

# **Semi-Annual Report to the Pennsylvania Public Utility Commission**

**Phase III of Act 129**

**Program Year 11**

**(June 1, 2019 – November 30, 2019)**

For Pennsylvania Act 129 of 2008

Energy Efficiency and Conservation Plan

Prepared by ADM

and the FirstEnergy Pennsylvania EDCs for:

Metropolitan Edison Company	M-2015-2514767
Pennsylvania Electric Company	M-2015-2514768
Pennsylvania Power Company	M-2015-2514769
West Penn Power Company	M-2015-2514772

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## Table of Contents

<b>ACRONYMS</b>	<b>III</b>
<b>TYPES OF SAVINGS</b> .....	<b>IV</b>
<b>SECTION 1 INTRODUCTION</b> .....	<b>1</b>
<b>SECTION 2 SUMMARY OF ACHIEVEMENTS</b> .....	<b>2</b>
2.1 CARRYOVER SAVINGS FROM PHASE II OF ACT 129 .....	2
2.2 PHASE III ENERGY EFFICIENCY ACHIEVEMENTS TO DATE .....	9
2.3 PHASE III DEMAND RESPONSE ACHIEVEMENTS TO DATE.....	19
2.4 PHASE III PERFORMANCE BY CUSTOMER SEGMENT .....	24
<b>SECTION 3 UPDATES AND FINDINGS</b> .....	<b>27</b>
3.1 IMPLEMENTATION UPDATES AND FINDINGS.....	27
3.2 EVALUATION UPDATES AND FINDINGS .....	32
<b>SECTION 4 SUMMARY OF PARTICIPATION BY PROGRAM</b> .....	<b>33</b>
<b>SECTION 5 SUMMARY OF ENERGY IMPACTS BY PROGRAM</b> .....	<b>36</b>
<b>SECTION 6 SUMMARY OF DEMAND IMPACTS BY PROGRAM</b> .....	<b>44</b>
6.1 ENERGY EFFICIENCY .....	44
6.2 DEMAND RESPONSE .....	54
<b>SECTION 7 SUMMARY OF FINANCES</b> .....	<b>56</b>
7.1 PROGRAM FINANCIALS.....	56
7.2 COST RECOVERY .....	65

## Figures

<b>FIGURES 1A-1D: CARRYOVER SAVINGS FROM PHASE II OF ACT 129</b> .....	<b>3</b>
<b>FIGURES 2A-2D: CUSTOMER SEGMENT-SPECIFIC CARRYOVER FROM PHASE II</b> .....	<b>7</b>
<b>FIGURES 3A-3D: PLAN PERFORMANCE TOWARD PHASE III PORTFOLIO COMPLIANCE</b> .....	<b>10</b>
<b>FIGURES 4A-4D: PLAN PERFORMANCE TOWARD PHASE III LOW-INCOME COMPLIANCE TARGET</b> .....	<b>14</b>
<b>FIGURES 5A-5D: PLAN PERFORMANCE AGAINST PHASE III GNI COMPLIANCE TARGET</b> .....	<b>17</b>
<b>FIGURES 6A-6C: EVENT PERFORMANCE COMPARED TO 85% PER-EVENT TARGET</b> .....	<b>22</b>
<b>FIGURES 7A-7D: REPORTED GROSS ENERGY SAVINGS BY PROGRAM</b> .....	<b>38</b>
<b>FIGURES 8A-8D: PSA ENERGY SAVINGS BY PROGRAM FOR PHASE III</b> .....	<b>41</b>
<b>FIGURES 9A-9D: PYRTD GROSS DEMAND SAVINGS BY ENERGY EFFICIENCY PROGRAM</b> .....	<b>46</b>
<b>FIGURES 10A-10D: PSA DEMAND SAVINGS BY ENERGY EFFICIENCY PROGRAM FOR PHASE III</b> .....	<b>50</b>

## Tables

TABLE 2-1: PHASE II CARRYOVER SAVINGS.....	2
TABLE 2-2: GROSS ELECTRIC AND DEMAND SAVINGS FOR PY10 .....	9
TABLE 2-3: GROSS ELECTRIC AND DEMAND SAVINGS SINCE THE BEGINNING OF PHASE III OF ACT 129.....	9
TABLE 2-4: PHASE III ELECTRIC SAVINGS INCLUDING PHASE II CARRYOVER.....	10
TABLE 2-5: LOW-INCOME PROGRAM ENERGY SAVINGS AND TARGETS.....	14
TABLE 2-6: GNI SAVINGS AND TARGETS .....	16
TABLES 2-7A-C: PY11 DEMAND PYVTD PERFORMANCE BY EVENT .....	20
TABLE 2-8: PY11 SUMMARY STATISTICS BY CUSTOMER SEGMENT.....	25
TABLE 2-9: PHASE III SUMMARY STATISTICS BY CUSTOMER SEGMENT .....	26
TABLE 4-1: EE&C PLAN PARTICIPATION BY PROGRAM .....	35
TABLE 5-1: ENERGY SAVINGS BY PROGRAM (MWH/YEAR).....	37
TABLE 6-1: PEAK DEMAND SAVINGS BY PROGRAM (MW/YEAR) .....	45
TABLE 6-2: VERIFIED GROSS DEMAND RESPONSE IMPACTS BY PROGRAM.....	55
TABLE 7-1A TO 7-1D: PROGRAM YEAR TO DATE FINANCIALS .....	57
TABLE 7-2A TO 7-2D: PHASE III TO DATE FINANCIALS .....	61
TABLE 7-3A TO 7-3D: EE&C PLAN EXPENDITURES BY COST-RECOVERY CATEGORY.....	65

## 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

$PYRTD (PY10) = 500 \text{ MWh/year}$

$RTD = 800 + 900 + 500 = 2,200 \text{ MWh/year}$

$VTD = 700 + 850 = 1,550 \text{ MWh / year}$

$PSA = 1,550 + 500 = 2,050 \text{ MWh/year}$

$PSA + CO = 2,050 + 400 = 2,450 \text{ MWh/year}$

## 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 11 (PY11) 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 PY11. Compliance with Act 129 savings goals is 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 PY11 energy efficiency programs will be reported in the final annual report, to be filed on November 15, 2020.

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 includes 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.

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## 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.

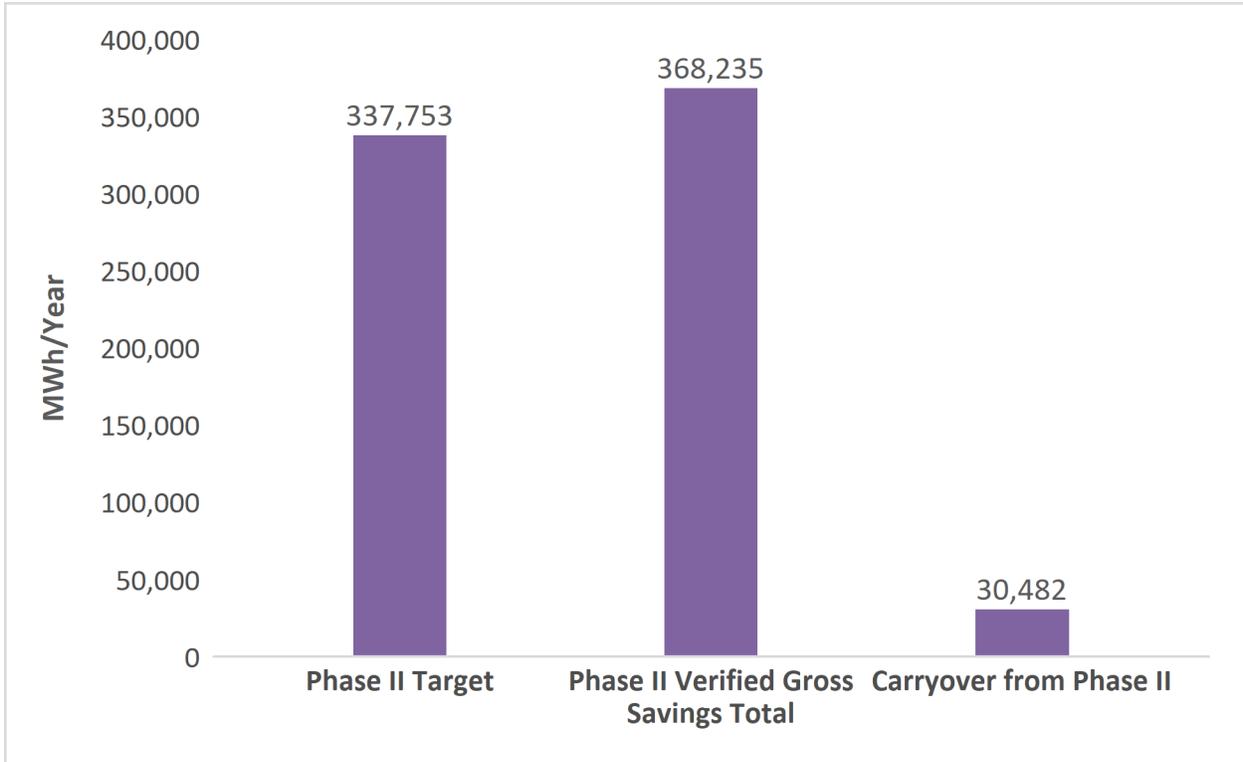
**Table 2-1: Phase II Carryover Savings**

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

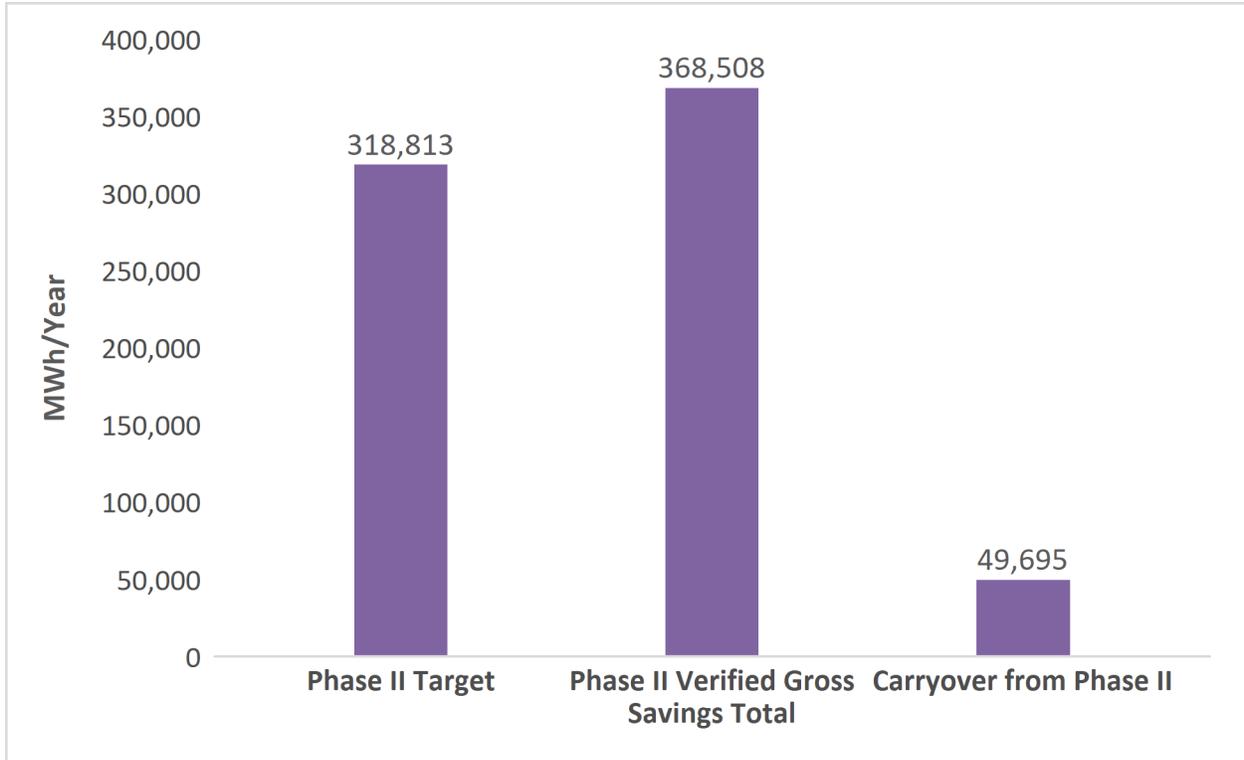
**Figures 1A-1D:** Carryover Savings from Phase II of Act 129 compare each of the EDC’s Phase II verified gross savings total to the Phase II compliance target to illustrate the carryover calculation.

