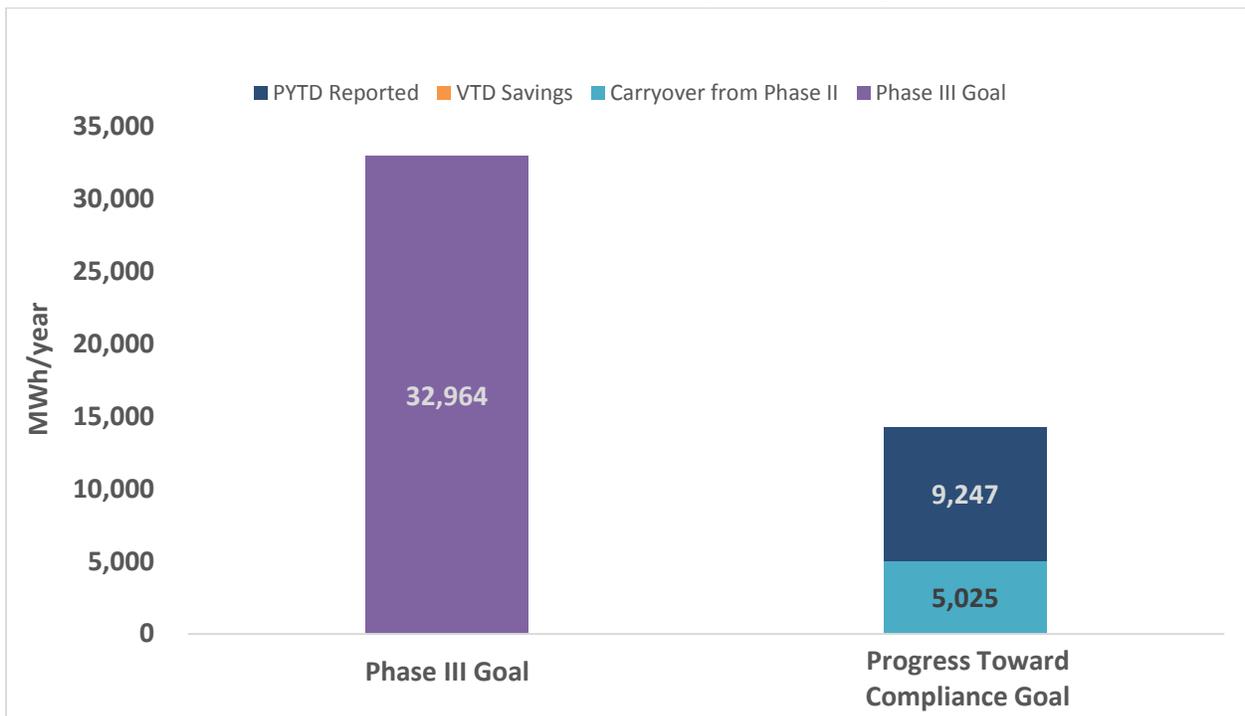


Figure 4B: EE&C Plan Performance toward Phase III Low-Income Compliance Target – Penelec

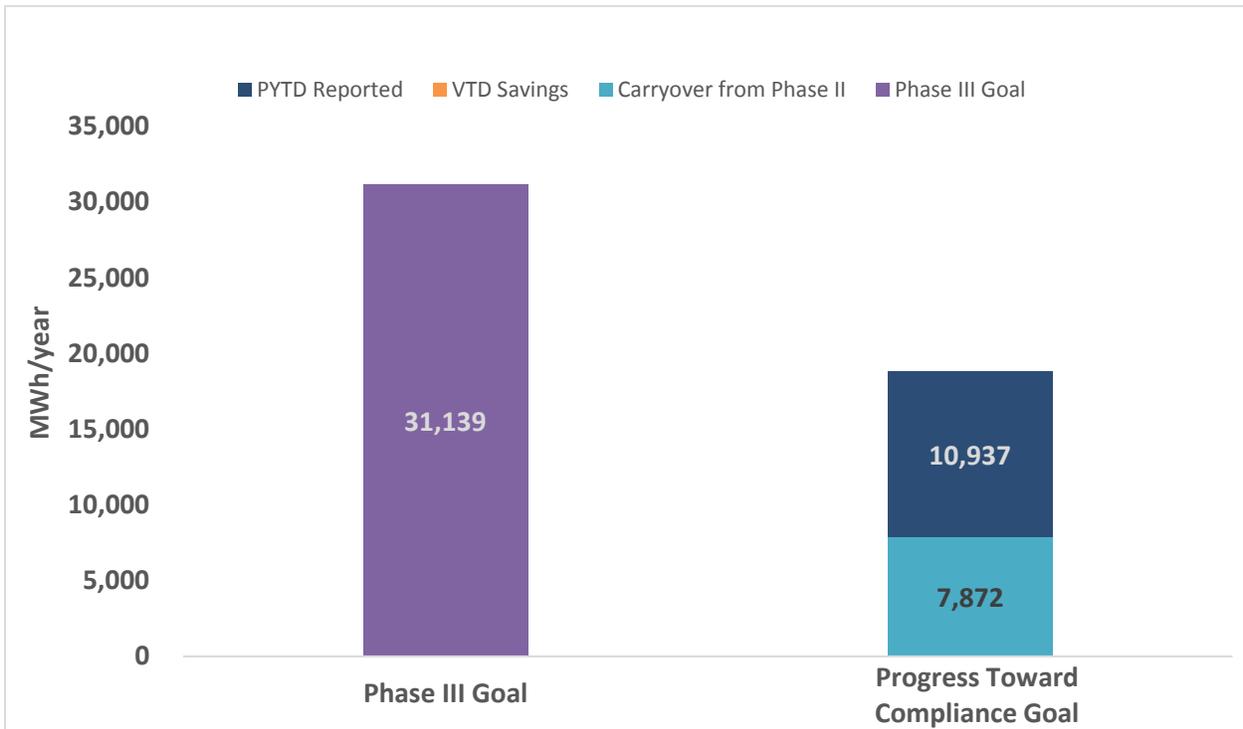
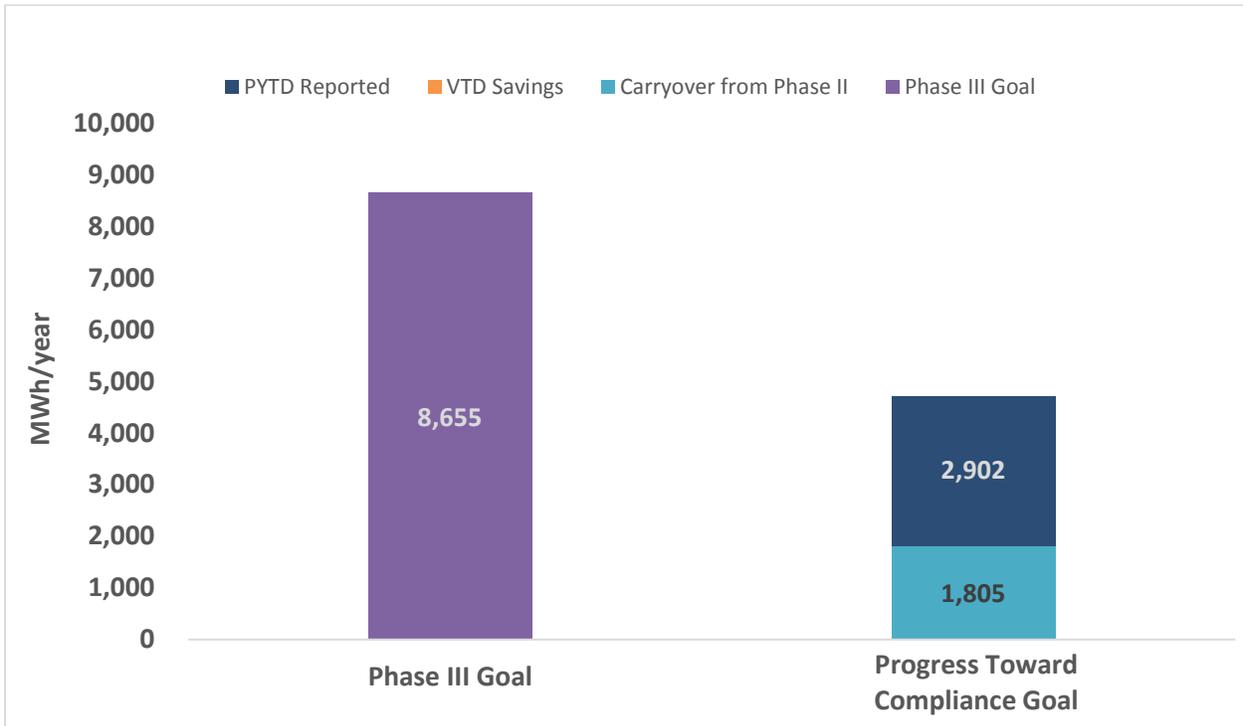
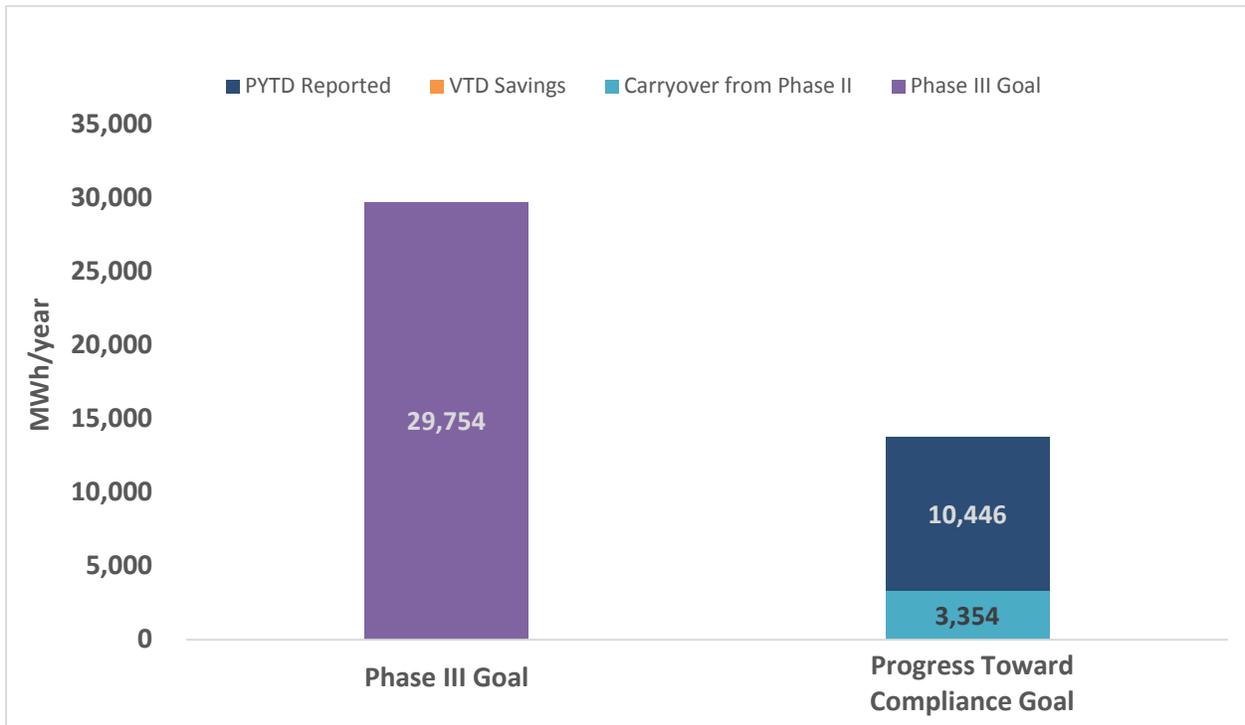


Figure 4C: EE&C Plan Performance toward Phase III Low-Income Compliance Target – Penn Power



**Figure 4D: EE&C Plan Performance
toward Phase III Low-Income Compliance Target – West Penn Power**



The Phase III Implementation Order established a government, non-profit, and institutional energy savings target of 3.5% of the portfolio savings goal. The GNI savings targets for the FirstEnergy EDCs is presented in **Table 2-6** and is based on verified gross savings.

Table 2-6: GNI Savings and Targets

EDC	GNI Target (MWh/yr)	GNI Savings PSA + CO (MWh/yr)	% of GNI Savings Target Achieved
Met-Ed	20,977	4,871	23%
Penelec	19,816	6,612	33%
Penn Power	5,508	9,643	175%
West Penn Power	18,935	9,802	52%

Figures 5A-5D: Plan Performance against Phase III GNI Compliance Target compare the PSA+CO performance to date for the GNI customer segment to the Phase III savings target, as well as the percent achievement of each EDC's Phase III GNI energy savings target based on the latest available information.

Figures 5A-5D: Plan Performance against Phase III GNI Compliance Target

Figure 5A: EE&C Plan Performance against Phase III GNI Compliance Target – Met-Ed

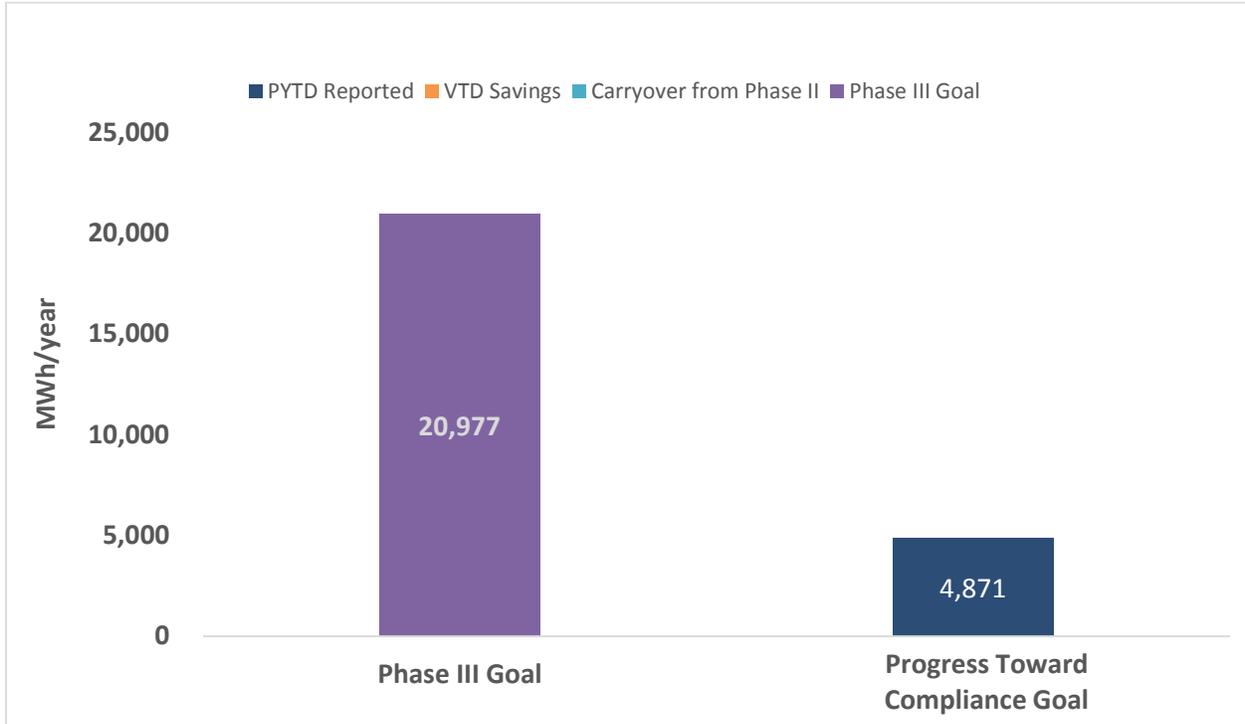


Figure 5B: EE&C Plan Performance against Phase III GNI Compliance Target – Penelec

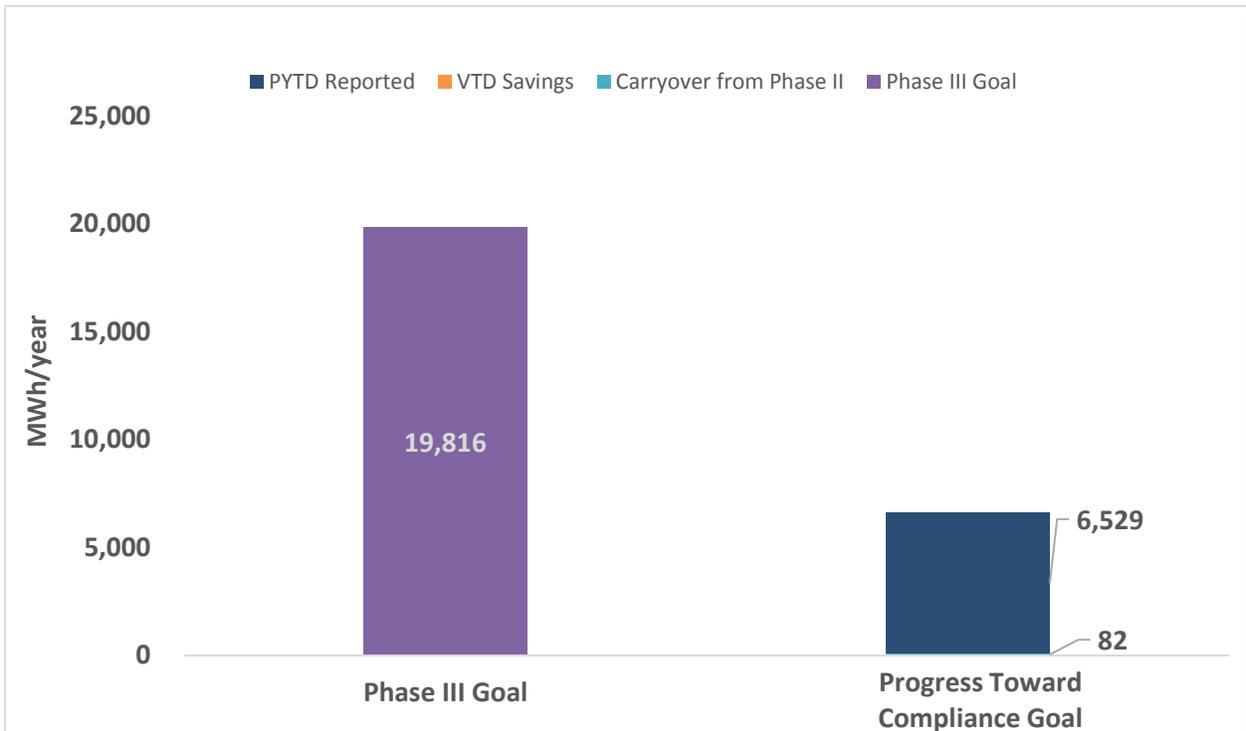


Figure 5C: EE&C Plan Performance against Phase III GNI Compliance Target – Penn Power

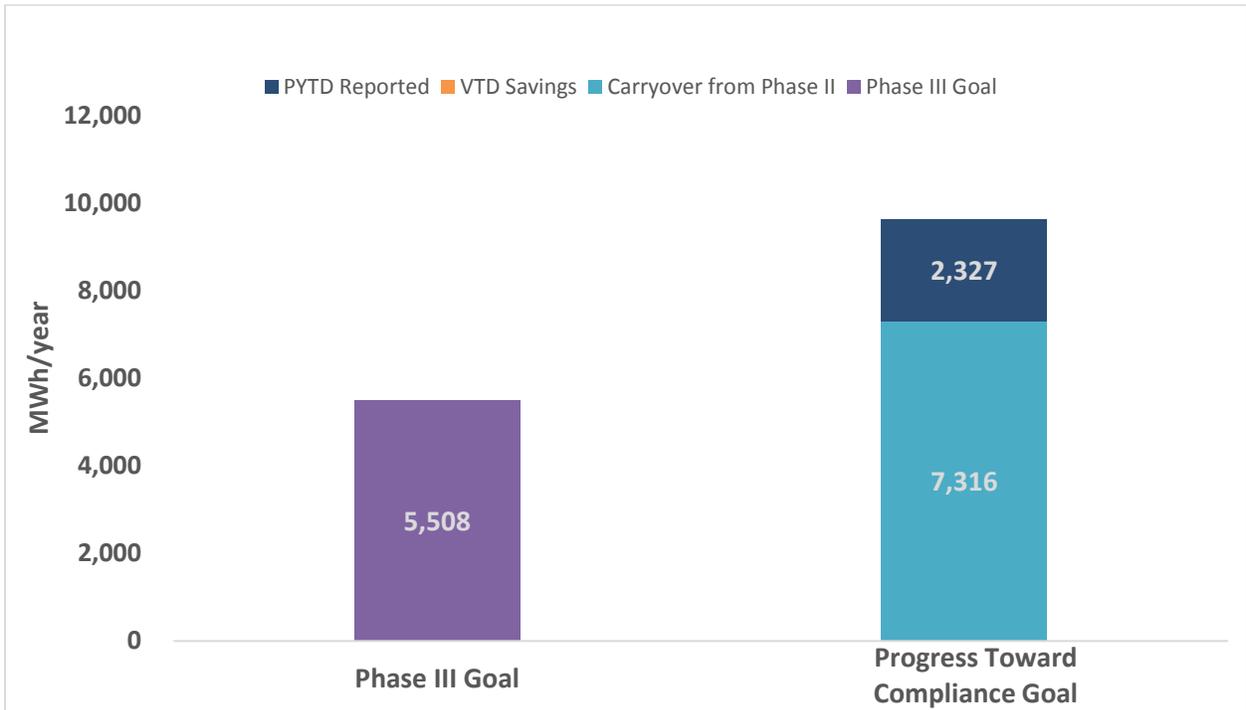
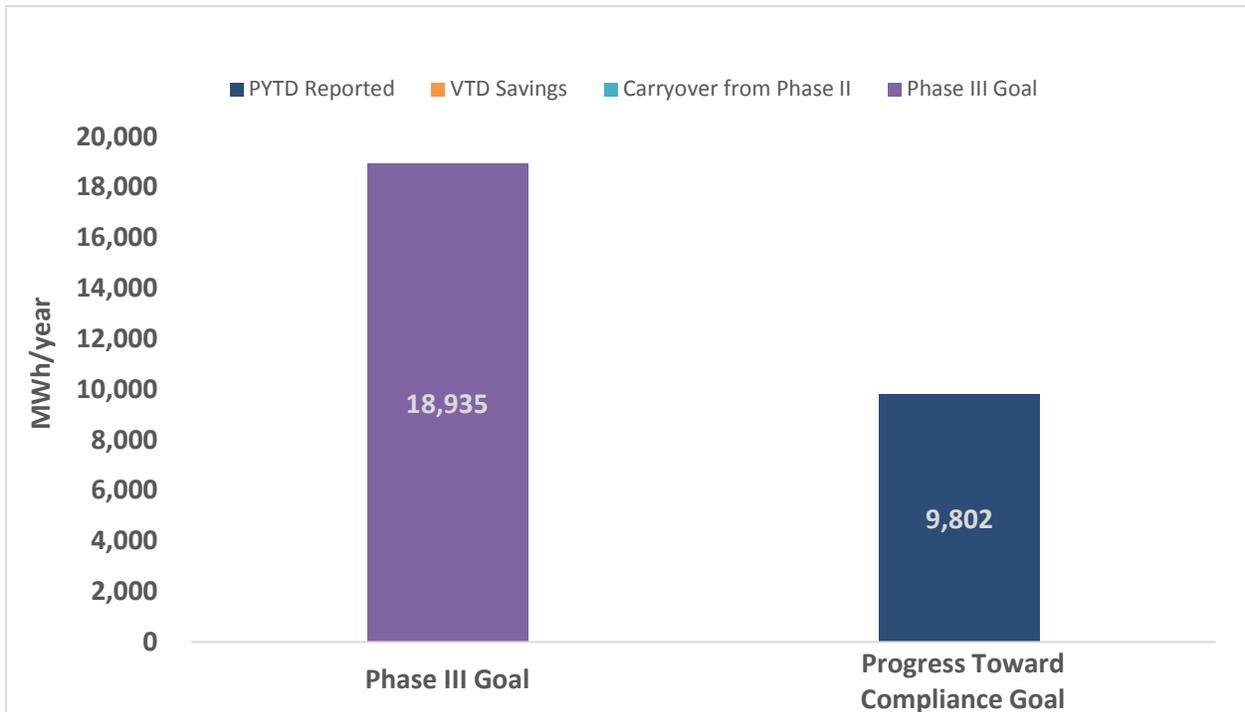


Figure 5D: EE&C Plan Performance against Phase III GNI Compliance Target – West Penn Power



2.3 PHASE III DEMAND RESPONSE ACHIEVEMENTS TO DATE

Phase III demand response performance and reporting will begin in Program Year 9.

2.4 PHASE III PERFORMANCE BY CUSTOMER SEGMENT

Table 2-7 below presents the participation, savings, and spending by customer sector for PY8. The residential, small C&I, large C&I sectors are defined by EDC tariff and the residential low-income and governmental/educational/non-profit sector were defined by statute (66 Pa. C.S. § 2806.1). The residential low-income segment is a subset of the residential customer class and the GNI segment will include customers who are part of the Small C&I or Large C&I rate classes. The savings, spending, and participation values for the LI and GNI segments are presented individually after being removed from the parent sectors in **Table 2-7**.

Table 2-7: PY8 Summary Statistics by Customer Segment

EDC	Parameter	Residential (Non-LI)	Residential LI	Small C&I (Non-GNI)	Large C&I (Non-GNI)	GNI
Met-Ed	# participants	502,032	26,116	314	79	103
	PYRTD MWh/yr	78,645	9,247	11,412	27,435	4,871
	PYRTD MW/yr (Energy Efficiency)	10.3	1.0	1.8	3.5	1
	PYVTD MW (Demand Response)	n/a	n/a	n/a	n/a	n/a
	Incentives (\$1000)	\$4,376.79	\$58.27	\$579.63	\$1,363.01	\$248.63
Penelec	# participants	559,365	35,987	514	82	355
	PYRTD MWh/yr	75,732	10,937	15,331	12,873	6,529
	PYRTD MW/yr (Energy Efficiency)	9.1	1.3	2.5	1.6	0.8
	PYVTD MW (Demand Response)	n/a	n/a	n/a	n/a	n/a
	Incentives (\$1000)	\$4,318.28	\$79.10	\$886.50	\$598.28	\$354.19
Penn Power	# participants	104,587	7,318	219	15	219
	PYRTD MWh/yr	18,806	2,902	8,216	2,631	2,327
	PYRTD MW/yr (Energy Efficiency)	2.7	0.4	1.3	0.3	0.2
	PYVTD MW (Demand Response)	n/a	n/a	n/a	n/a	n/a
	Incentives (\$1000)	\$1,262.60	\$22.84	\$435.42	\$167.09	\$128.22
West Penn Power	# participants	552,049	29,795	455	56	293
	PYRTD MWh/yr	82,386	10,446	13,273	7,433	9,802
	PYRTD MW/yr (Energy Efficiency)	11.8	1.4	2.0	1.0	1.0
	PYVTD MW (Demand Response)	n/a	n/a	n/a	n/a	n/a
	Incentives (\$1000)	\$3,862.65	\$60.33	\$698.61	\$373.44	\$501.58

Table 2-8 summarizes plan performance by sector since the beginning of Phase III.

Table 2-8: Phase III Summary Statistics by Customer Segment

EDC	Parameter	Residential (Non-LI)	Residential LI	Small C&I (Non-GNI)	Large C&I (Non-GNI)	GNI
Met-Ed	# participants	502,032	26,116	314	79	103
	PSA MWh/yr	78,645	9,247	11,412	27,435	4,871
	PSA MW (Energy Efficiency)	10.3	1.0	1.8	3.5	1
	Phase III MW (Demand Response)	n/a	n/a	n/a	n/a	n/a
	Incentives (\$1000)	\$4,376.79	\$58.27	\$579.63	\$1,363.01	\$248.63
Penelec	# participants	559,365	35,987	514	82	355
	PSA MWh/yr	75,732	10,937	15,331	12,873	6,529
	PSA MW (Energy Efficiency)	9.1	1.3	2.5	1.6	0.8
	Phase III MW (Demand Response)	n/a	n/a	n/a	n/a	n/a
	Incentives (\$1000)	\$4,318.28	\$79.10	\$886.50	\$598.28	\$354.19
Penn Power	# participants	104,587	7,318	219	15	219
	PSA MWh/yr	18,806	2,902	8,216	2,631	2,327
	PSA MW (Energy Efficiency)	2.7	0.4	1.3	0.3	0.2
	Phase III MW (Demand Response)	n/a	n/a	n/a	n/a	n/a
	Incentives (\$1000)	\$1,262.60	\$22.84	\$435.42	\$167.09	\$128.22
West Penn Power	# participants	552,049	29,795	455	56	293
	PSA MWh/yr	82,386	10,446	13,273	7,433	9,802
	PSA MW (Energy Efficiency)	11.8	1.4	2.0	1.0	1.0
	Phase III MW (Demand Response)	n/a	n/a	n/a	n/a	n/a
	Incentives (\$1000)	\$3,862.65	\$60.33	\$698.61	\$373.44	\$501.58

Section 3 Updates and Findings

3.1 IMPLEMENTATION UPDATES AND FINDINGS

Implementation updates and findings through Q4 of PY8 are as follows:

- **Appliance Turn-In:** This program has been marketed through a variety of avenues including bill inserts, e-mail and direct mail campaigns, internet searches and internet radio ads. Honeywell also cross-promotes this program while educating retailers about the Appliance Rebates program. Most customers that schedule a recycling appointment cite hearing about the program through bill inserts.
- **Energy Efficient Products Program:** This program continues to be marketed through a variety of avenues including in-store displays, outreach events, radio ads, digital ads, bill inserts, and e-mail and direct mail campaigns. Below are the sub-program updates:
 - **Appliances & Electronics:** Subprogram is performing well and is expected to remain under budget and continue to accumulate savings across all four PA EDCs.
 - **Lighting:** Subprogram is performing well and is expected to remain under budget and continue to accumulate savings across all four PA EDCs.
 - **HVAC:** Subprogram is performing well and is expected to remain under budget and continue to accumulate savings across all four PA EDCs.
- **Energy Efficient Homes Program:**
 - **Behavioral:** Customers enrolled in the program received 2-print reports during the first half of the year and those who provided e-mail addresses receive monthly energy reports with energy consumption patterns and tips on how to save energy.
 - **Energy Audits:** The Home Audits subprogram was implemented by GoodCents across all four PA EDCs.
 - **New Homes:** The New Homes subprogram was implemented by Performance Systems Development (PSD) across all four PA EDCs.
 - **School kits:** The School Education subprogram was implemented by AM Conservation Group (AMCG) across all four PA EDCs.
 - **Energy Efficiency Kits:** The Kits subprogram has been primarily marketed through outbound phone calls and emails during the second half of PY8.
 - **The Online Audit:** This software tool is available on the Companies' website. Upon completion of an online audit and specific energy tips being given to a customer, a kit is sent to a customer to help assist customers in saving energy in the home. There is also educational material in the kit – such as 100 Ways to Save Electricity and a brochure with other energy efficiency programs.
- **Low Income Energy Efficiency Program:**
 - **Appliance Rebate:** Subprogram is performing well and is expected to remain under budget and continue to accumulate savings across all four PA EDCs.