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

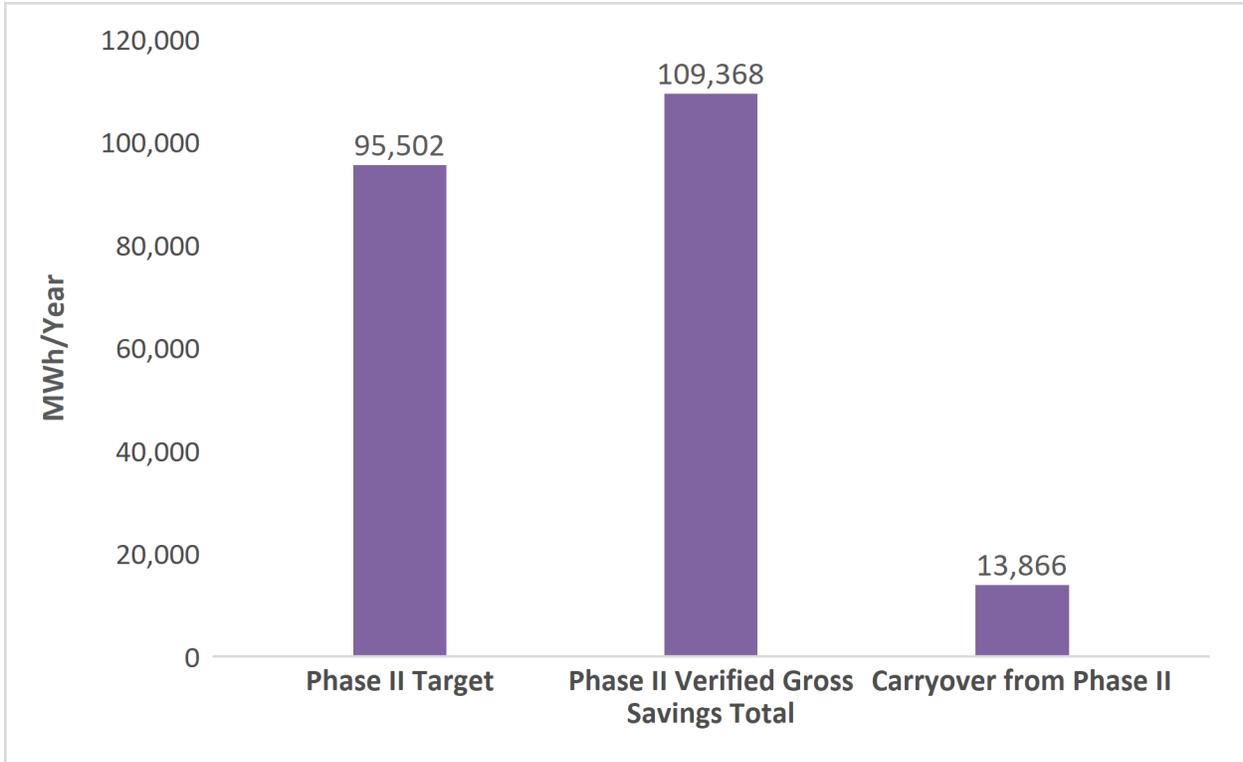
**Figure 1A: Carryover Savings from Phase II of Act 129 - Met-Ed**

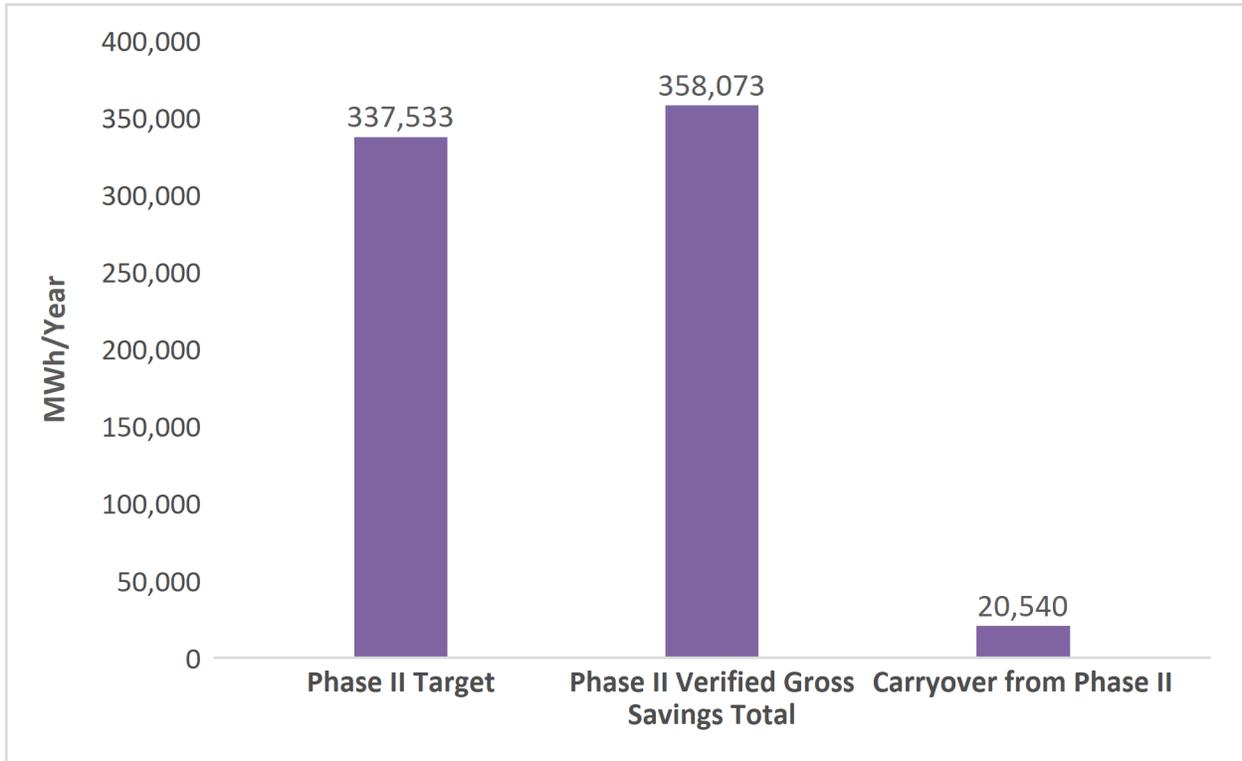


**Figure 1B: Carryover Savings from Phase II of Act 129 – Penelec**



**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**

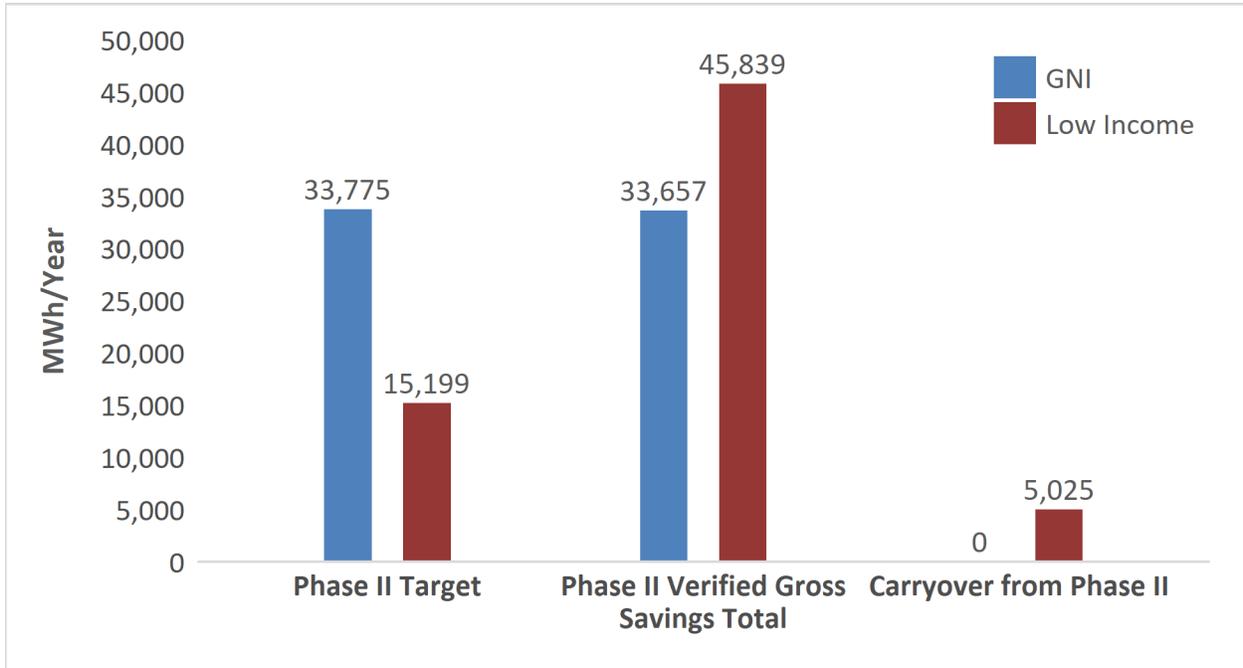
The Commission's Phase III Implementation Order<sup>1</sup> also allowed EDCs to carry over savings in excess of the Phase II Government, Non-Profit, and Institutional (GNI) savings goal and excess savings from the low-income customer segment.<sup>2</sup> **Figures 2A-2D:** Customer Segment Specific 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.

<sup>1</sup> 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.

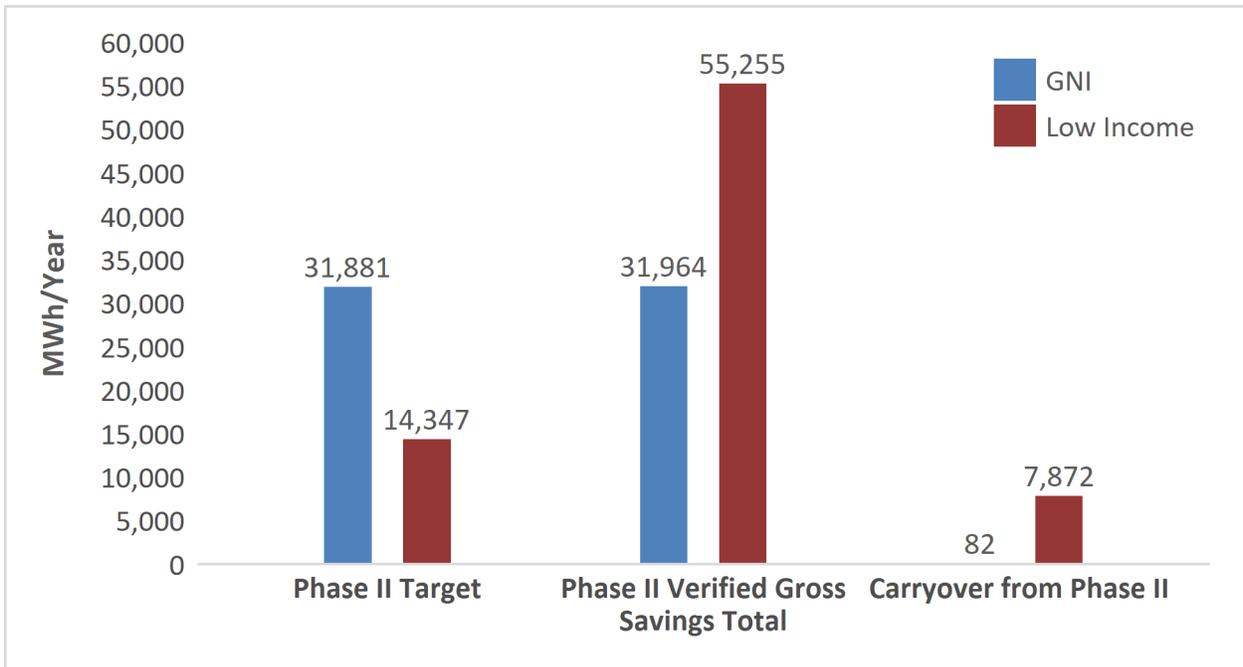
<sup>2</sup> Proportionate to those savings achieved by dedicated low-income programs in Phase III.