- **New Homes:** PSD was chosen as the Conservation Service Provider (CSP) for the Companies in Phase III for the Low Income New Homes subprogram.
- **School Kits:** The Low-Income School Education subprogram was implemented by AMCG across all four PA EDCs.
- **Appliance Turn-in subprogram:** This subprogram provides an enhanced incentive for customers identified as low income. The low-income portion of this program is marketed primarily through e-mails and direct mail. Customers are also asked questions at enrollment to identify additional low-income customers.
- **Behavioral subprogram:** OPower has continued to implement the LI Behavioral subprogram. Customers identified as low-income receive Home Energy Reports with low or no cost tips to educate customers on how to use less energy.
- **Energy Efficiency Kits:** Customers identified as low-income will receive an enhanced kit through the Low-Income Energy Efficiency Kits subprogram. The kit also contains educational material on ways to save electricity, other energy efficiency programs available through the Companies, and information about the WARM program.
- **Weatherization:** Subprograms are performing well and continue to create savings. Bill inserts were distributed to all Operating Companies to market the subprograms.
- **Multifamily:** Subprogram is a direct install program to provide energy efficient measures to low-income customers in multifamily buildings. Marketing and promotion efforts.
- **C/I Efficient Solutions for Business – Small:** The CSP hired by the Companies continues to promote and market the program through multiple channels – outreach and presentation to program allies, participation in trade shows and hosting customer outreach events. The CSP’s outreach team continues to recruit new program allies into the program. The CSP also undertook a direct mailer to schools, 180-day eBlast to customers and developed new marketing pieces for distribution at local electrical warehouses. To support the CSP’s outreach team in their effort to promote and market this program, the Companies leverage their internal resources – Customer Support Staff and Area Managers – to promote the program to their assigned accounts. During the current Semi-Annual Reporting Period – from December 1, 2016 to May 31, 2017, Companies notified the PA Stakeholders about the Companies decision to change the incentive level for the Commercial LED lamps from \$10.00 to \$5.00 per lamp effective, June 1, 2017. Companies posted a similar announcement on the program website, effective May 1, 2017. Companies also adopted a policy to continue to qualify Solid State Lighting (SSL) under the Companies lighting programs, through March 31, 2018, that were effectively delisted when Design Lights Consortium (DLC) published its Qualified Product List (QPL) V4.0 on April 1, 2017.
- **C/I Efficient Solutions for Business – Large:** The CSP hired by the Companies continues to promote and market the program through multiple channels – outreach and presentation to program allies, participation in trade shows and hosting customer

outreach events. The CSP's outreach team continues to recruit new program allies into the program. The CSP also undertook direct mailer to schools, 180-day eBlast to customers and developed new marketing pieces for distribution at local electrical warehouses. To support the CSP's outreach team in their effort to promote and market this program, the Companies leverage their internal resources – Customer Support Staff and Area Managers – to promote the program to their assigned accounts. During the current Semi-Annual Reporting Period – from December 1, 2016 to May 31, 2017, Companies notified the PA Stakeholders about the Companies decision to change the incentive level for the Commercial LED lamps from \$10.00 to \$5.00 per lamp, effective June 1, 2017. Companies posted a similar announcement on the program website, effective May 1, 2017. Companies also adopted a policy to continue to qualify Solid State Lighting (SSL) under the Companies lighting programs, through March 31, 2018, that were effectively delisted when Design Lights Consortium (DLC) published its Qualified Product List (QPL) V4.0 on April 1, 2017.

- **Government & Institutional Tariff Program:** The CSP hired by the Companies focused its marketing and outreach efforts at market actors that work closely with government and institutional customers. The CSP has made a special outreach efforts by making presentations to state agencies and by participating in trade shows that target municipal customers. The CSP's outreach team continues to recruit new program allies that specialize in working with customers in this market segment. The CSP also undertook direct mailer to schools and 180-day eBlast to customers. To support the CSP's outreach team in their efforts to promote and market this program, the Companies leverage Area Managers to promote the program to their assigned accounts. The CSP continues to work closely with the Companies' Streetlighting Reps who work directly with municipalities to convert streetlighting to LEDs.
- **Demand Response Residential, Small, and Large:** C&I DR contracts for ME, PP and WPP were executed with two Conservation Service Providers and received Commission approval in late December 2016. Program implementation meetings began in late October 2016 with the C&I DR Conservation Service Providers. Oracle (formerly Opower) is administering the Residential Demand Response Program in Penn Power only. Approximately 30,000 customers received postcards in May educating them about conserving energy during peak days. The C&I DR Programs and Residential Behavioral Programs will be implemented starting in June of 2017.

3.2 EVALUATION UPDATES AND FINDINGS

Evaluation updates and findings through Q4 of PY8 are as follows:

- **Portfolio level:** developed PY8 Evaluation Plan and submitted to SWE as of November 2016.
- **Portfolio level:** ADM has reviewed the Companies' Tracking and Reporting (T&R) database and has collaborated with the T&R vendor, AEG, to develop automated QA/QC processes. The QA/QC process is in place now and tracking data entered by CSPs are subject to automated checks within the T&R system.
- **Appliance Turn-In Program:** ADM developed a customer survey instrument for impact and process evaluation. Participant surveys were launched in December 2016 and are conducted on an ongoing basis. ADM has achieved statistically significant gross impact evaluation results for this program. SWE has approved an IMP for dehumidifier recycling and ADM has evaluated these measures according to this IMP.
- **Energy Efficient Products Program:** A desk review completed for upstream programs through Q3 of PY8. A participant survey instrument was developed and launched for downstream programs in Q3 of PY8, and has achieved statistically significant gross impact evaluation results for this program component.
- **Energy Efficient Homes Program:** In late 2016, ADM conducted equivalence testing for Behavioral subprogram. A participant survey instrument was developed and launched for kits programs in Q3 of PY8, and ADM is presently evaluating survey responses. ADM has concluded the field work for the PY8 evaluation of the New Homes subprogram. ADM and the FE reporting team have developed a reporting convention for the Behavioral subprogram. Program impact data from the last month of the quarter are usually available about 40 days after the end of the quarter, and are difficult to incorporate into the semi-annual reports. To facilitate reporting, impacts from the last month of the quarter are now estimated as impacts from the previous month. Actual verified impacts will be reported in the PY8 annual report.
- **Low-Income Energy Efficiency Program:** ADM reviewed reported savings and expected in-service rates for Home Energy Audit and Schools Kits. A participant survey instrument was developed and launched for kits programs in Q3 of PY8, and ADM is presently evaluating survey results. ADM has concluded participant surveys for the Low-Income Appliance Turn-In program. The total completed survey counts for dehumidifiers and room air conditioners are lower than our target counts, but overall precision targets are met.
- **C&I Energy Solutions for Business – Small, C&I Energy Solutions for Business – Large, and Governmental & Institutional Tariff programs:** ADM has pulled a second sample through Q3, and is in the process of selecting the final evaluation sample for PY8. Approximately 30% of sampled projects have been completely evaluated, and the remaining projects are in various states of the evaluation process.
- **C&I Energy Solutions for Business – Small, C&I Energy Solutions for Business – Large, and Governmental & Institutional Tariff programs:** ADM has pulled a second sample through Q3, and is in the process of selecting the final evaluation sample for

PY8. Approximately 30% of sampled projects have been completely evaluated, and the remaining projects are in various states of the evaluation process. All large projects in our certainty strata (lighting projects above 750 MWh and other projects above 500 MWh) have been evaluated for PY8.

- **C&I Demand Response Programs:** ADM has discussed allowed and disallowed customer baseline load (CBL) reconstruction procedures with ICSPs. SWE reviewed ADM's drafty PY9 Demand Response evaluation plan and provided feedback to ADM. ADM revised the evaluation plan, which has now been accepted by SWE. As of this writing, ADM is carrying out impact evaluation for the June 13th event.
- **Residential Behavior Demand Response:** SWE reviewed ADM's drafty PY9 Demand Response evaluation plan and provided feedback to ADM. ADM revised the evaluation plan, which has now been accepted by SWE.

Section 4 Summary of Participation by Program

Participation is defined differently for certain programs depending on the program delivery channel and data tracking practices. The nuances of the participant definition vary by program and are summarized by program in the bullets below, and **Table 4-1** provides the current participation totals for PY8 and Phase III.

- **Appliance Turn-In Program:** the count of customer recycling pick-up incidents. If a homeowner recycles multiple appliances at one pick-up event, it is recorded as a single participant.
- **Energy Efficient Homes Program**
 - **School kits:** the number of energy savings kits delivered to student's homes.
 - **Energy Efficiency Kits:** the number of energy savings kits delivered to customer homes.
 - **Energy Audits:** the count of customers who have had an energy audit with direct install measures installed.
 - **Behavioral:** the number of customers currently receiving energy usage reports. P3TD participation numbers reflect the total number of customers that participated in the program since the beginning of Phase III.
 - **New Homes:** the count of new energy efficient homes being built with EnergyStar standards or higher efficiency level than the current building code.
- **Energy Efficient Products Program**
 - **Appliances and Electronics:** the count of appliances sold.
 - **Lighting:** the number of packages that are sold
 - **HVAC:** the number of HVAC units or programmable thermostats that are purchased and installed. If a customer purchases and installs both units at the same time they are counted as one participant.
- **Low Income Energy Efficiency Program**
 - **Energy Efficiency Kits:** the number of energy savings kits delivered to customer's homes.
 - **Weatherization:** the count of applications including weatherization measures.
 - **Multifamily/LILU:** the number of energy savings kits delivered to multifamily units.
 - **Behavioral:** the number of customers currently receiving energy usage reports. P3TD participation numbers reflect the total number of customers that participated in the program since the beginning of Phase III.
 - **New Homes:** the count of new energy efficient homes being built with EnergyStar standards or higher efficiency level than the current building code.
 - **Appliances and Electronics:** the count of appliances sold.
 - **Appliance Turn In:** the count of customer recycling pick-up incidents. If a homeowner recycles multiple appliances at one pick-up event, it is recorded as a single participant.
 - **School Kits:** the number of energy savings kits delivered to student's homes.

- **C&I Energy Solutions for Business Program – Small:** The count of completed project applications.
- **C&I Energy Solutions for Business Program –Large:** The count of completed project applications.
- **C&I Demand Response Program – Large:** This metric will be reported and updated in a future period
- **Government & Institutional Tariff Program:** The count of completed project applications.

Table 4-1: EE&C Plan Participation by Program³

Utility	Program	PYTD Participation	P3TD Participation
Met-Ed	Appliance Turn-in	3,974	3,974
	Energy Efficient Homes	182,376	182,376
	Energy Efficient Products	315,682	315,682
	Low Income Energy Efficiency	26,116	26,116
	C&I Energy Solutions for Business - Small	348	348
	C&I Demand Response - Small	n/a	n/a
	C&I Energy Solutions for Business - Large	116	116
	C&I Demand Response - Large	n/a	n/a
	Governmental & Institutional Tariff	32	32
	Portfolio Total	528,644	528,644
Penelec	Appliance Turn-in	3,483	3,483
	Energy Efficient Homes	183,407	183,407
	Energy Efficient Products	372,475	372,475
	Low Income Energy Efficiency	35,987	35,987
	C&I Energy Solutions for Business - Small	608	608
	C&I Demand Response - Small	n/a	n/a
	C&I Energy Solutions for Business - Large	110	110
	C&I Demand Response - Large	n/a	n/a
	Governmental & Institutional Tariff	233	233
	Portfolio Total	596,303	596,303
Penn Power	Appliance Turn-in	1,167	1,167
	Energy Efficient Homes	36,038	36,038
	Energy Efficient Products	67,382	67,382
	Low Income Energy Efficiency	7,318	7,318
	C&I Energy Solutions for Business - Small	250	250
	C&I Demand Response - Small	n/a	n/a
	C&I Energy Solutions for Business - Large	17	17
	C&I Demand Response - Large	n/a	n/a
	Governmental & Institutional Tariff	186	186
	Portfolio Total	112,358	112,358
West Penn Power	Appliance Turn-in	4,659	4,659
	Energy Efficient Homes	183,069	183,069
	Energy Efficient Products	364,321	364,321
	Low Income Energy Efficiency	29,795	29,795
	C&I Energy Solutions for Business - Small	507	507
	C&I Demand Response - Small	n/a	n/a
	C&I Energy Solutions for Business - Large	68	68
	C&I Demand Response - Large	n/a	n/a
	Governmental & Institutional Tariff	229	229
	Portfolio Total	582,648	582,648

³ Results for the Small & Large Energy Solutions for Business programs include GNI customers who participated in these programs.

Section 5 Summary of Energy Impacts by Program

A summary of energy impacts by program through the current reporting period is presented in Table 5-1⁴.

Table 5-1: Energy Savings by Program (MWh/Year)

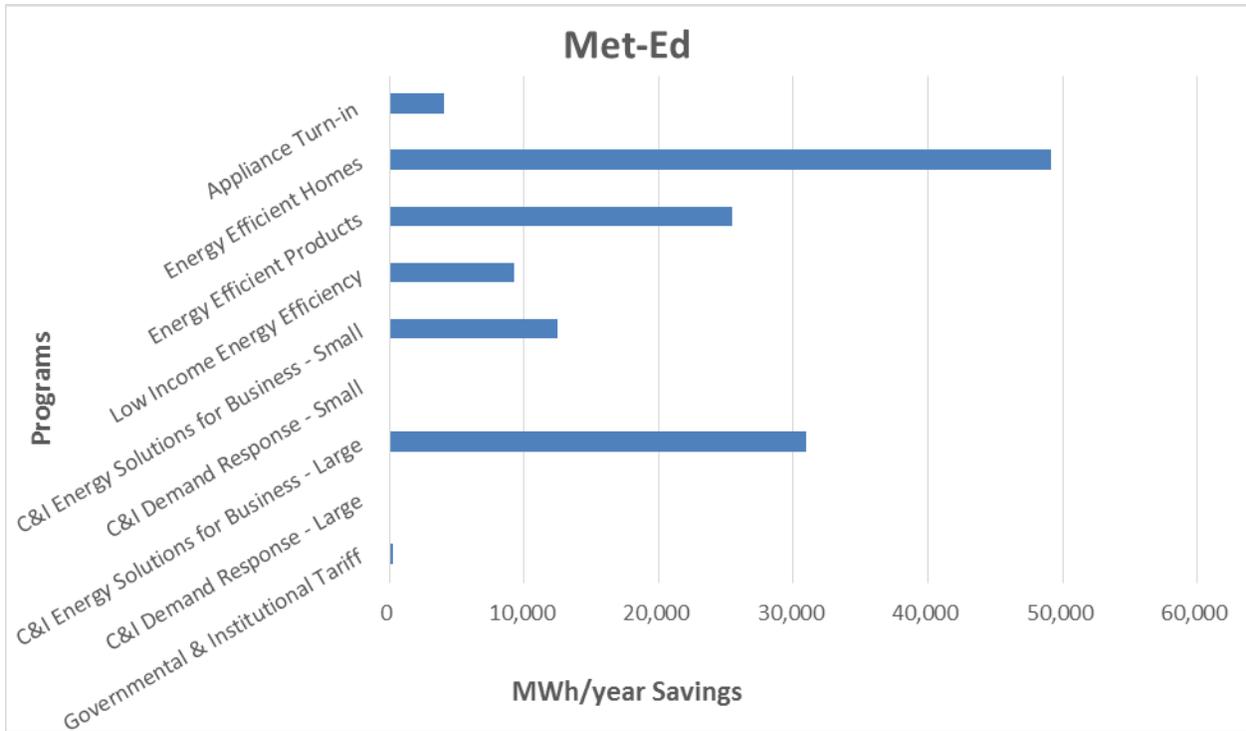
Utility	Program	PYRTD	VTD	PSA	RTD
Met-Ed	Appliance Turn-in	4,009	0	4,009	4,009
	Energy Efficient Homes	49,175	0	49,175	49,175
	Energy Efficient Products	25,460	0	25,460	25,460
	Low Income Energy Efficiency	9,247	0	9,247	9,247
	C&I Energy Solutions for Business - Small	12,526	0	12,526	12,526
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	30,919	0	30,919	30,919
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	274	0	274	274
	Portfolio Total	131,611	0	131,611	131,611
Penelec	Appliance Turn-in	3,826	0	3,826	3,826
	Energy Efficient Homes	38,404	0	38,404	38,404
	Energy Efficient Products	33,501	0	33,501	33,501
	Low Income Energy Efficiency	10,937	0	10,937	10,937
	C&I Energy Solutions for Business - Small	18,071	0	18,071	18,071
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	15,811	0	15,811	15,811
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	852	0	852	852
	Portfolio Total	121,403	0	121,403	121,403
Penn Power	Appliance Turn-in	1,288	0	1,288	1,288
	Energy Efficient Homes	11,316	0	11,316	11,316
	Energy Efficient Products	6,202	0	6,202	6,202
	Low Income Energy Efficiency	2,902	0	2,902	2,902
	C&I Energy Solutions for Business - Small	9,108	0	9,108	9,108
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	2,641	0	2,641	2,641
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	1,424	0	1,424	1,424
	Portfolio Total	34,881	0	34,881	34,881
West Penn Power	Appliance Turn-in	4,998	0	4,998	4,998
	Energy Efficient Homes	46,040	0	46,040	46,040
	Energy Efficient Products	31,349	0	31,349	31,349
	Low Income Energy Efficiency	10,446	0	10,446	10,446
	C&I Energy Solutions for Business - Small	14,541	0	14,541	14,541
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	10,477	0	10,477	10,477
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	5,489	0	5,489	5,489
	Portfolio Total	123,339	0	123,339	123,339

⁴ Results for the Small & Large Energy Solutions for Business programs include GNI customers who participated in these programs.

Figures 6A-6D: Reported Gross Energy Savings by Program present a summary of the PYTD reported gross energy savings by program for Program Year 8. The energy impacts in this report are presented at the meter level and do not reflect adjustments for transmission and distribution losses.

Figures 6A-6D: Reported Gross Energy Savings by Program⁵

Figure 6A: PYTD Reported Gross Energy Savings by Program - Met-Ed



⁵ Results for the Small & Large Energy Solutions for Business programs include GNI customers who participated in these programs.

Figure 6B: PYTD Reported Gross Energy Savings by Program – Penelec

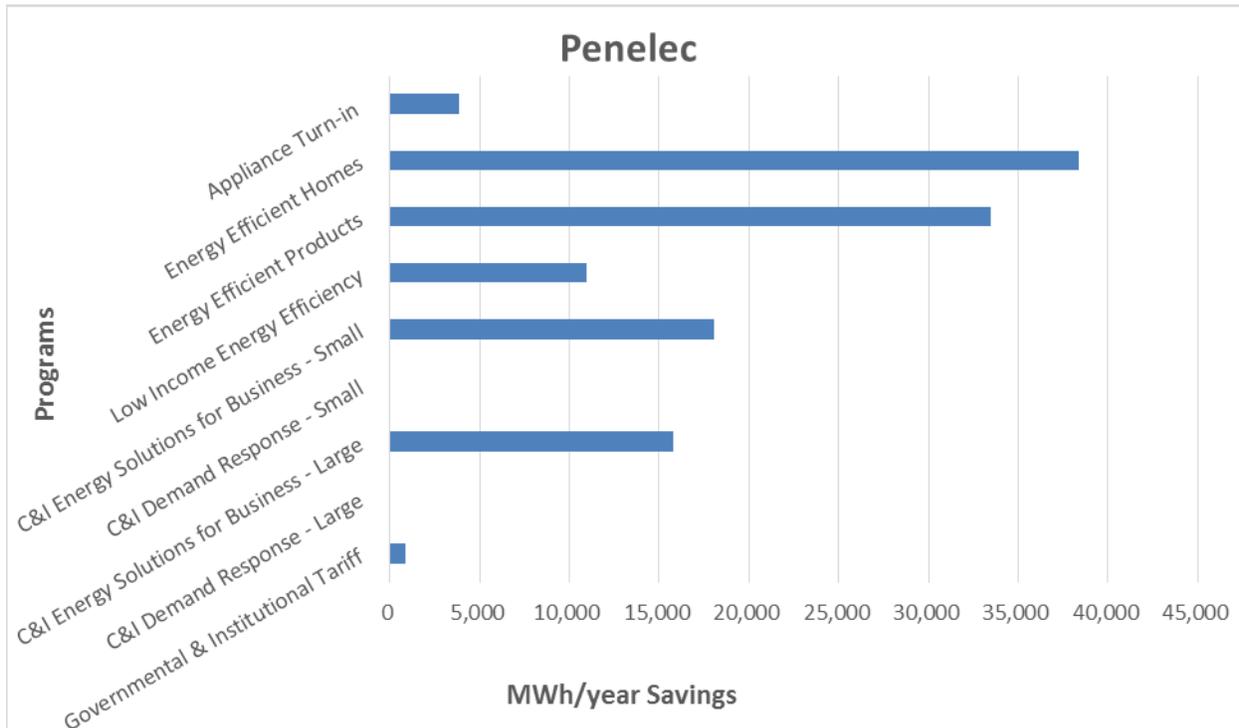


Figure 6C: PYTD Reported Gross Energy Savings by Program - Penn Power

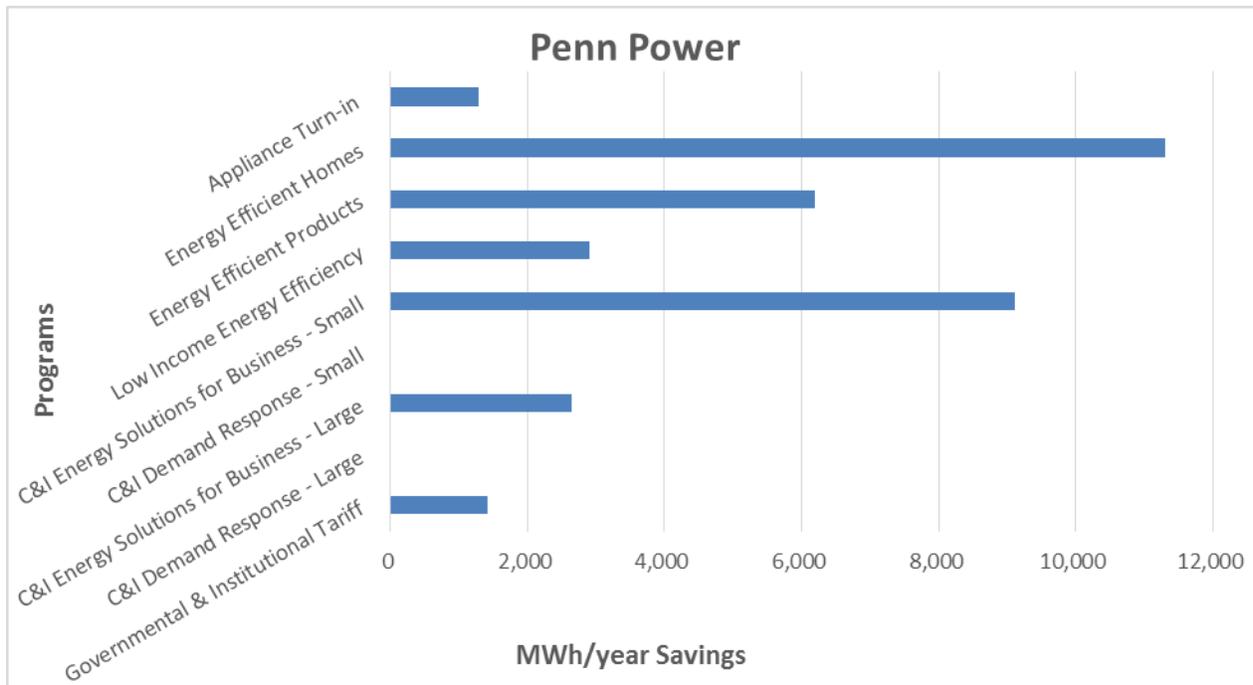
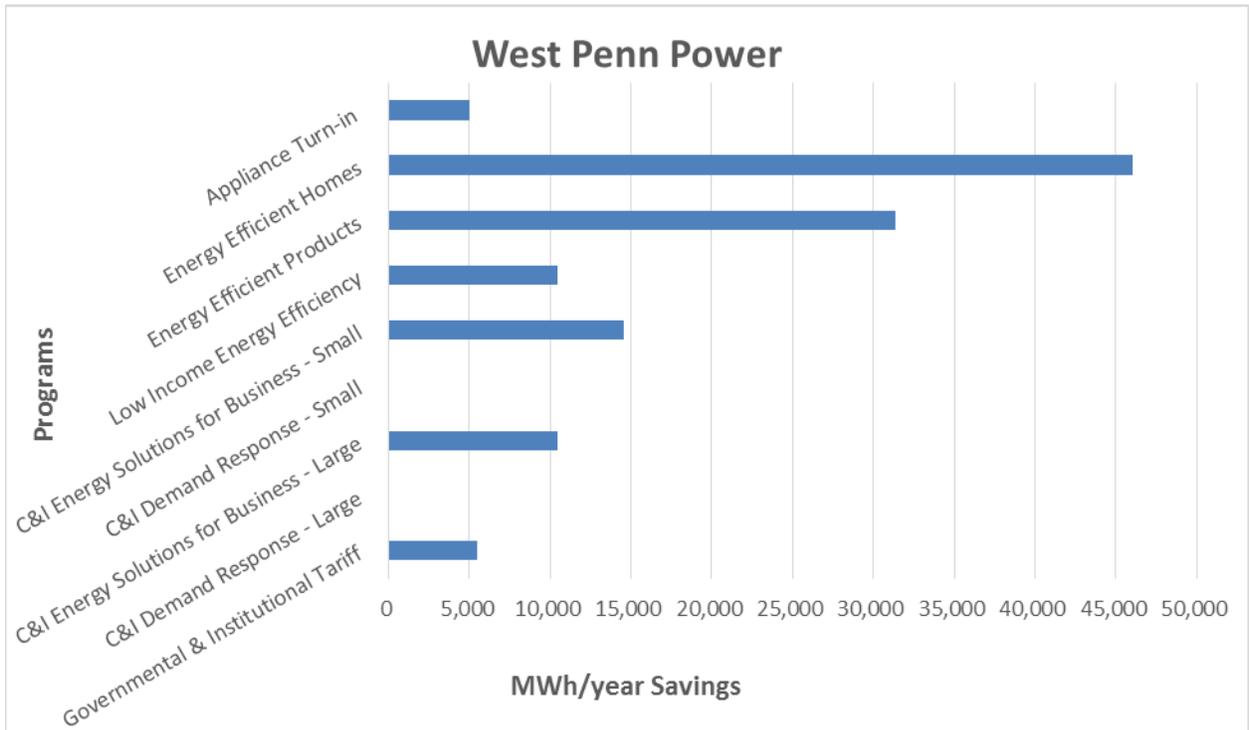