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

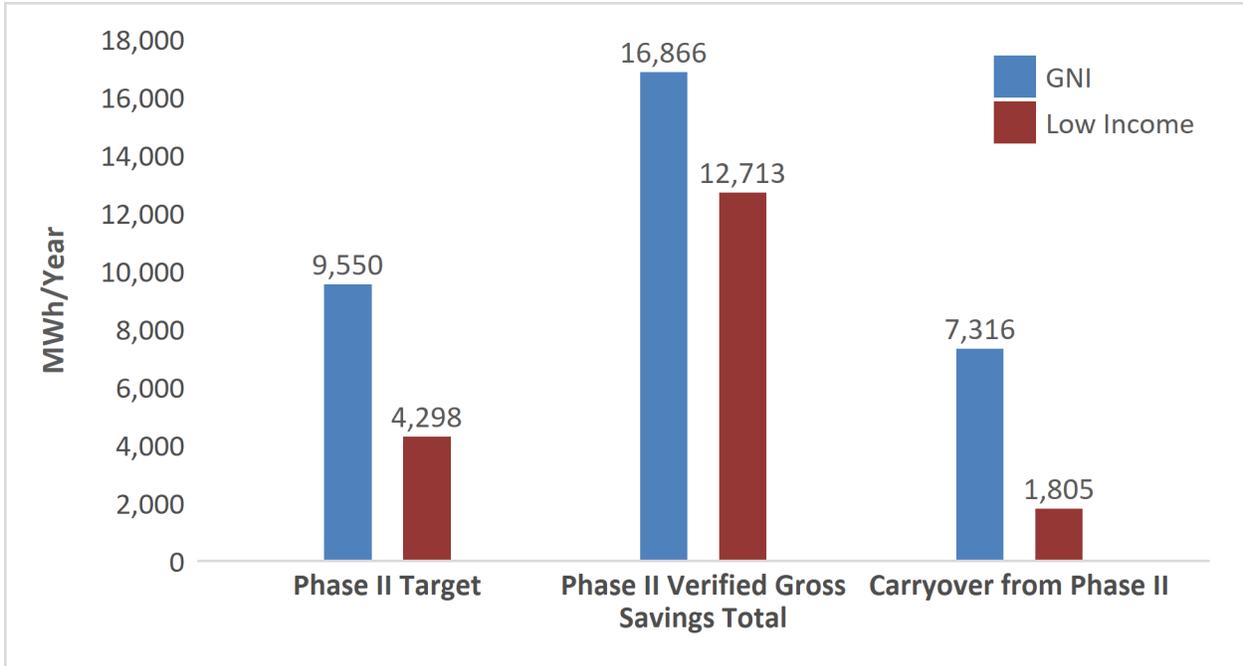
**Figure 2A: Customer Segment-Specific Carryover from Phase II - Met-Ed**



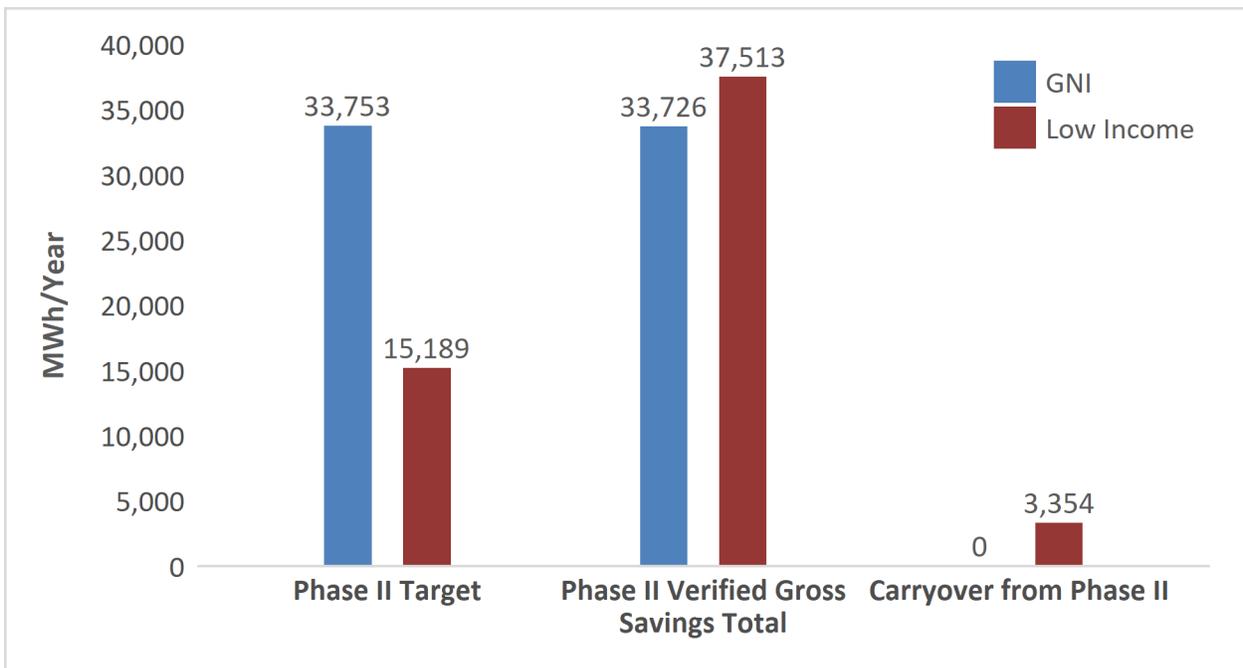
**Figure 2B: Customer Segment-Specific Carryover from Phase II – Penelec**



**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 11 on June 1, 2019. **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.

**Table 2-2: Gross Electric and Demand Savings for PY11**

EDC	Gross MWh/yr Savings (PYRTD)	Gross Peak Demand MW Savings (PYRTD)
<b>Met-Ed</b>	76,137	13.59
<b>Penelec</b>	81,774	11.53
<b>Penn Power</b>	25,879	4.06
<b>West Penn Power</b>	71,632	13.19

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

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

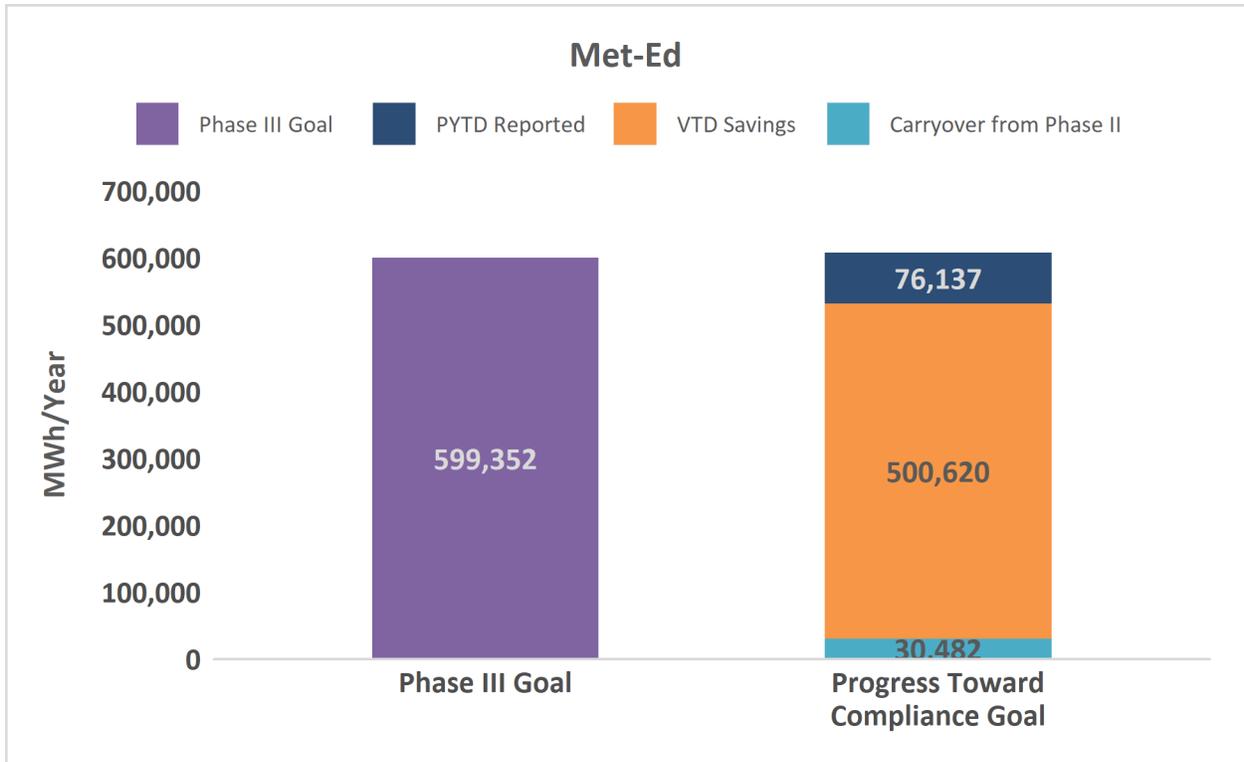
EDC	Reported Gross Electric Energy Savings MWh/yr Savings (RTD)	Reported Gross Peak Demand MW Savings (RTD)	Gross Electric Energy Savings MWh/yr Savings (PSA)	Gross Peak Demand MW Savings (PSA)
<b>Met-Ed</b>	535,195	75.34	576,757	79.10
<b>Penelec</b>	527,967	67.75	559,455	68.66
<b>Penn Power</b>	166,683	23.09	178,080	24.19
<b>West Penn Power</b>	515,882	73.37	543,998	71.95

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

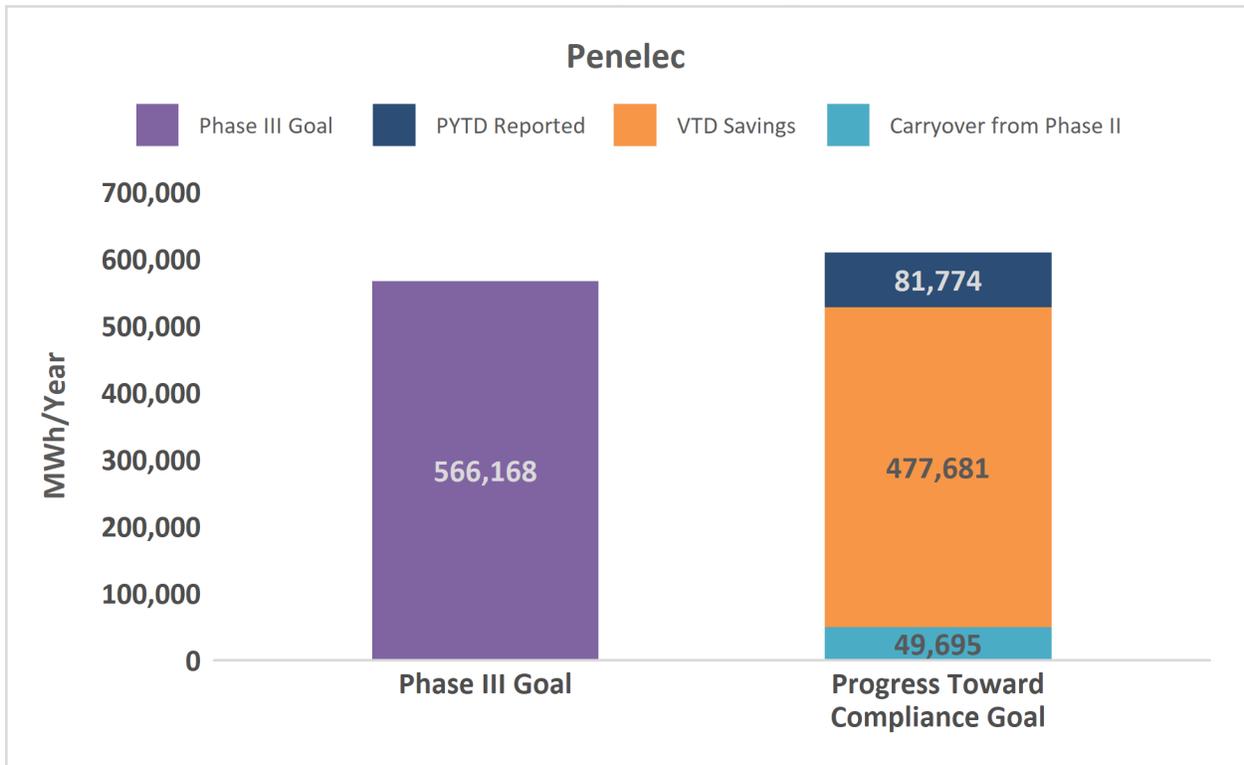
EDC	Gross/Verified Savings (PSA)	Carryover Savings MWh/yr (CO)	CO + Gross/Verified MWh/yr Savings (PSA + CO)	% of Compliance Target
<b>Met-Ed</b>	576,757	30,482	607,239	101%
<b>Penelec</b>	559,455	49,695	609,150	108%
<b>Penn Power</b>	178,080	13,866	191,946	122%
<b>West Penn Power</b>	543,998	20,540	564,538	104%