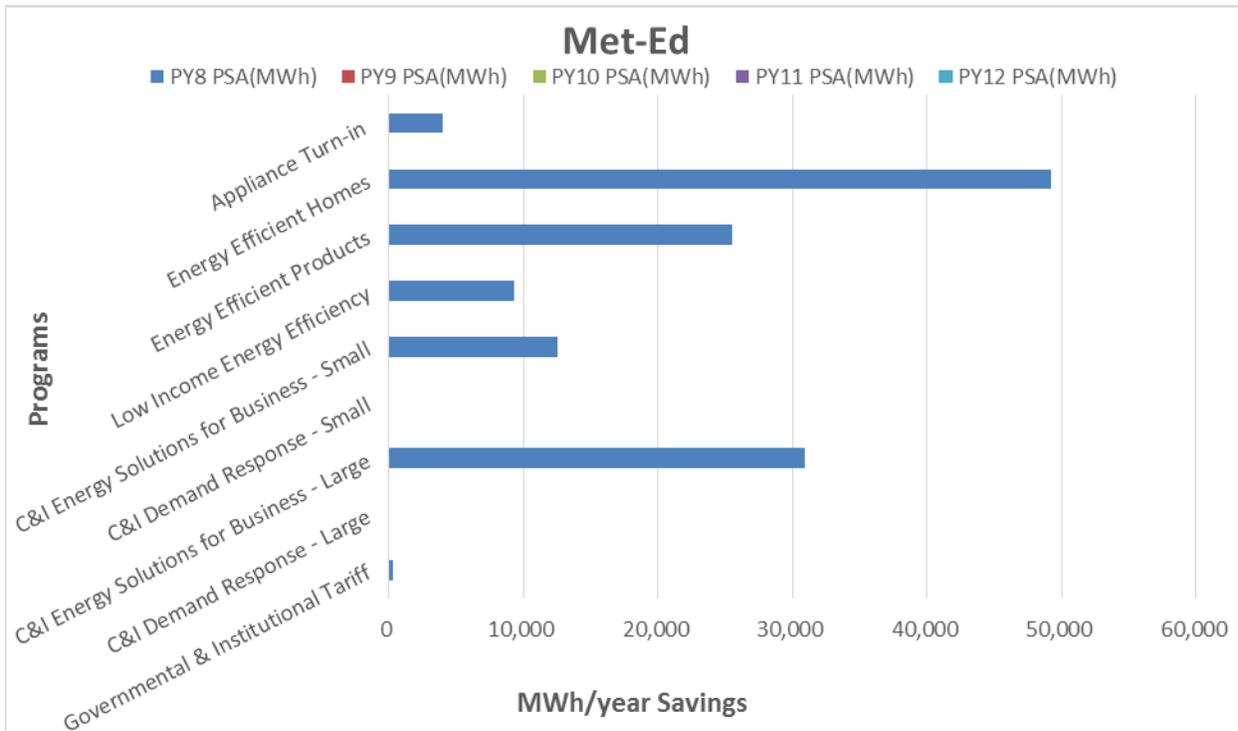
Figure 6D: PYTD Reported Gross Energy Savings by Program - West Penn Power



Figures 7A-7D: PSA Energy Savings by Program for Phase III present a summary of the PSA gross energy savings by program for Phase III of Act 129. PSA savings include verified gross savings from previous program years and the PYTD savings from the current program year.

Figures 7A-7D: PSA Energy Savings by Program for Phase III⁶

Figure 7A: PSA Energy Savings by Program for Phase III - Met-Ed



⁶ Results for the Small & Large Energy Solutions for Business programs include GNI customers who participated in these programs.

Figure 7B: PSA Energy Savings by Program for Phase III – Penelec

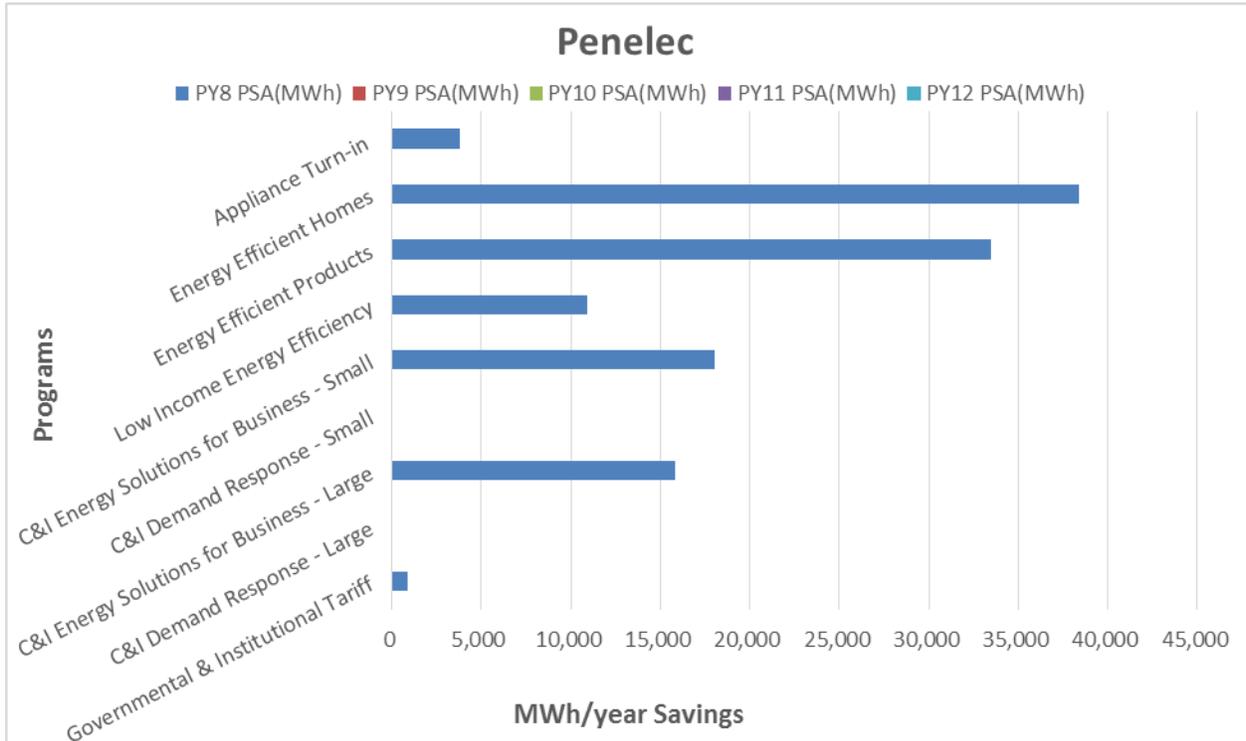


Figure 7C: PSA Energy Savings by Program for Phase III - Penn Power

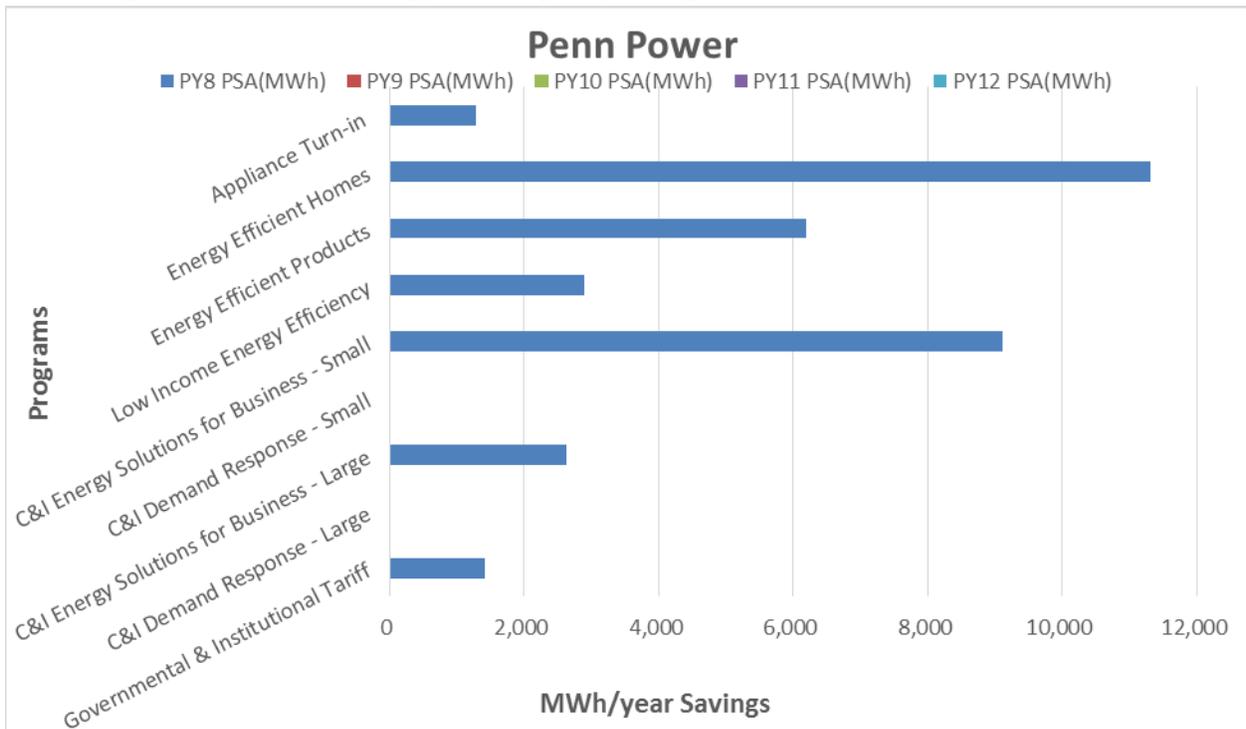
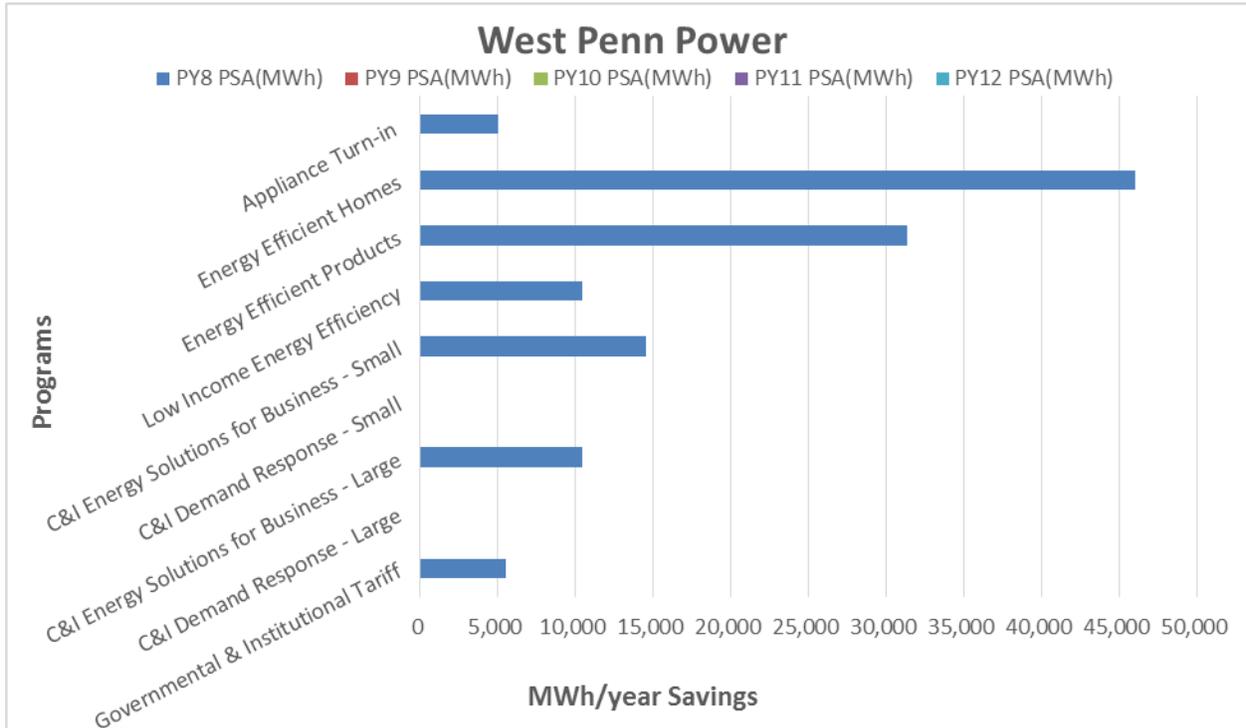


Figure 7D: PSA Energy Savings by Program for Phase III - West Penn Power



Section 6 Summary of Demand Impacts by Program

FirstEnergy Pennsylvania EDCs Phase III EE&C programs achieve peak demand reductions in two primary ways. The first is through coincident reductions from energy efficiency measures and the second is through dedicated demand response offerings that exclusively target temporary demand reductions on peak days. Energy efficiency reductions coincident with system peak hours are reported and used in the calculation of benefits in the TRC Test, but do not contribute to Phase III peak demand reduction compliance goals. Phase III peak demand reduction targets are exclusive to demand response programs.

The two types of peak demand reduction savings are also treated differently for reporting purposes. Peak demand reductions from energy efficiency are generally additive across program years, meaning that the P3TD savings reflect the sum of the first-year savings in each program year. Conversely, demand response goals are based on average portfolio impacts across all events so cumulative DR performance is expressed as the *average* performance of each of the DR events called in Phase III to date. Because of these differences, demand impacts from energy efficiency and demand response are reported separately in the following sub-sections.

6.1 ENERGY EFFICIENCY

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. EDT on non-holiday weekdays from June to August. The peak demand impacts from energy efficiency in this report are presented at the meter level and do not reflect adjustments for transmission and distribution losses.

A summary of the peak demand impacts by energy efficiency program through the current reporting period are presented in **Table 6-1**:

Table 6-1: Peak Demand Savings by Program (MW/Year)⁷

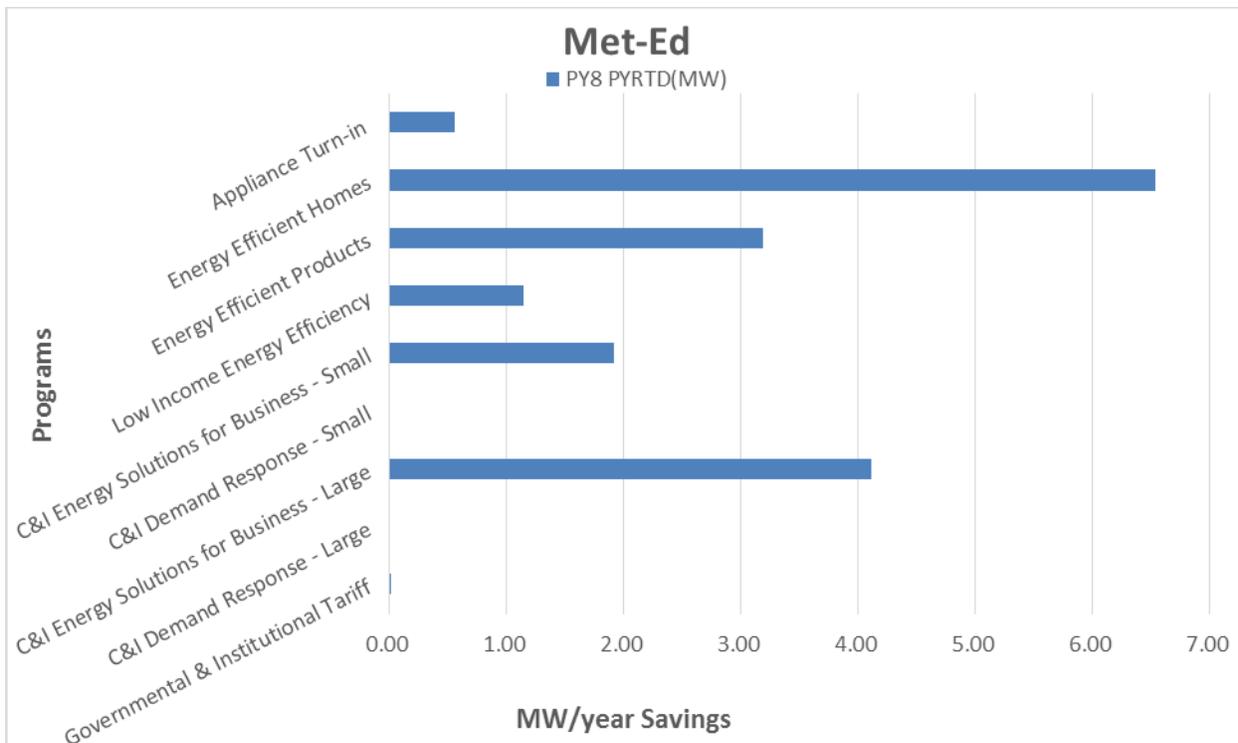
	Program	PYRTD	VTD	PSA	RTD
Met-Ed	Appliance Turn-in	0.56	0.00	0.56	0.56
	Energy Efficient Homes	6.54	0.00	6.54	6.54
	Energy Efficient Products	3.18	0.00	3.18	3.18
	Low Income Energy Efficiency	1.15	0.00	1.15	1.15
	C&I Energy Solutions for Business - Small	1.92	0.00	1.92	1.92
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	4.11	0.00	4.11	4.11
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	0.01	0.00	0.01	0.01
	Portfolio Total	17.47	0.00	17.47	17.47
	Program	PYRTD	VTD	PSA	RTD
Penelec	Appliance Turn-in	0.50	0.00	0.50	0.50
	Energy Efficient Homes	4.96	0.00	4.96	4.96
	Energy Efficient Products	3.60	0.00	3.60	3.60
	Low Income Energy Efficiency	1.30	0.00	1.30	1.30
	C&I Energy Solutions for Business - Small	2.99	0.00	2.99	2.99
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	1.86	0.00	1.86	1.86
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	0.01	0.00	0.01	0.01
	Portfolio Total	15.23	0.00	15.23	15.23
	Program	PYRTD	VTD	PSA	RTD
Penn Power	Appliance Turn-in	0.16	0.00	0.16	0.16
	Energy Efficient Homes	1.78	0.00	1.78	1.78
	Energy Efficient Products	0.75	0.00	0.75	0.75
	Low Income Energy Efficiency	0.37	0.00	0.37	0.37
	C&I Energy Solutions for Business - Small	1.45	0.00	1.45	1.45
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	0.26	0.00	0.26	0.26
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	0.06	0.00	0.06	0.06
	Portfolio Total	4.83	0.00	4.83	4.83
	Program	PYRTD	VTD	PSA	RTD
West Penn Power	Appliance Turn-in	0.63	0.00	0.63	0.63
	Energy Efficient Homes	7.01	0.00	7.01	7.01
	Energy Efficient Products	4.15	0.00	4.15	4.15
	Low Income Energy Efficiency	1.38	0.00	1.38	1.38
	C&I Energy Solutions for Business - Small	2.31	0.00	2.31	2.31
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	1.53	0.00	1.53	1.53
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	0.16	0.00	0.16	0.16
	Portfolio Total	17.16	0.00	17.16	17.16

⁷ Results for the Small & Large Energy Solutions for Business programs include GNI customers who participated in these programs.

Figures 8A-8D: PYRTD Gross Demand Savings by Energy Efficiency Program present a summary of the PYRTD reported gross peak demand savings by energy efficiency program for Program Year 8.

Figures 8A-8D: PYRTD Gross Demand Savings by Energy Efficiency Program⁸

Figure 8A: PYRTD Gross Demand Savings by Energy Efficiency Program - Met-Ed



⁸ Results for the Small & Large Energy Solutions for Business programs include GNI customers who participated in these programs.

Figure 8B: PYRTD Gross Demand Savings by Energy Efficiency Program – Penelec

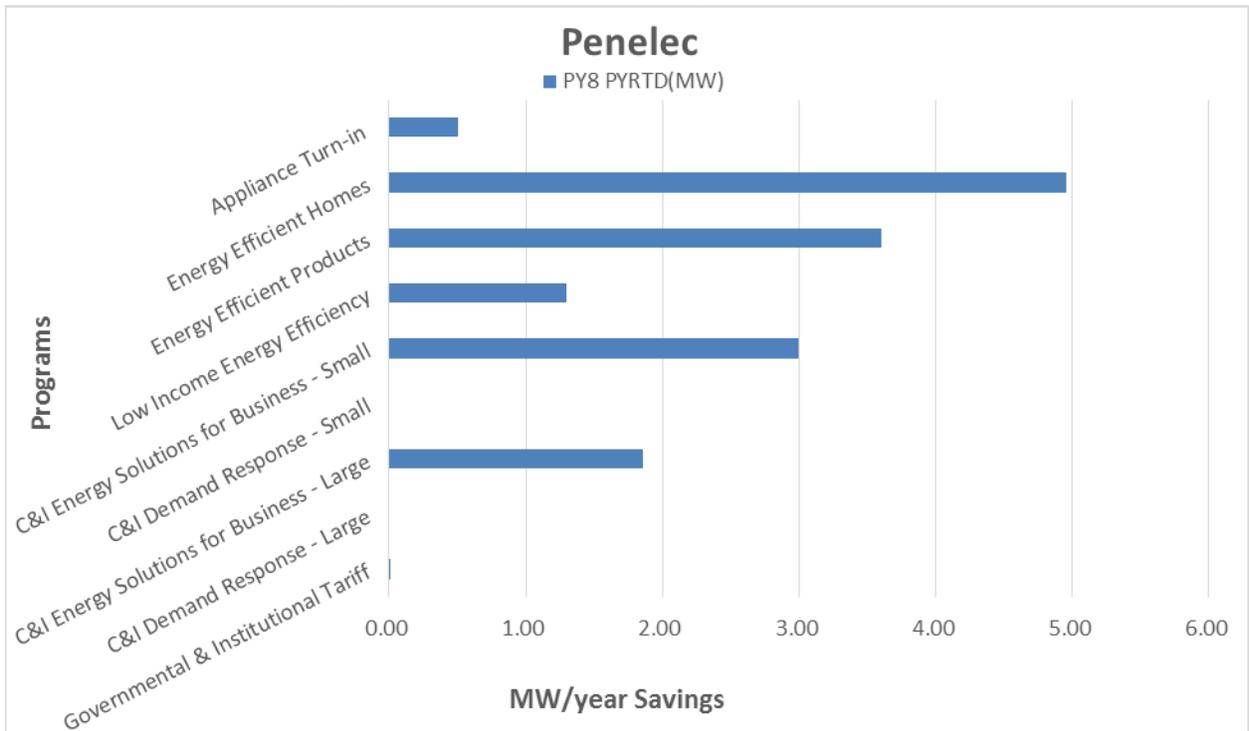


Figure 8C: PYRTD Gross Demand Savings by Energy Efficiency Program - Penn Power

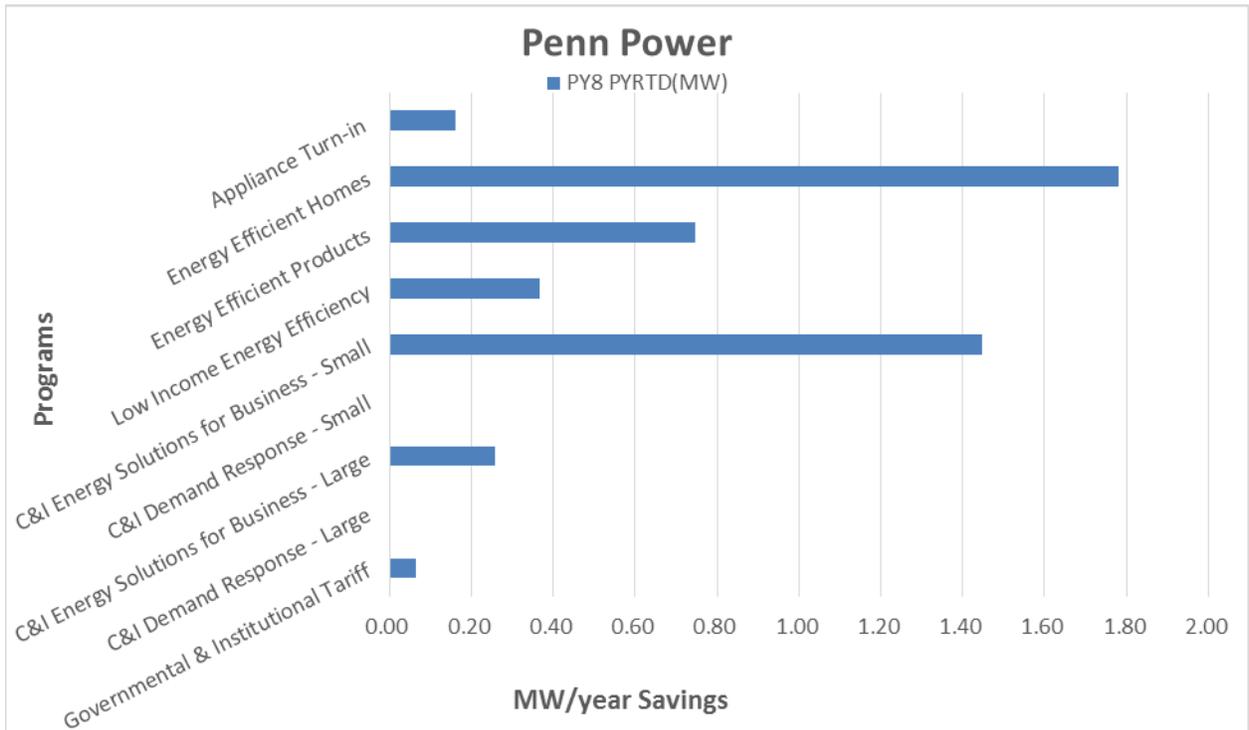
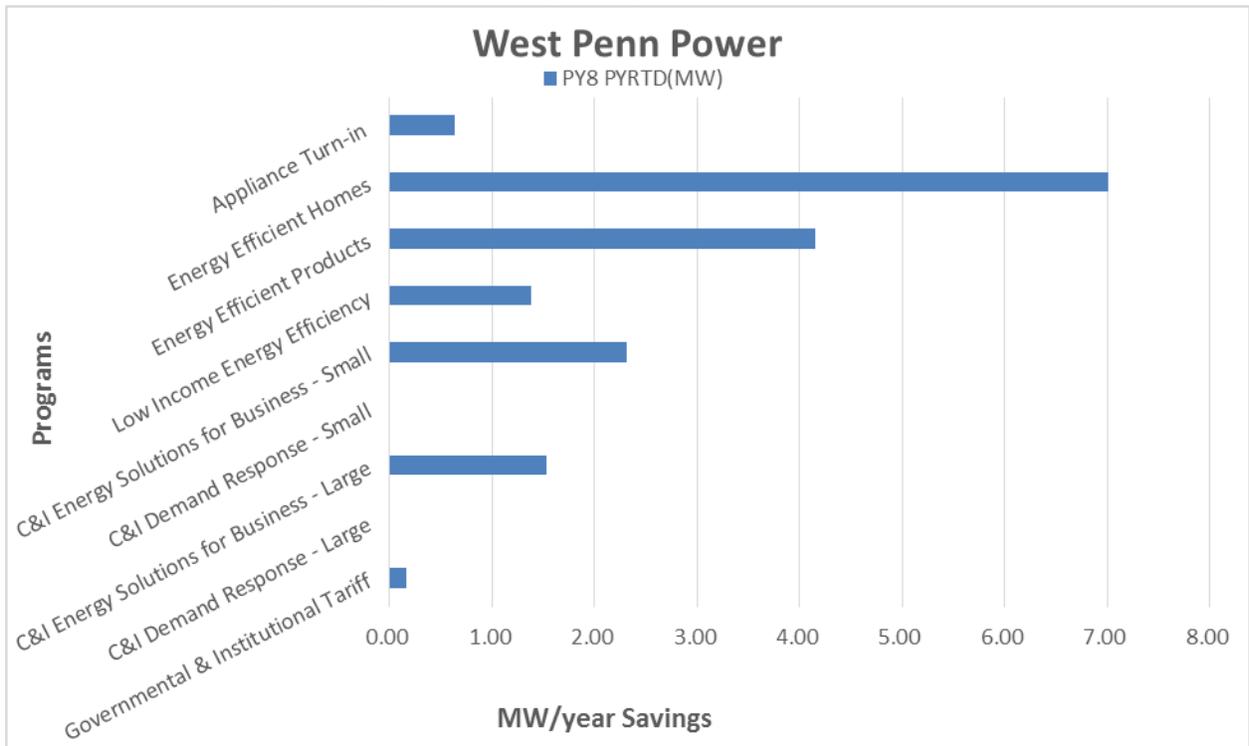


Figure 8D: PYRTD Gross Demand Savings by Energy Efficiency Program - West Penn Power

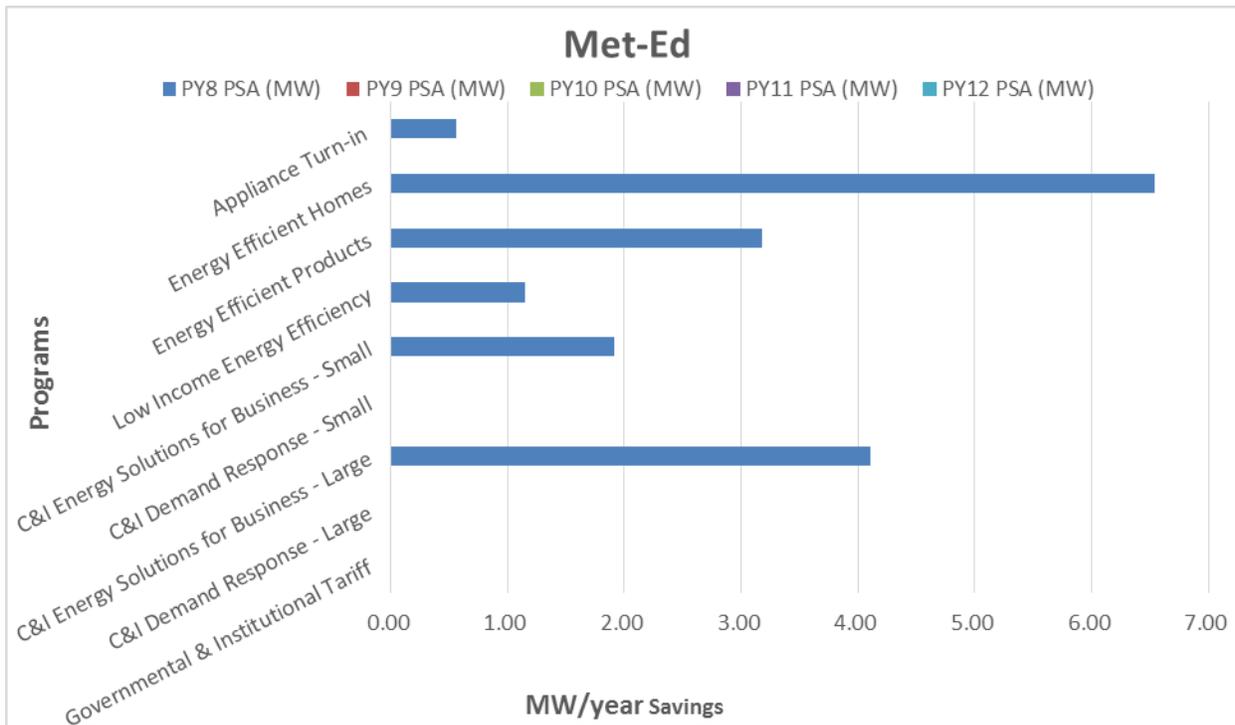


Figures 9A-9D: PSA Demand Savings by Energy Efficiency Program for Phase III present a summary of the PSA gross demand savings by energy efficiency program for Phase III of Act 129⁹.