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

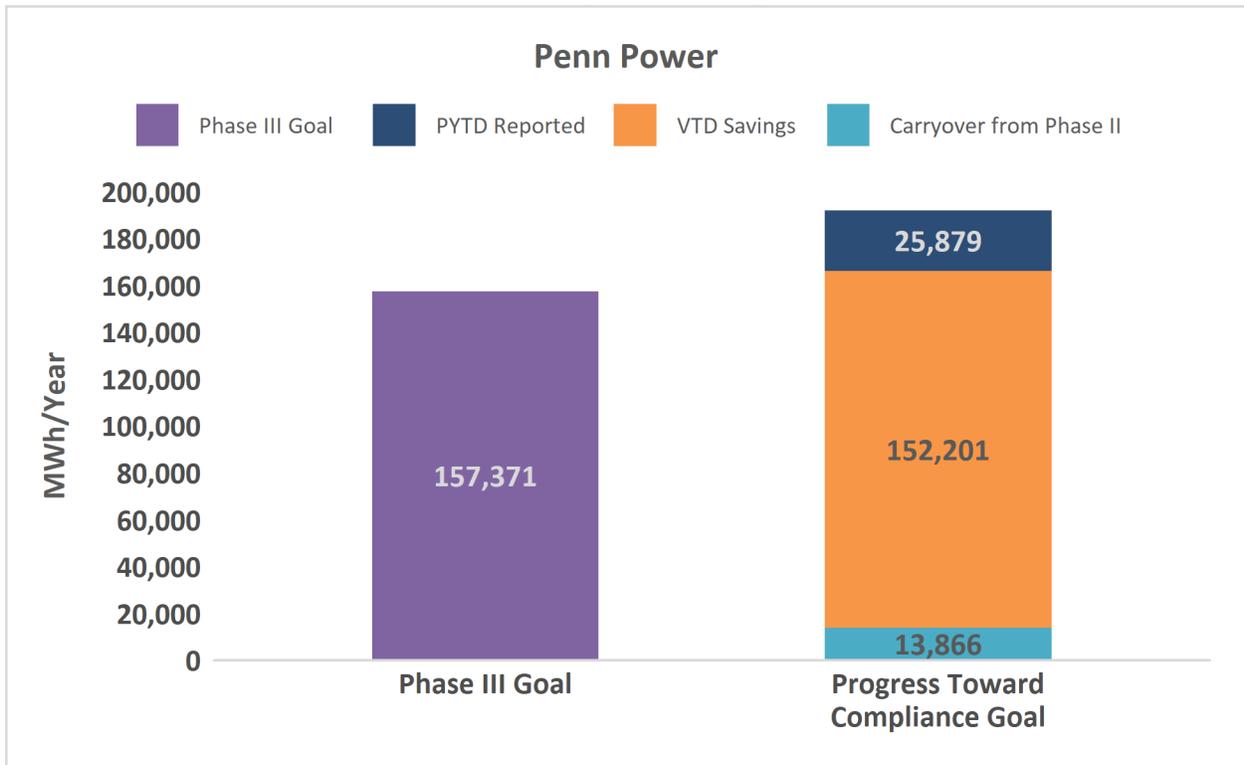
**Figure 3A: EE&C Plan Performance toward Phase III Portfolio Compliance Target – Met-Ed**



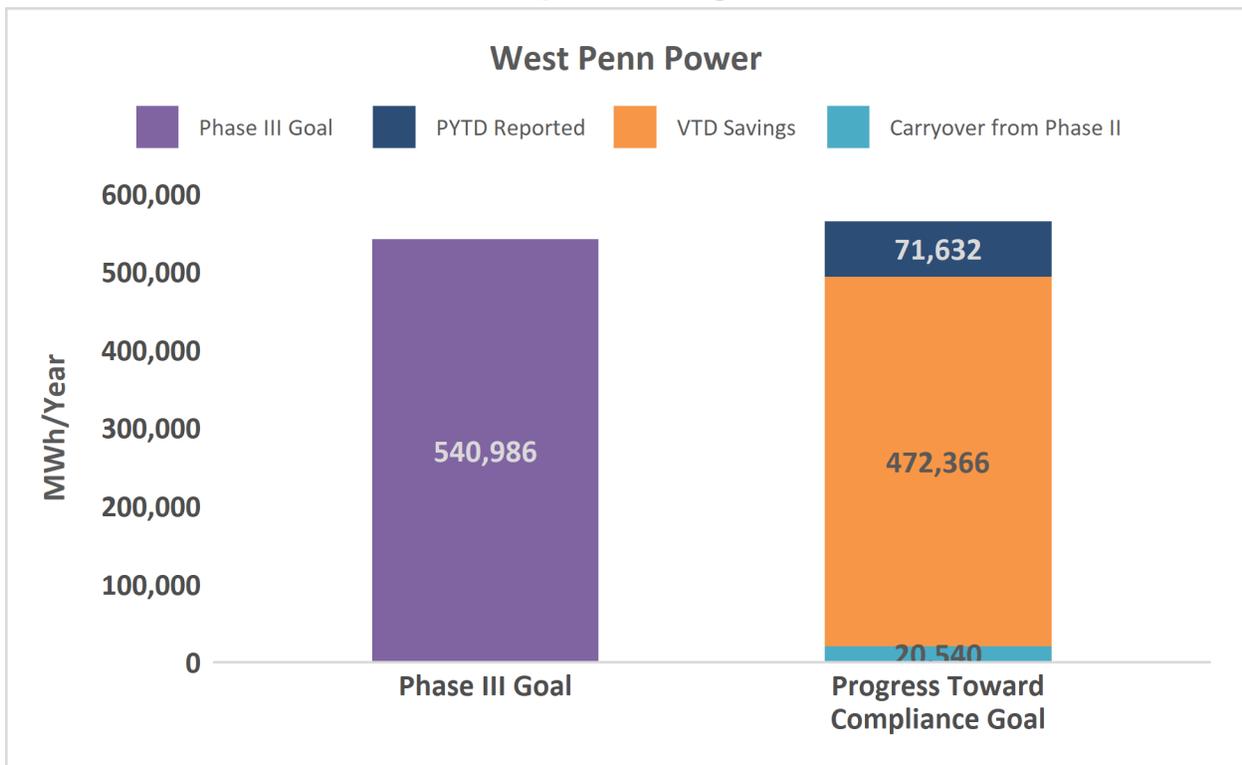
**Figure 3B: EE&C Plan Performance toward Phase III Portfolio Compliance Target – Penelec**



**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.

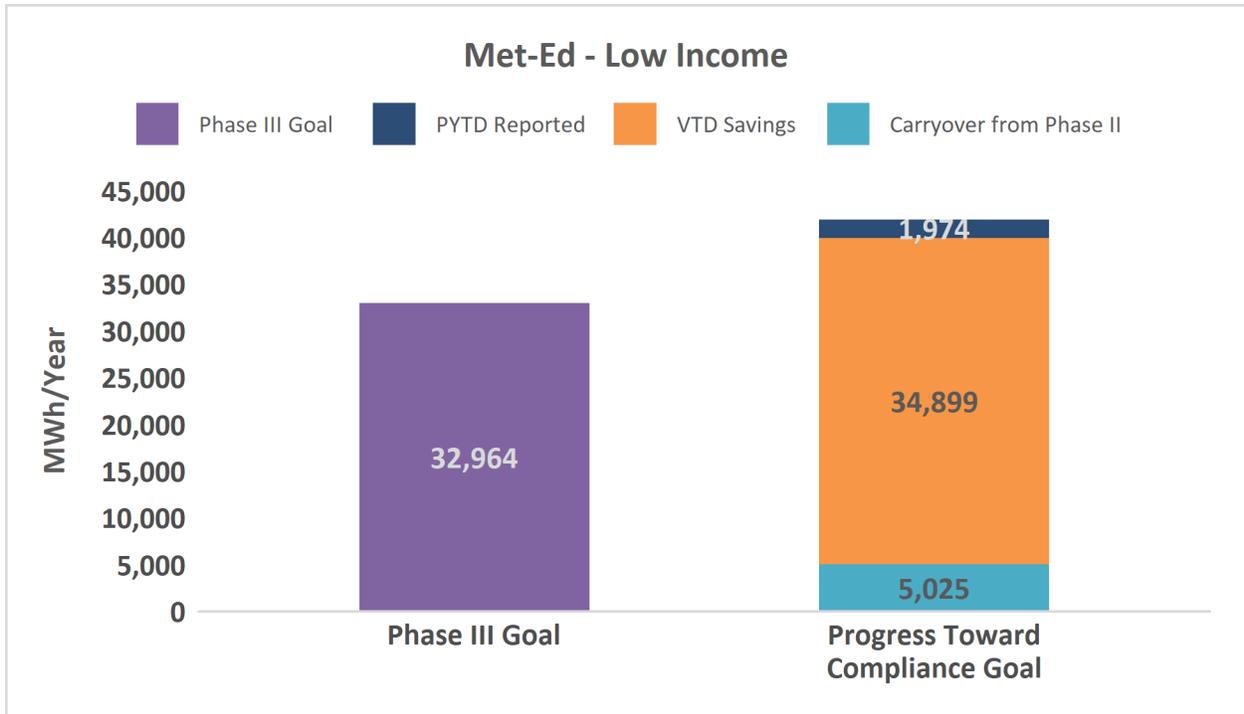
The PA PUC also established a low-income energy savings target of 5.5% of the portfolio savings goal. The low-income savings target for the FirstEnergy EDCs is presented in **Table 2.5** and is based on verified gross savings. **Table 2-5** and **Figures 4A-4D** compare the PSA+CO performance to date 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**