⁹ Results for the Small & Large Energy Solutions for Business programs include GNI customers who participated in these programs.

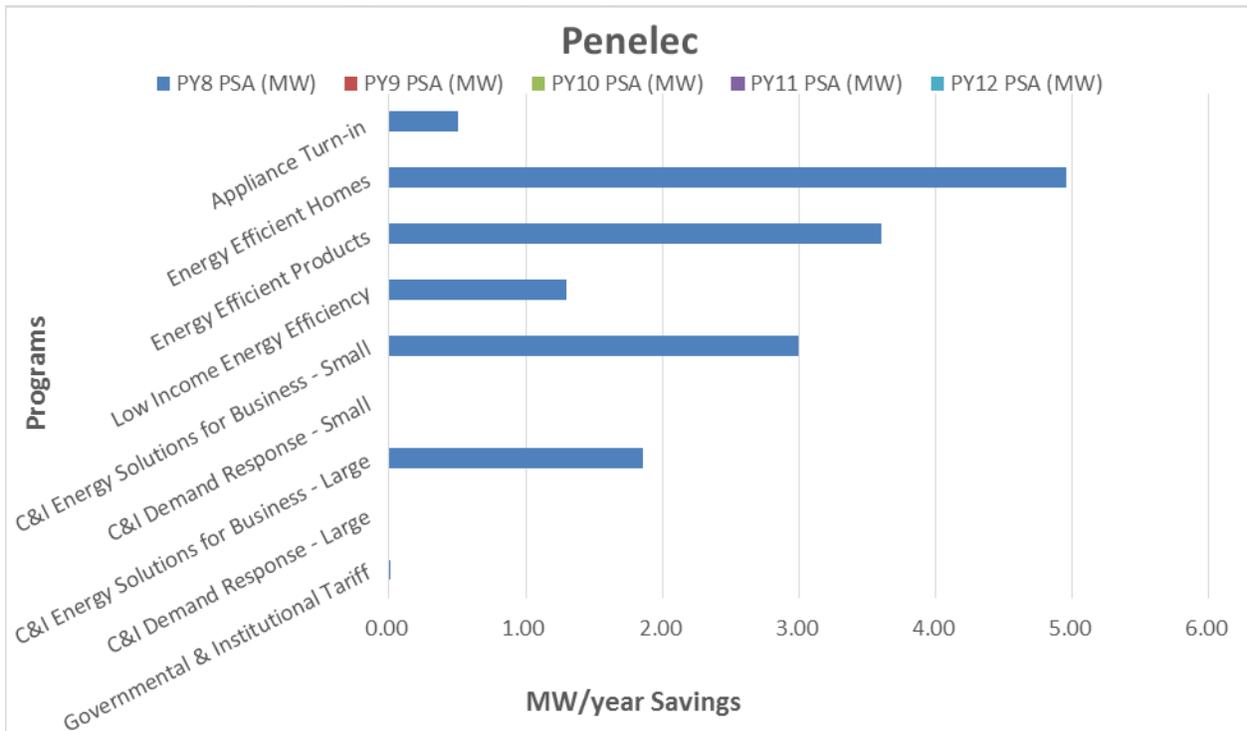
Figures 9A-9D: PSA Demand Savings by Energy Efficiency Program for Phase III¹⁰

Figure 9A: PSA Demand Savings by Energy Efficiency Program for Phase III – Met-Ed

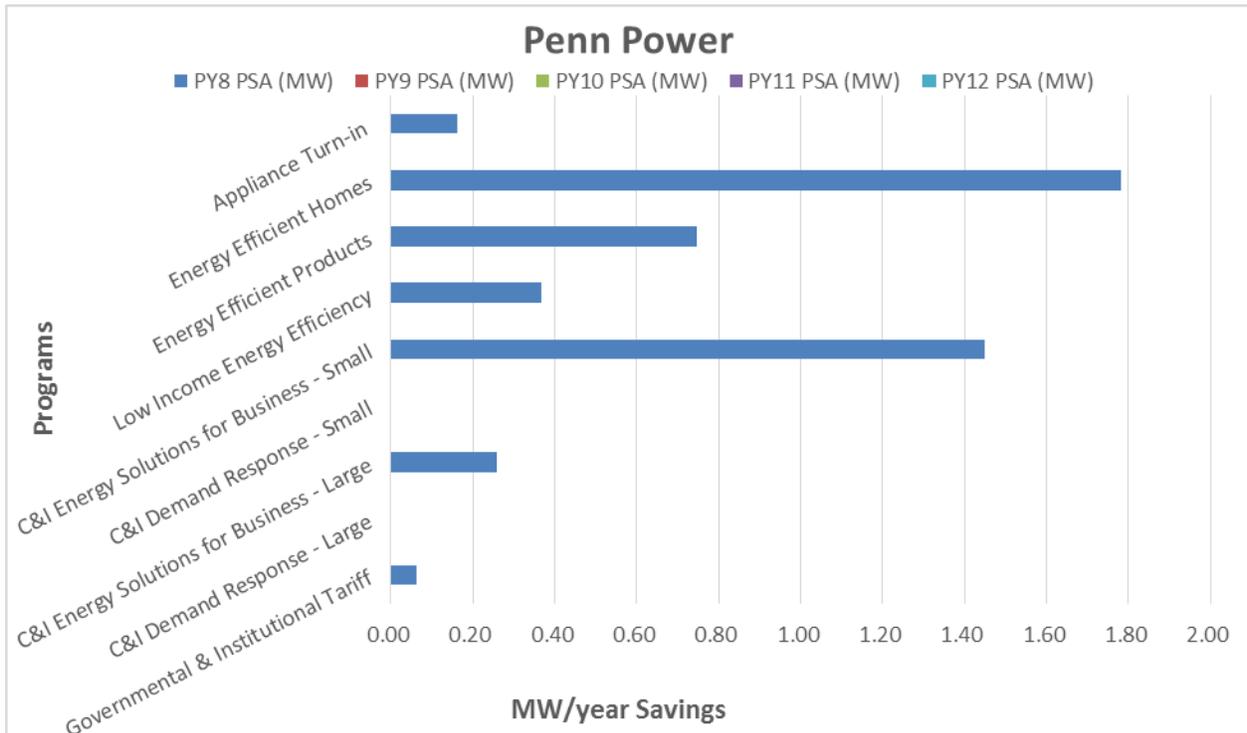


¹⁰ Results for the Small & Large Energy Solutions for Business programs include GNI customers who participated in these programs.

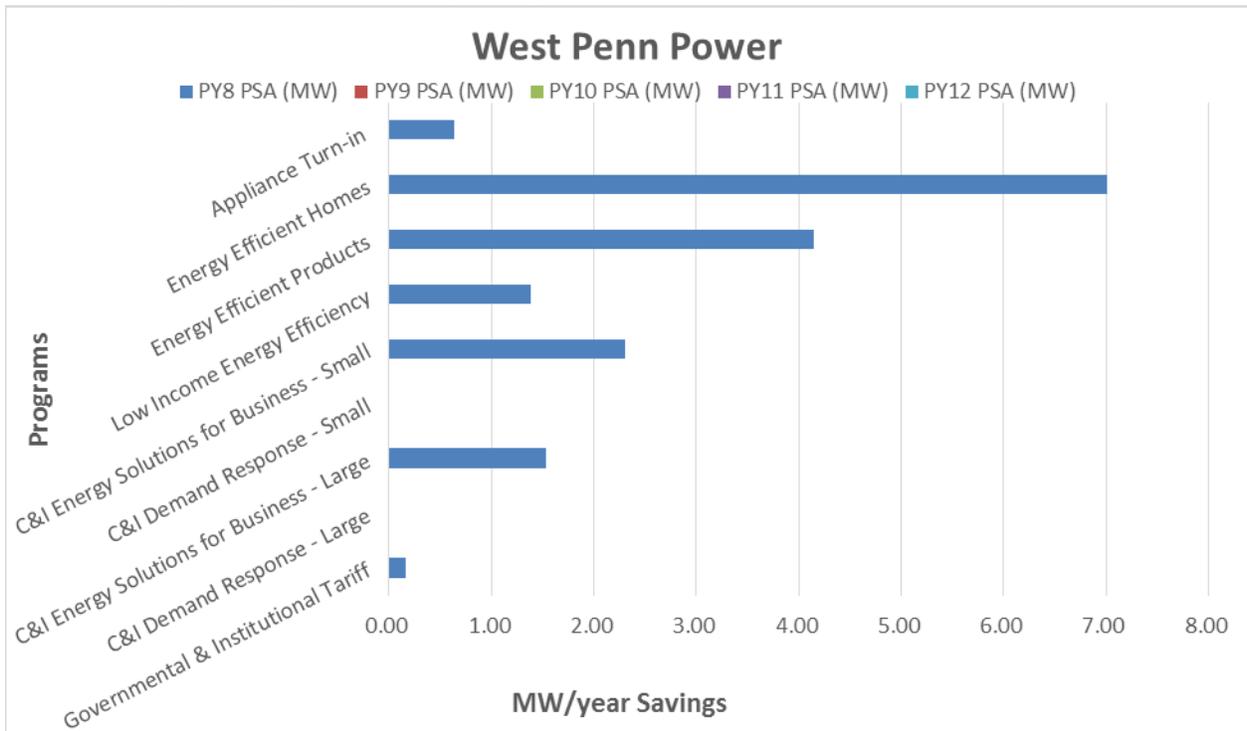
**Figure 9B: PSA Demand Savings
by Energy Efficiency Program for Phase III – Penelec**



**Figure 9C: PSA Demand Savings
by Energy Efficiency Program for Phase III – Penn Power**



**Figure 9D: PSA Demand Savings
by Energy Efficiency Program for Phase III – West Penn Power**



6.2 DEMAND RESPONSE

The Phase III demand response performance and reporting will begin in Program Year 9.

Section 7 Summary of Finances

Section 7 provides an overview of the expenditures associated with the FirstEnergy EDC's portfolios and the recovery of those costs from ratepayers.

7.1 PROGRAM FINANCIALS

Program-specific and portfolio total finances for PY8 are shown in **Table 7-1A to 7-1D**¹¹. The columns in these tables are adapted from the 'Direct Program Cost' categories in the Commission's EE&V Plan template¹² for Phase III. EDC Materials, Labor, and Administration includes costs associated with an EDC's own employees. ICSP Materials, Labor, and Administration includes both the program implementation contractor and the costs of any other outside vendors and EDCs employs to support program delivery.

¹¹ Any negative values reflected within this section are due to issues such as, but not limited to, reversals of prior period accruals, accounting journal entries, and/or revenues received from participation in historic capacity auctions during prior Phases of Act 129.

¹² <http://www.puc.pa.gov/pcdocs/1372426.doc> Section 10

Table 7-1A to 7-1D: Program Year to Date Financials¹³

Table 7-1A: Program Year to Date Financials – Met-Ed

Program	Incentives to Participants and Trade Allies	EDC Materials, Labor, and Administration	ICSP Materials, Labor, and Administration	EM&V	Total EDC Cost
<i>Appliance Turn-in</i>	\$228,400	\$52,527	\$532,910	\$30,359	\$844,196
<i>Energy Efficient Homes</i>	\$2,634,112	\$225,213	\$3,032,718	\$63,997	\$5,956,040
<i>Energy Efficient Products</i>	\$1,514,280	\$28,032	\$834,653	\$68,080	\$2,445,046
<i>Low Income Energy Efficiency</i>	\$58,267	\$278,807	\$2,900,095	\$56,338	\$3,293,506
<i>C&I Energy Solutions for Business - Small</i>	\$635,681	\$139,209	\$643,170	\$65,572	\$1,483,632
<i>C&I Demand Response - Small</i>	\$0	\$15,846	\$15,391	\$3,949	\$35,187
<i>C&I Energy Solutions for Business - Large</i>	\$1,541,778	\$76,394	\$999,877	\$80,821	\$2,698,869
<i>C&I Demand Response - Large</i>	\$0	\$142,012	\$138,523	\$35,597	\$316,132
<i>Governmental & Institutional Tariff</i>	\$13,807	(\$6,913)	\$35,693	\$12,689	\$55,276
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$6,626,324	\$951,127	\$9,133,030	\$417,403	\$17,127,884
<i>SWE Costs</i>	\$0	\$0	\$0	\$0	\$447,987
<i>Total</i>	\$6,626,324	\$951,127	\$9,133,030	\$417,403	\$17,575,871

¹³ Results for the Small & Large Energy Solutions for Business programs include GNI customers who participated in these programs.