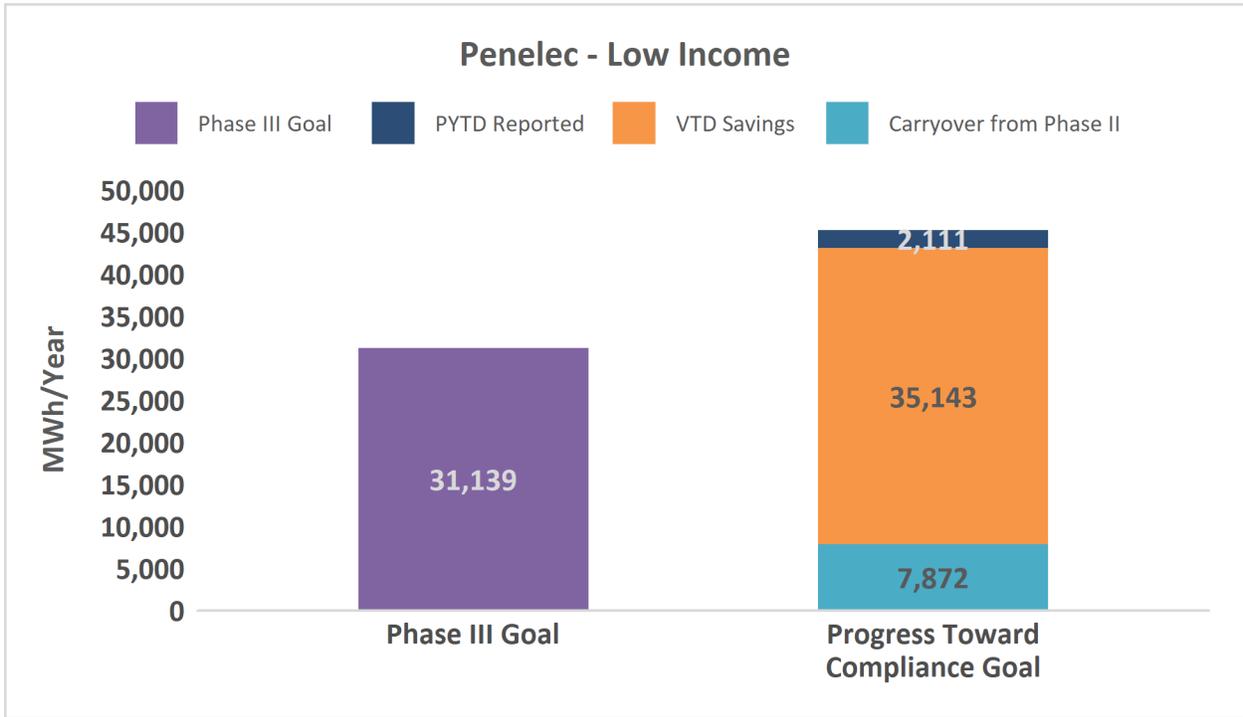
EDC	Low-Income Target (MWh/yr)	PSA + CO (MWh/yr)	% of Low-Income Savings Target Achieved
<b>Met-Ed</b>	32,964	41,898	127%
<b>Penelec</b>	31,139	45,126	145%
<b>Penn Power</b>	8,655	12,690	147%
<b>West Penn Power</b>	29,754	37,046	125%

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

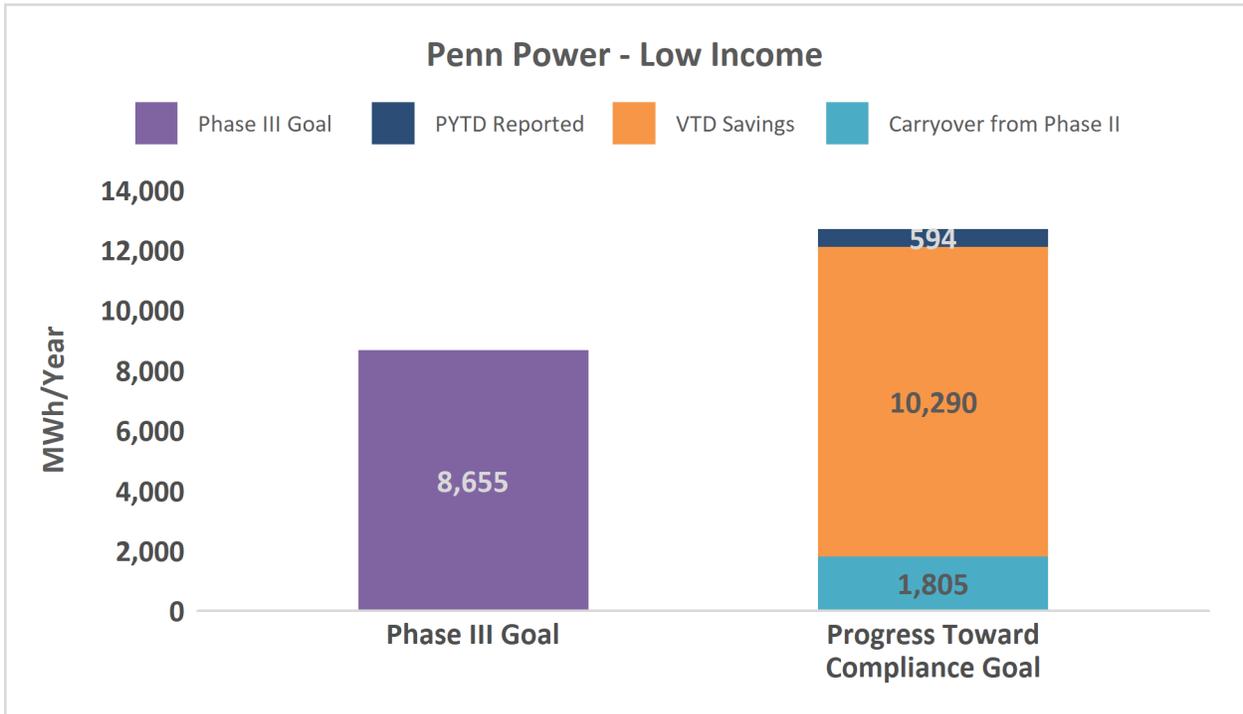
**Figure 4A: EE&C Plan Performance toward Phase III Low-Income Compliance Target – Met-Ed**



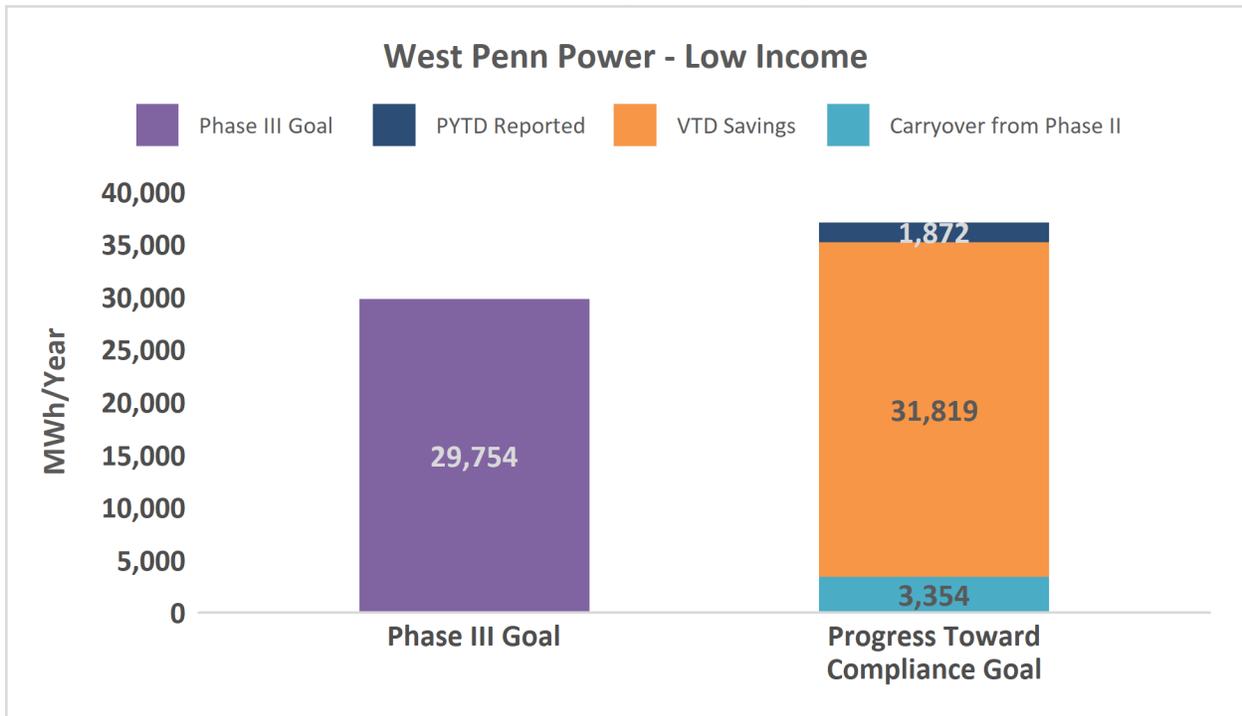
**Figure 4B: EE&C Plan Performance toward Phase III Low-Income Compliance Target – Penelec**



**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.

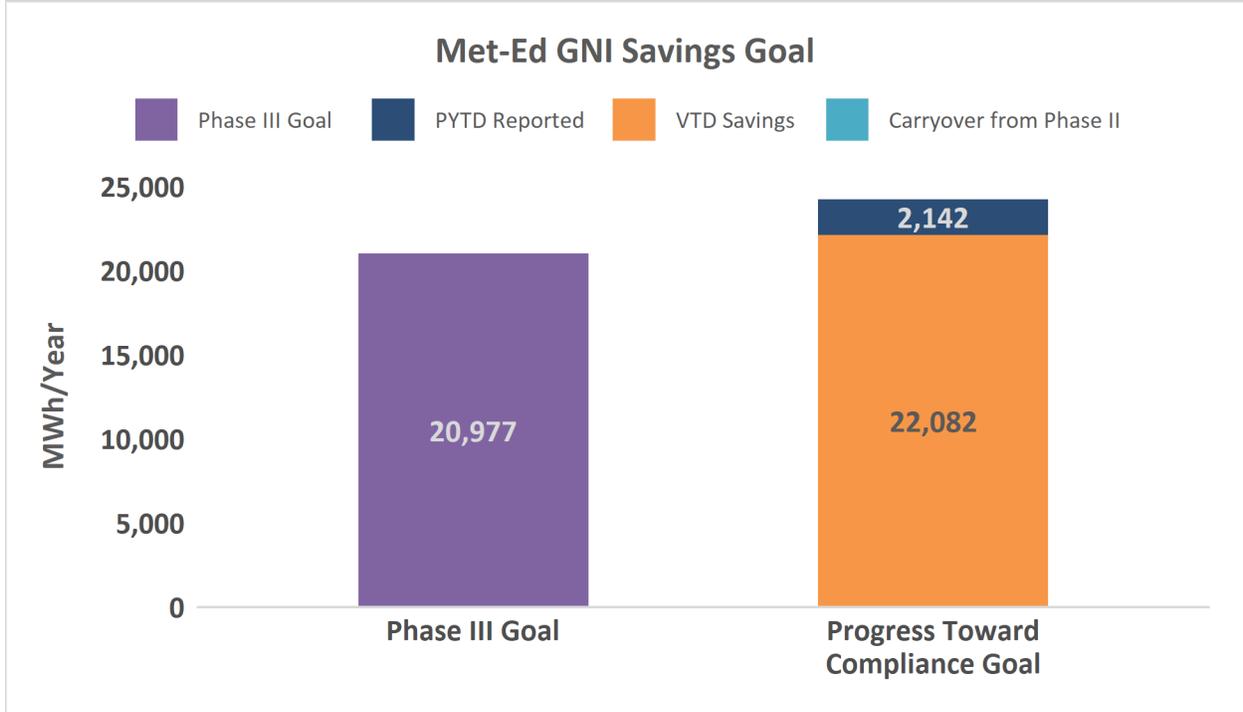
**Table 2-6: GNI Savings and Targets**

EDC	GNI Target (MWh/yr)	PSA + CO (MWh/yr)	% of GNI Savings Target Achieved
<b>Met-Ed</b>	20,977	24,223	115%
<b>Penelec</b>	19,816	48,798	246%
<b>Penn Power</b>	5,508	16,431	298%
<b>West Penn Power</b>	18,935	68,562	362%

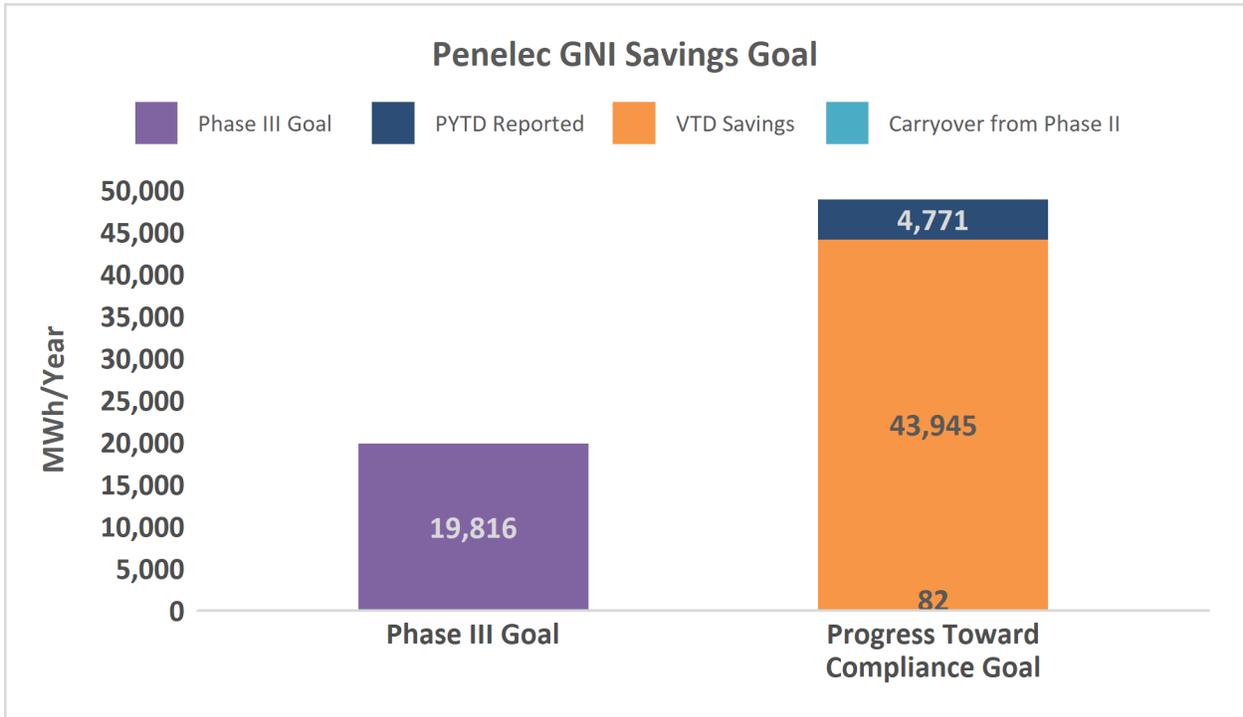
**Figures 5A-5D:** Plan Performance against Phase III GNI Compliance Target compare the PSA+CO performance to date for the GNI customer segment to the Phase III savings target, as well as the percent achievement of each EDC’s Phase III GNI energy savings target based on the latest available information.

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

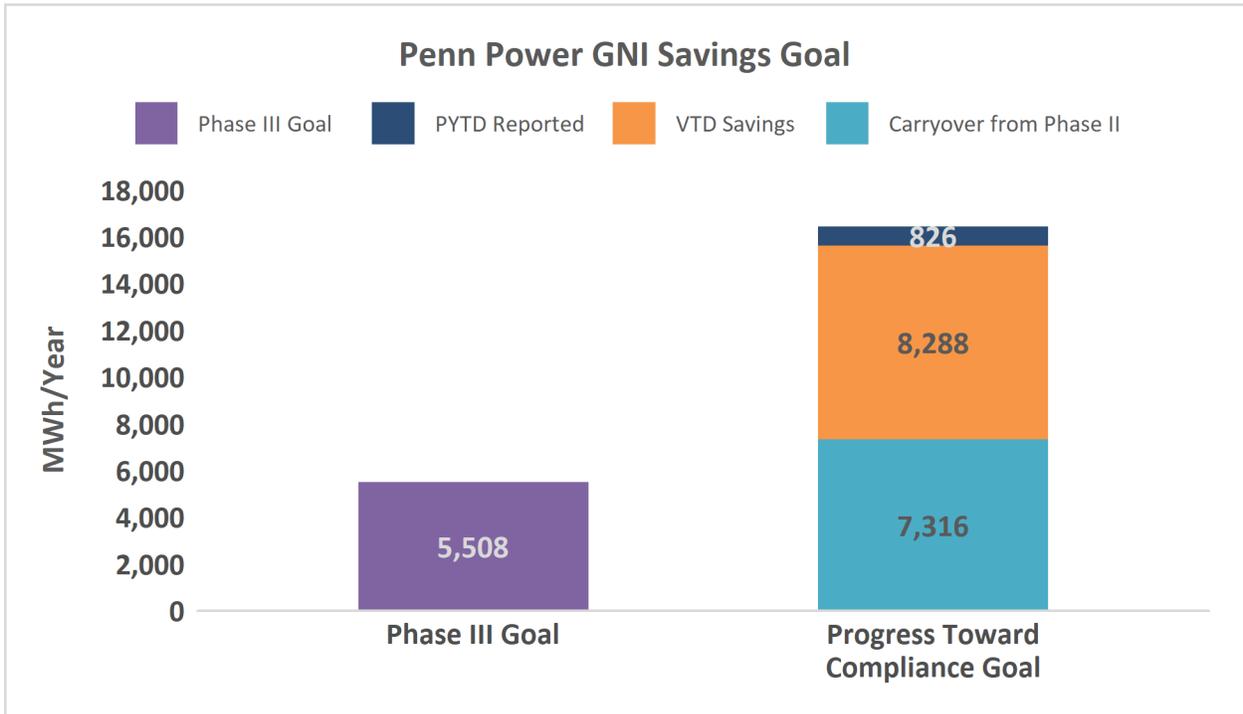
Figure 5A: EE&C Plan Performance against Phase III GNI Compliance Target – Met-Ed



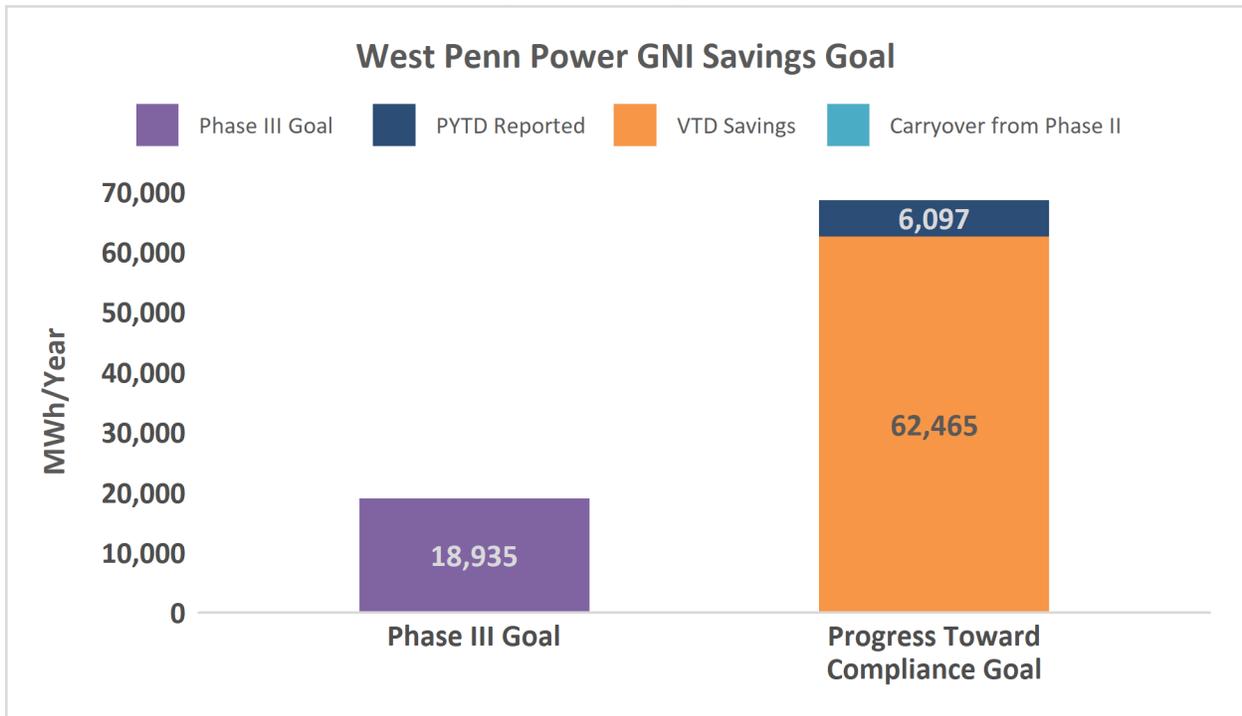
**Figure 5B: EE&C Plan Performance against Phase III GNI Compliance Target – Penelec**



**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

The Phase III demand response performance targets are 49, 17 and 64 MW for Met-Ed, Penn Power, and West Penn Power, respectively. Penelec does not have a demand response target. Compliance with targets for demand response programs will be based on average performance across events for the entire phase. Additionally, targets were established at the system level, which means the load reductions measured at the customer meter must be grossed up to reflect transmission and distribution losses.

The magnitude of the DR goals and the reliance on customers' ability and willingness to curtail sufficient load on Act 129 event days with a one-day notice makes attainment of the DR goals challenging. The Companies have found certain large C&I customers unwilling to curtail load during called events due to factors such as production demands or labor issues. Additionally, based on the first three years of program implementation, the Companies have found that many Residential and C&I customers' curtailment performance declines due to customer fatigue when events occur on back-to-back days, or as the number of events called in a year increase. As such, the Companies will continue to work closely with its implementation and evaluation CSPs, and with customers to enhance participation and performance to achieve the aggressive Act 129 DR targets.

Act 129 DR events are triggered by PJM's day-ahead load forecast. When the day-ahead forecast is above 96% of the peak load forecast for the year, an Act 129 DR event is initiated for the following day. In PY11, four (4) Act 129 DR events were called. **Tables 2-7A-C** list the days that DR events were called along with the verified gross demand reductions achieved by each

program. **Tables 2-7A-C** also list the average DR performance for PY11 and for Phase III to date. The DR performance to date, with consideration of the measurement confidence intervals reflecting the uncertainty of average values<sup>3</sup>, is 12% above, 186% above, and 98% above the Phase III compliance reduction targets for Met-Ed, Penn Power and West Penn Power respectively. Without consideration of measurement confidence intervals around the average values, the average DR performance is 8% above, 135% above, and 75% above the Phase III compliance reduction target for Met-Ed, Penn Power and West Penn Power respectively.

Met-Ed's demand response achievement to date demonstrates compliance with Act 129 target, as the confidence interval associated with measurements exceeds the Act 129 target value. The 51.3 – 54.9 MW confidence interval of the measurement exceeds the 49.0 MW target.

Penn Power's demand response achievement to date demonstrates compliance with Act 129 target, as the confidence interval associated with measurements exceeds the Act 129 target value. The 31.1 – 48.7 MW confidence interval of the measurement exceeds the 17.0 MW target.

West Penn Power's demand response achievement to date demonstrates compliance with Act 129 target, as the confidence interval associated with measurements exceeds the Act 129 target value. The 96.9 – 126.7 MW confidence interval of the measurement exceeds the 64.0 MW target.

### Tables 2-7A-C: PY11 Demand PYVTD Performance by Event

**Table 2-7A: PY11 Demand Response PYVTD Performance by Event Met-Ed**

Event Date	Start Hour*	End Hour*	C&I Demand Response - Small	C&I Demand Response - Large	Residential Energy Efficient Homes	Average Portfolio MW Impact
Jul 17	15	18	1.5 ± 0.2	50.0 ± 3.0	12.6 ± 1.9	64.1 ± 3.6
Jul 18	16	19	1.7 ± 0.2	40.8 ± 3.1	7.2 ± 1.9	49.6 ± 3.6
Jul 19	15	18	1.4 ± 0.2	44.2 ± 2.9	11.0 ± 2.0	56.5 ± 3.6
Aug 19	15	18	1.4 ± 0.2	48.8 ± 2.9	7.7 ± 1.9	58.0 ± 3.5
<i>PYVTD - Average PYX DR Event Performance</i>						57.0 ± 1.8
						55.2 - 58.8
<i>VTD - Average Phase III DR Event Performance</i>						53.1 ± 1.8
						51.3 - 54.9

\* Hours reflect "hour ending" convention (e.g., hour 15 is 2-3 PM).

<sup>3</sup> Measurement error includes adjustments for model correlations between the individual hours in each given event, as well as model correlations for subsequent events or events that are near enough in time to share candidate baseline days.