Table 7-1B: Program Year to Date Financials – Penelec

Program	Incentives to Participants and Trade Allies	EDC Materials, Labor, and Administration	ICSP Materials, Labor, and Administration	EM&V	Total EDC Cost
<i>Appliance Turn-in</i>	\$197,450	\$58,999	\$516,990	\$32,986	\$806,425
<i>Energy Efficient Homes</i>	\$2,515,360	\$226,057	\$2,972,771	\$54,917	\$5,769,105
<i>Energy Efficient Products</i>	\$1,605,468	\$37,649	\$931,075	\$63,297	\$2,637,489
<i>Low Income Energy Efficiency</i>	\$79,100	\$341,005	\$2,910,383	\$62,402	\$3,392,890
<i>C&I Energy Solutions for Business - Small</i>	\$1,051,931	\$182,506	\$747,271	\$71,748	\$2,053,455
<i>C&I Demand Response - Small</i>	\$0	\$0	\$0	\$0	\$0
<i>C&I Energy Solutions for Business - Large</i>	\$744,105	\$82,592	\$624,468	\$75,098	\$1,526,263
<i>C&I Demand Response - Large</i>	\$0	\$0	\$0	\$0	\$0
<i>Governmental & Institutional Tariff</i>	\$42,927	\$5,886	\$70,011	\$21,707	\$140,531
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$6,236,341	\$934,694	\$8,772,970	\$382,155	\$16,326,159
<i>SWE Costs</i>	\$0	\$0	\$0	\$0	\$406,000
<i>Total</i>	\$6,236,341	\$934,694	\$8,772,970	\$382,155	\$16,732,159

Table 7-1C: Program Year to Date Financials – Penn Power

Program	Incentives to Participants and Trade Allies	EDC Materials, Labor, and Administration	ICSP Materials, Labor, and Administration	EM&V	Total EDC Cost
<i>Appliance Turn-in</i>	\$64,750	\$13,813	\$195,705	\$7,366	\$281,635
<i>Energy Efficient Homes</i>	\$826,262	\$102,610	\$701,906	\$23,228	\$1,654,005
<i>Energy Efficient Products</i>	\$371,592	(\$9,648)	\$145,916	\$13,618	\$521,478
<i>Low Income Energy Efficiency</i>	\$22,835	\$112,940	\$787,609	\$19,228	\$942,611
<i>C&I Energy Solutions for Business - Small</i>	\$490,545	\$33,111	\$260,782	\$17,743	\$802,181
<i>C&I Demand Response - Small</i>	\$0	\$5,907	\$3,385	\$1,354	\$10,646
<i>C&I Energy Solutions for Business - Large</i>	\$167,699	\$20,034	\$130,757	\$16,399	\$334,889
<i>C&I Demand Response - Large</i>	\$0	\$52,924	\$30,468	\$12,140	\$95,533
<i>Governmental & Institutional Tariff</i>	\$72,478	\$899	\$47,269	\$4,611	\$125,257
Common Portfolio Costs					\$0
Total Portfolio	\$2,016,162	\$332,590	\$2,303,797	\$115,686	\$4,768,234
SWE Costs	\$0	\$0	\$0	\$0	\$126,000
Total	\$2,016,162	\$332,590	\$2,303,797	\$115,686	\$4,894,234

Table 7-1D: Program Year to Date Financials - West Penn Power

Program	Incentives to Participants and Trade Allies	EDC Materials, Labor, and Administration	ICSP Materials, Labor, and Administration	EM&V	Total EDC Cost
<i>Appliance Turn-in</i>	\$260,575	\$57,865	\$653,680	\$29,841	\$1,001,962
<i>Energy Efficient Homes</i>	\$1,868,352	\$261,456	\$3,137,693	\$58,264	\$5,325,765
<i>Energy Efficient Products</i>	\$1,733,725	\$92,432	\$1,018,254	\$64,253	\$2,908,664
<i>Low Income Energy Efficiency</i>	\$60,334	\$276,462	\$3,085,093	\$59,417	\$3,481,306
<i>C&I Energy Solutions for Business - Small</i>	\$777,558	\$162,295	\$771,764	\$66,323	\$1,777,941
<i>C&I Demand Response - Small</i>	\$0	\$19,162	\$26,023	\$4,920	\$50,105
<i>C&I Energy Solutions for Business - Large</i>	\$521,719	\$68,880	\$517,766	\$66,343	\$1,174,708
<i>C&I Demand Response - Large</i>	\$0	\$172,596	\$234,203	\$44,287	\$451,086
<i>Governmental & Institutional Tariff</i>	\$274,350	\$4,536	\$170,343	\$17,166	\$466,395
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$5,496,612	\$1,115,684	\$9,614,819	\$410,815	\$16,637,930
<i>SWE Costs</i>	\$0	\$0	\$0	\$0	\$420,000
<i>Total</i>	\$5,496,612	\$1,115,684	\$9,614,819	\$410,815	\$17,057,930

Program-specific and portfolio total finances since the inception of Phase III are shown in Table 7-2A to 7-2D.

Table 7-2A to 7-2D: Phase III to Date Financials¹⁴

Table 7-2A: Phase III to Date Financials- Met-Ed

Program	Incentives to Participants and Trade Allies	EDC Materials, Labor, and Administration	ICSP Materials, Labor, and Administration	EM&V	Total EDC Cost
<i>Appliance Turn-in</i>	\$228,400	\$52,527	\$532,910	\$30,359	\$844,196
<i>Energy Efficient Homes</i>	\$2,634,112	\$225,213	\$3,032,718	\$63,997	\$5,956,040
<i>Energy Efficient Products</i>	\$1,514,280	\$28,032	\$834,653	\$68,080	\$2,445,046
<i>Low Income Energy Efficiency</i>	\$58,267	\$278,807	\$2,900,095	\$56,338	\$3,293,506
<i>C&I Energy Solutions for Business - Small</i>	\$635,681	\$139,209	\$643,170	\$65,572	\$1,483,632
<i>C&I Demand Response - Small</i>	\$0	\$15,846	\$15,391	\$3,949	\$35,187
<i>C&I Energy Solutions for Business - Large</i>	\$1,541,778	\$76,394	\$999,877	\$80,821	\$2,698,869
<i>C&I Demand Response - Large</i>	\$0	\$142,012	\$138,523	\$35,597	\$316,132
<i>Governmental & Institutional Tariff</i>	\$13,807	(\$6,913)	\$35,693	\$12,689	\$55,276
Common Portfolio Costs					\$0
Total Portfolio	\$6,626,324	\$951,127	\$9,133,030	\$417,403	\$17,127,884
SWE Costs	\$0	\$0	\$0	\$0	\$447,987
Total	\$6,626,324	\$951,127	\$9,133,030	\$417,403	\$17,575,871

¹⁴ Results for the Small & Large Energy Solutions for Business programs include GNI customers who participated in these programs.

Table 7-2B: Phase III to Date Financials- Penelec

Program	Incentives to Participants and Trade Allies	EDC Materials, Labor, and Administration	ICSP Materials, Labor, and Administration	EM&V	Total EDC Cost
<i>Appliance Turn-in</i>	\$197,450	\$58,999	\$516,990	\$32,986	\$806,425
<i>Energy Efficient Homes</i>	\$2,515,360	\$226,057	\$2,972,771	\$54,917	\$5,769,105
<i>Energy Efficient Products</i>	\$1,605,468	\$37,649	\$931,075	\$63,297	\$2,637,489
<i>Low Income Energy Efficiency</i>	\$79,100	\$341,005	\$2,910,383	\$62,402	\$3,392,890
<i>C&I Energy Solutions for Business - Small</i>	\$1,051,931	\$182,506	\$747,271	\$71,748	\$2,053,455
<i>C&I Demand Response - Small</i>	\$0	\$0	\$0	\$0	\$0
<i>C&I Energy Solutions for Business - Large</i>	\$744,105	\$82,592	\$624,468	\$75,098	\$1,526,263
<i>C&I Demand Response - Large</i>	\$0	\$0	\$0	\$0	\$0
<i>Governmental & Institutional Tariff</i>	\$42,927	\$5,886	\$70,011	\$21,707	\$140,531
Common Portfolio Costs					\$0
Total Portfolio	\$6,236,341	\$934,694	\$8,772,970	\$382,155	\$16,326,159
SWE Costs	\$0	\$0	\$0	\$0	\$406,000
Total	\$6,236,341	\$934,694	\$8,772,970	\$382,155	\$16,732,159

Table 7-2C: Phase III to Date Financials- Penn Power

Program	Incentives to Participants and Trade Allies	EDC Materials, Labor, and Administration	ICSP Materials, Labor, and Administration	EM&V	Total EDC Cost
<i>Appliance Turn-in</i>	\$64,750	\$13,813	\$195,705	\$7,366	\$281,635
<i>Energy Efficient Homes</i>	\$826,262	\$102,610	\$701,906	\$23,228	\$1,654,005
<i>Energy Efficient Products</i>	\$371,592	(\$9,648)	\$145,916	\$13,618	\$521,478
<i>Low Income Energy Efficiency</i>	\$22,835	\$112,940	\$787,609	\$19,228	\$942,611
<i>C&I Energy Solutions for Business - Small</i>	\$490,545	\$33,111	\$260,782	\$17,743	\$802,181
<i>C&I Demand Response - Small</i>	\$0	\$5,907	\$3,385	\$1,354	\$10,646
<i>C&I Energy Solutions for Business - Large</i>	\$167,699	\$20,034	\$130,757	\$16,399	\$334,889
<i>C&I Demand Response - Large</i>	\$0	\$52,924	\$30,468	\$12,140	\$95,533
<i>Governmental & Institutional Tariff</i>	\$72,478	\$899	\$47,269	\$4,611	\$125,257
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$2,016,162	\$332,590	\$2,303,797	\$115,686	\$4,768,234
<i>SWE Costs</i>	\$0	\$0	\$0	\$0	\$126,000
<i>Total</i>	\$2,016,162	\$332,590	\$2,303,797	\$115,686	\$4,894,234

Table 7-2D: Phase III to Date Financials- West Penn Power

Program	Incentives to Participants and Trade Allies	EDC Materials, Labor, and Administration	ICSP Materials, Labor, and Administration	EM&V	Total EDC Cost
<i>Appliance Turn-in</i>	\$260,575	\$57,865	\$653,680	\$29,841	\$1,001,962
<i>Energy Efficient Homes</i>	\$1,868,352	\$261,456	\$3,137,693	\$58,264	\$5,325,765
<i>Energy Efficient Products</i>	\$1,733,725	\$92,432	\$1,018,254	\$64,253	\$2,908,664
<i>Low Income Energy Efficiency</i>	\$60,334	\$276,462	\$3,085,093	\$59,417	\$3,481,306
<i>C&I Energy Solutions for Business - Small</i>	\$777,558	\$162,295	\$771,764	\$66,323	\$1,777,941
<i>C&I Demand Response - Small</i>	\$0	\$19,162	\$26,023	\$4,920	\$50,105
<i>C&I Energy Solutions for Business - Large</i>	\$521,719	\$68,880	\$517,766	\$66,343	\$1,174,708
<i>C&I Demand Response - Large</i>	\$0	\$172,596	\$234,203	\$44,287	\$451,086
<i>Governmental & Institutional Tariff</i>	\$274,350	\$4,536	\$170,343	\$17,166	\$466,395
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$5,496,612	\$1,115,684	\$9,614,819	\$410,815	\$16,637,930
<i>SWE Costs</i>	\$0	\$0	\$0	\$0	\$420,000
<i>Total</i>	\$5,496,612	\$1,115,684	\$9,614,819	\$410,815	\$17,057,930

Cost-effectiveness testing for Act 129 EE&C programs is performed using the 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 PY8 will be presented in the final annual report to the PA PUC on November 15, 2017 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. FirstEnergy's cost-recovery charges are organized separately by five 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 charges for electric service. Readers should be mindful of the differences between Table 2-7 Section 2.4 and Tables 7-3A-7-3D EE&C Plan Expenditures by Cost-Recovery Category. For example, the low-income customer segment is a subset of the FirstEnergy EDC's residential tariff(s) and therefore not listed in Tables 7-3A to 7-3D Plan Expenditures by Cost-Recovery Category.

Table 7-3A to 7-3D: EE&C Plan Expenditures by Cost-Recovery Category¹⁵

Table 7-3A: EE&C Plan Expenditures by Cost-Recovery Category – Met-Ed

Operating Company	Cost Recovery Sector	Rate Classes Included	PYTD \$ Spending (\$1,000)	P3TD \$ Spending (\$1,000)
Met-Ed	Residential (incl. Low Income)	Rate RS	\$12,829	\$12,829
	Small C&I	Rate GS-Small, Rate GS-Medium, and Outdoor Lighting Service	\$1,587	\$1,587
	Large C&I	Rate GS-Large, Rate GP and Rate TP	\$3,101	\$3,101
	Street Lighting	Street Lighting Service, LED Street Lighting Service and Ornamental Street Lighting Service	\$25	\$25
	Government & Non-Profit Tariff	Rate GS - Volunteer Fire Company, and Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate and Rate MS	\$34	\$34
Portfolio Total			\$17,576	\$17,576

¹⁵ Includes allocation of SWE costs in each Cost Recovery Sector.

Table 7-3B: EE&C Plan Expenditures by Cost-Recovery Category – Penelec

Operating Company	Cost Recovery Sector	Rate Classes Included	PYTD \$ Spending (\$1,000)	P3TD \$ Spending (\$1,000)
Penelec	Residential (incl. Low Income)	Rate RS	\$12,899	\$12,899
	Small C&I	Rate GS-Small, Rate GS-Medium, and Outdoor Lighting Service	\$2,121	\$2,121
	Large C&I	Rate GS-Large, Rate GP, and Rate LP	\$1,567	\$1,567
	Street Lighting	Street Lighting Service, LED Street Lighting Service, and Ornamental Street Lighting Service	\$61	\$61
	Government & Non-Profit Tariff	Rate GS – Volunteer Fire Company, and Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate and Rate H	\$84	\$84
Portfolio Total			\$16,732	\$16,732

Table 7-3C: EE&C Plan Expenditures by Cost-Recovery Category – Penn Power

Operating Company	Cost Recovery Sector	Rate Classes Included	PYTD \$ Spending (\$1,000)	P3TD \$ Spending (\$1,000)
Penn Power	Residential (incl. Low Income)	Rate RS	\$3,481	\$3,481
	Small C&I	Rate GS, GS Special Rider GSDS, Rate GM, Rate GS-Large and POL	\$832	\$832
	Large C&I	Rate GP, and Rate GT	\$454	\$454
	Street Lighting	Rate Schedules SV, SVD, SM and LED	\$110	\$110
	Government & Non-Profit Tariff	Rate GS – Volunteer Fire Company, and Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate and Rate PNP	\$17	\$17
Portfolio Total			\$4,894	\$4,894

**Table 7-3D: EE&C Plan Expenditures by Cost-Recovery Category –
West Penn Power**

Operating Company	Cost Recovery Sector	Rate Classes Included	PYTD \$ Spending (\$1,000)	P3TD \$ Spending (\$1,000)
West Penn Power	Residential (incl. Low Income)	Rate 10	\$12,985	\$12,985
	Small C&I	Rates GS 20, GS 30	\$1,896	\$1,896
	Large C&I	Rates GS 35, 40, 44, 46, and Tariff No. 38	\$1,706	\$1,706
	Street Lighting	Rate Schedules 51 through 58, 71, 72	\$400	\$400
	Government & Non-Profit Tariff	Rate GS 20 – Volunteer Fire Company, and Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate	\$71	\$71
Portfolio Total			\$17,058	\$17,058

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