**Table 2-7B: PY11 Demand Response PYVTD Performance by Event  
Penn Power**

Event Date	Start Hour*	End Hour*	C&I Demand Response - Small	C&I Demand Response - Large	Residential Energy Efficient Homes	Average Portfolio MW Impact
Jul 17	15	18	0 ± 0	15.4 ± 10.1	1.4 ± 0.5	16.8 ± 10.1
Jul 18	16	19	0 ± 0	38.6 ± 18.7	2.0 ± 0.6	40.7 ± 18.7
Jul 19	15	18	0 ± 0	31.0 ± 21.6	2.3 ± 0.6	33.3 ± 21.6
Aug 19	15	18	0 ± 0	48.6 ± 25.0	1.4 ± 0.6	50.0 ± 25.0
PYVTD - Average PYX DR Event Performance						35.2 ± 9.8
						25.4 - 45.0
VTD - Average Phase III DR Event Performance						39.9 ± 8.8
						31.1 - 48.7

\* Hours reflect "hour ending" convention (e.g., hour 15 is 2-3PM).

**Table 2-7C: PY11 Demand Response PYVTD Performance by Event  
West Penn Power**

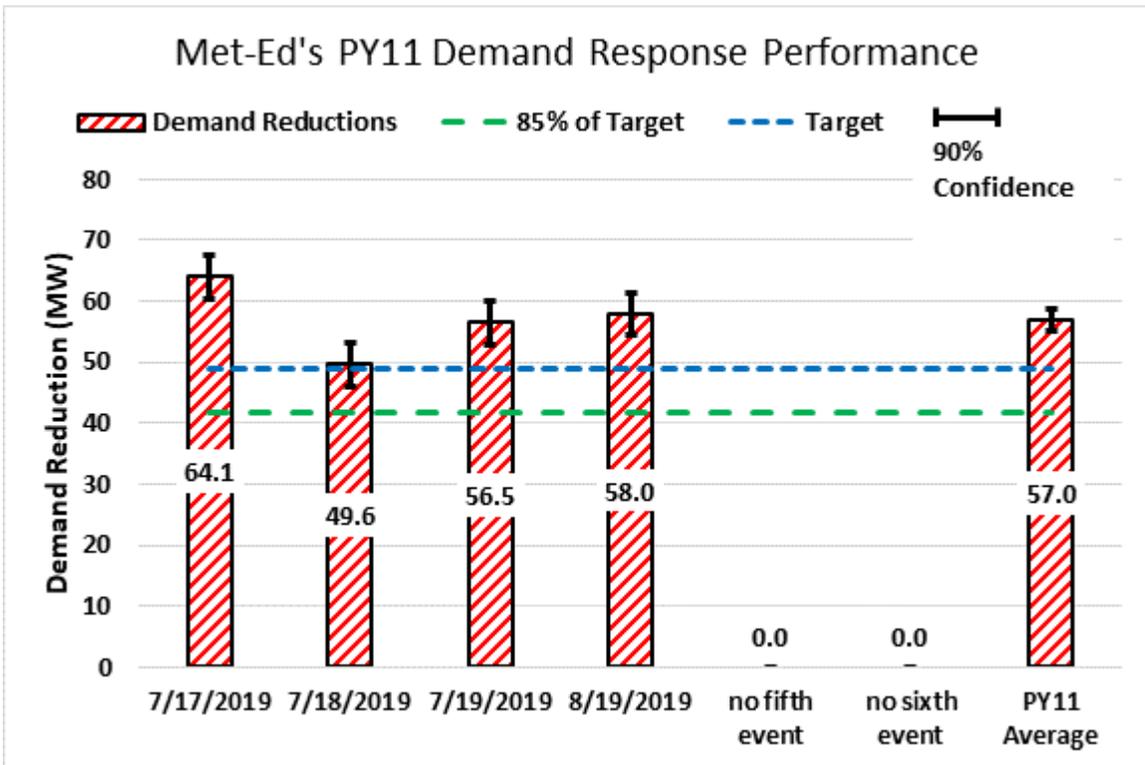
Event Date	Start Hour*	End Hour*	C&I Demand Response - Small	C&I Demand Response - Large	Residential Energy Efficient Homes	Average Portfolio MW Impact
Jul 17	15	18	0.7 ± 0.1	88.2 ± 38.1	3.4 ± 0.9	92.3 ± 38.1
Jul 18	16	19	1 ± 0.1	116.2 ± 39.3	3.0 ± 0.9	120.2 ± 39.3
Jul 19	15	18	1 ± 0.1	93.5 ± 35.3	3.6 ± 1	98.0 ± 35.3
Aug 19	15	18	0.8 ± 0.1	62.2 ± 20.5	2.7 ± 1	65.7 ± 20.5
PYVTD - Average PYX DR Event Performance						94.1 ± 17.1
						77.0 - 111.2
VTD - Average Phase III DR Event Performance						111.8 ± 14.9
						96.9 - 126.7

\* Hours reflect "hour ending" convention (e.g., hour 15 is 2-3PM)

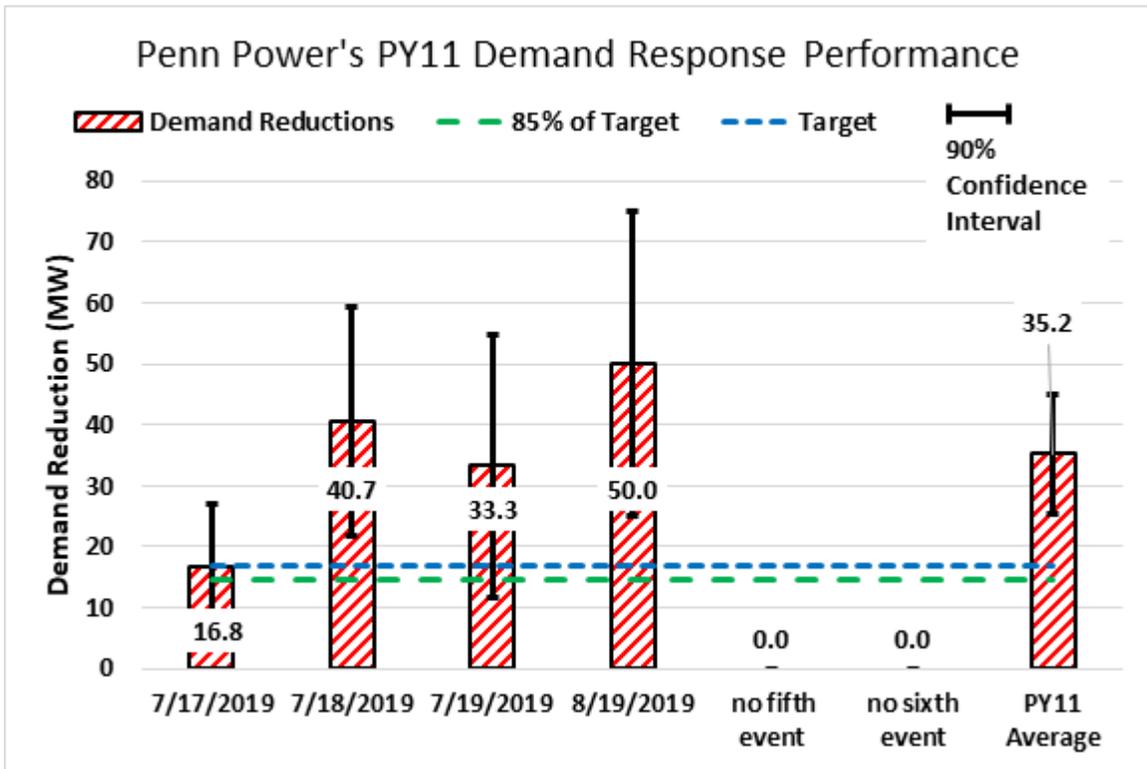
The Phase III Implementation Order also established a requirement that EDCs achieve at least 85% of the Phase III compliance reduction target in each DR event. This translates to a 41.7, 14.5, and 54.4 MW minimum for each DR event for Met-Ed, Penn Power and West Penn Power respectively. **Figures 6 A-C** compare the performance of each of the DR events in PY11 to the event-specific minimum and average targets for Met-Ed, Penn Power and West Penn Power including presentation of error bands.

**Figures 6A-6C: Event Performance Compared to 85% Per-Event Target**

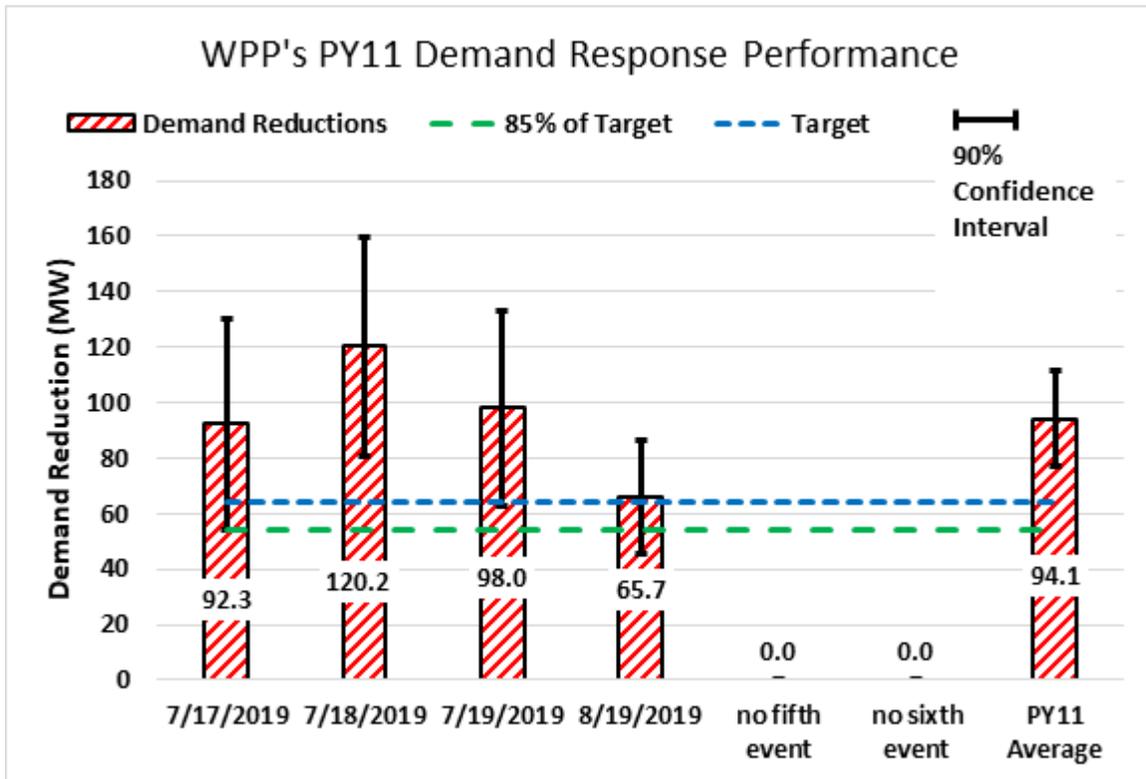
*Figure 6A: Event Performance Compared to 85% Per-Event Target  
Met-Ed*



**Figure 6B: Event Performance Compared to 85% Per-Event Target Penn Power**



**Figure 6C: Event Performance Compared to 85% Per-Event Target  
West Penn Power**



## 2.4 PHASE III PERFORMANCE BY CUSTOMER SEGMENT

**Table 2-8** below presents the participation, savings, and spending by customer sector for PY11. 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 2-8**.

Table 2-8: PY11 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	478,122	16,320	261	156	97
	PYRTD MWh/yr	42,421	1,974	14,191	15,410	2,142
	PYRTD MW/yr (Energy Efficiency)	8.4	0.5	2.2	2.1	0.3
	PYVTD MW (Demand Response)	9.6	0.0	1.2	41.8	4.4
	Incentives (\$1000)	\$2,792.68	\$37.15	\$740.92	\$1,236.76	\$105.77
Penelec	# participants	292,838	18,032	340	60	129
	PYRTD MWh/yr	39,858	2,111	9,217	25,817	4,771
	PYRTD MW/yr (Energy Efficiency)	6.0	0.4	1.4	3.1	0.6
	PYVTD MW (Demand Response)	0.0	0.0	0.0	0.0	0.0
	Incentives (\$1000)	\$2,608.30	\$121.76	\$543.58	\$1,274.09	\$233.98
Penn Power	# participants	103,410	3,390	138	21	28
	PYRTD MWh/yr	10,283	594	10,502	3,674	826
	PYRTD MW/yr (Energy Efficiency)	2.0	0.1	1.4	0.4	0.1
	PYVTD MW (Demand Response)	1.8	0.0	0.0	33.4	0.1
	Incentives (\$1000)	\$455.48	\$11.78	\$530.41	\$150.59	\$41.27
West Penn Power	# participants	339,697	19,528	463	77	142
	PYRTD MWh/yr	32,932	1,872	15,704	15,026	6,097
	PYRTD MW/yr (Energy Efficiency)	7.7	0.5	2.2	2.1	0.7
	PYVTD MW (Demand Response)	3.1	0.0	0.8	89.7	0.4
	Incentives (\$1000)	\$1,315.51	\$44.85	\$865.39	\$1,324.15	\$285.16

Table 2-9 summarizes plan performance by sector since the beginning of Phase III.

**Table 2-9: 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
<b>Met-Ed</b>	# participants	1,531,631	48,645	66,809	651	15,286
	PSA MWh/yr	316,707	36,873	94,616	104,337	24,223
	PSA MW (Energy Efficiency)	42.0	4.6	15.1	13.8	3.5
	Phase III MW (Demand Response)	5.8	0.0	1.8	38.5	6.9
	Incentives (\$1000)	\$18,865.88	\$314.70	\$3,852.71	\$5,615.74	\$1,106.42
<b>Penelec</b>	# participants	1,358,079	55,060	67,932	429	15,160
	PSA MWh/yr	284,685	37,253	81,690	107,111	48,716
	PSA MW (Energy Efficiency)	33.0	4.1	12.7	12.8	6.0
	Phase III MW (Demand Response)	0.0	0.0	0.0	0.0	0.0
	Incentives (\$1000)	\$17,291.03	\$390.12	\$3,989.79	\$5,329.18	\$2,094.80
<b>Penn Power</b>	# participants	350,612	15,419	17,755	130	4,545
	PSA MWh/yr	88,114	10,885	44,514	25,452	9,114
	PSA MW (Energy Efficiency)	12.2	1.3	6.7	2.9	1.1
	Phase III MW (Demand Response)	2.0	0.0	0.0	37.6	0.2
	Incentives (\$1000)	\$5,386.08	\$117.98	\$2,200.66	\$1,839.44	\$467.70
<b>West Penn Power</b>	# participants	1,256,203	44,113	63,437	399	14,034
	PSA MWh/yr	284,007	33,691	92,625	65,112	68,562
	PSA MW (Energy Efficiency)	40.3	4.3	13.4	7.8	6.2
	Phase III MW (Demand Response)	2.4	0.0	1.4	107.9	0.1
	Incentives (\$1000)	\$14,559.70	\$286.70	\$4,303.66	\$5,771.16	\$2,897.52

## Section 3 Updates and Findings

### 3.1 IMPLEMENTATION UPDATES AND FINDINGS

Implementation updates and findings through the first half of PY11 are as follows:

- **Appliance Turn-In:** This program has been marketed through a variety of avenues including bill inserts, e-mail, direct mail campaigns, television ads, internet searches, and radio ads. Most customers that schedule a recycling appointment with ARCA cite hearing about the program through bill inserts. Honeywell also cross-promotes this program while educating retailers about the Appliance Rebates program.
- **Energy Efficient Products Program:** This program continues to be marketed through a variety of avenues including in-store displays, outreach events, radio ads, social media, paid searches, digital ads, bill inserts, and e-mail and direct mail campaigns. The CSP for this program is Honeywell. Below are each of the subprogram updates for this program:
  - **Appliances & Electronics:** This subprogram is performing well and is expected to remain under budget and continue to accumulate savings across all four PA EDCs.
  - **Lighting:** This subprogram is performing well and is expected to remain under budget and continue to accumulate savings across all four PA EDCs.
  - **HVAC:** This 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 1-print report from Oracle during the first half of PY11. This print report sent during the summer months included a marketing module educating customers on the benefits of keeping their thermostat at 78 degrees during summer months. Customers with e-mail addresses receive monthly energy reports with energy consumption patterns and tips on how to save energy. These reports marketed the appliance rebate program in August and a “Prep for Winter” module in October
  - **Energy Audits:** This subprogram implemented by GoodCents is performing well. Through multiple marketing efforts such as bill inserts, emails and Facebook ads, it is expected to remain under budget and continue to achieve savings across all four PA EDCs.
  - **New Homes:** The New Homes subprogram continued with the vendor, Performance Systems Development (PSD), across all four PA EDCs. The program is currently performing above targets and we expect to continue this trend through PY11.

- **School Kits:** This subprogram implemented by AM Conservation is performing well and is expected to remain under budget and continue to accumulate savings across all four PA EDCs.
- **Energy Efficiency Kits:** The Kits subprogram implemented by Power Direct has met its goals and has been suspended consistent with the approved plan design.
- **The Online Audit:** The software tool, referred to the Home Energy Analyzer, is available on the Companies' website. Customers enter information about their home into the Analyzer and customers receive tips on how to save energy. Some of the tips direct customers to other Energy Efficiency programs. There is also a graph that displays where most of the energy use in the home occurs. Upon completion of an online audit, 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:** This subprogram is performing well and is expected to remain under budget and continue to accumulate savings across all four PA EDCs. The CSP for this subprogram is Honeywell.
  - **New Homes:** Subprogram for this semi-annual period performed well with the CSP Performance Systems Development and is on track to meet the target in all four PA EDCs.
  - **School Kits:** The CSP AM Conservation is performing well and is expected to remain under budget and continue to accumulate savings across all four PA EDCs.
  - **Appliance Turn-in subprogram:** Customers identified as low-income receive an enhanced incentive when recycling a refrigerator, freezer, room air conditioner, or dehumidifier. The low-income portion of this program is marketed primarily through e-mails and direct mail. Customers are asked questions at enrollment to identify additional low-income customers. The CSP for this program is ARCA.
  - **Behavioral subprogram:** Oracle 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 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. The CSP for this program is Power Direct.
  - **Weatherization and Residential and SCI Multifamily:** Subprograms continued to perform well and are on track to meet the target in all four PA EDCs. FirstEnergy staff attended the 2019 Multifamily Affordable Housing Conference in

Lancaster. A WARM Advisory Panel meeting held in June included discussion on electric furnace/heat pump replacement, water heater selection guidelines, re-prioritizing measure installations and use of Tyvek, Typar, Reflectix and bubble wrap.

- **C/I Efficient Solutions for Business – Small:** The Companies' CSP, Sodexo, continues to promote and market program through multiple channels – e.g., outreach to customers and program allies, participation in trade shows, hosting outreach events, and on-bill messaging. During this Reporting Period, Sodexo utilized e-Blast and on-bill messaging to reach a wider audience and promote outreach events. Sodexo created a number of new Energy Savings Guides that are targeted at multiple sectors – e.g., Retail & Grocery Stores, Education, Manufacturing, Agriculture, Hospitality and Healthcare sectors. These Guides include a snapshot of overall energy consumption by different end-uses, low-cost/no-cost tips for reducing energy usage and identifies potential energy upgrade projects to further reduce energy consumption.  
During this Reporting Period, Sodexo completely redesigned the existing program website. The new website includes quick links to features that are most used by visitors to this site. Also, the new website includes quick links for customers and program allies to explore energy savings solutions by either business types or equipment type. Sodexo participated in four (4) trade shows and hosted thirteen (13) mini-workshops across all Companies. Sodexo continues with its practice of working with major lighting distributors and hosting Counter Day events across all Companies. Sodexo also continues to partner with other entities and make presentations at events that were sponsored and hosted by these entities, e.g., PennTAP, Southwest Regional Energy Efficiency Roundtable, Westmoreland County Economic Development Council, Jefferson County Conservation District and City of Reading's Environmental Advisory Council. These events help the Companies reach a wider audience and increase program participation.  
To support the CSP's outreach team, the Companies leverage their internal resources – Customer Support, National Accounts, Economic Development, Area Managers, and Staff – to promote its Act 129 portfolio to their assigned accounts or contacts.
- **C/I Efficient Solutions for Business – Large:** The Companies' CSP, Sodexo, continues to promote and market the program through multiple channels – e.g., outreach to customers and program allies, participation in trade shows and on-bill messaging. During this Reporting Period, Sodexo utilized e-Blast and on-bill messaging to reach a wider audience and promote the outreach events. Sodexo created a number of new Energy Savings Guides that are targeted at multiple sectors – e.g., Retail & Grocery Stores, Education, Manufacturing, Agriculture, Hospitality and Healthcare sectors. These Guides include a snapshot of overall energy consumption by different end-uses, low-cost/no-cost tips for reducing energy usage and identifies potential energy upgrade projects to further reduce energy consumption.  
During this Reporting Period, Sodexo completely redesigned the existing program

website. The new website includes quick links to features that are most used by visitors to this site. Also, the new website includes quick links for customers and program allies to explore energy savings solutions by either business types or equipment type.

Sodexo participated in four (4) trade shows and hosted thirteen (13) mini-workshops across all Companies. Sodexo continues with its practice of working with major lighting distributors and hosting Counter Day events across all Companies.

Sodexo also continues to partner with other entities and make presentations at events that were sponsored and hosted by these entities, e.g., PennTAP, Southwest Regional Energy Efficiency Roundtable, Westmoreland County Economic Development Council, Jefferson County Conservation District and City of Reading's Environmental Advisory Council. These events help the Companies reach a wider audience and increase program participation.

To support the CSP's outreach team, the Companies leverage their internal resources – Customer Support, National Accounts, Economic Development, Area Managers, and Staff – to promote its Act 129 portfolio to their assigned accounts or contacts.

**Government & Institutional Tariff Program:** Sodexo continues with its marketing and outreach efforts working closely with government, not-for-profit, and institutional (GNI) customers. During this Reporting Period, Sodexo utilized e-Blast and on-bill messaging to reach GNI customers and promote the outreach events.

During this Reporting Period, Sodexo completely redesigned the existing program website. The new website includes quick links to features that are most used by visitors to this site. Also, the new website includes quick links to energy savings solutions for education, government and healthcare segments. The Marketing Center of the new website includes Energy Savings Guides that are targeted at the education, government, healthcare and non-profit segments.

Sodexo participated in the PA Municipal League Annual Summit, presented at the PennTAP Building Re-Tuning Workshop and hosted 13 mini-workshops across the Companies. GNI customers were a part of the invited audience at these events.

The CSP's outreach team continues to identify and recruit program allies that specialize in working with GNI customers. To support the CSP's outreach team, the Companies leverage their internal resources – Customer Support Reps and Regional External Affairs Consultants – to promote its Act 129 portfolio to their assigned accounts or contacts.

- **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. Residential Behavior DR contracts were executed with Oracle in May 2017 for Penn Power and May 2018 for Met-Ed and West Penn Power for administration of the Residential Demand Response Program. Approximately 248,000 residential customers received postcards in May educating them about conserving energy during peak days.

The C&I DR Programs and Residential Behavioral Programs were both implemented starting in June of 2017.

## 3.2 EVALUATION UPDATES AND FINDINGS

Evaluation updates and findings through Q2 of PY11 are as follows:

- **Portfolio level:** ADM continually reviews the Companies' Tracking and Reporting (T&R) database and collaborates with Companies' staff and the T&R vendor, AEG, to investigate values that are flagged for review in an automated QA/QC process.
- **Appliance Turn-In Program:** Participant surveys for PY11 are conducted on an ongoing basis. Survey targets for PY11 are nearly attained as of this writing.
- **Energy Efficient Products Program:** ADM has reviewed invoices and applications to support our desk review process in PY11. Reviews from the first quarter are completed, and Q2 data are being reviewed presently. Verification surveys for HVAC and downstream appliances are conducted on an ongoing basis.
- **Energy Efficient Homes Program:** The ongoing survey effort for the program elements that provide conservation kits by PowerDirect is nearing completion for PY11. ADM has concluded on-site visits for the New Homes program component.
- **Low-Income Energy Efficiency Program:** ADM is presently conducting participant surveys for the Low-Income Appliance Turn-In program. In an ongoing process, ADM reviews data from on-site inspections for the direct install program component. The PY11 evaluation is on track to conclude by early July.
- **C&I Energy Solutions for Business – Small, C&I Energy Solutions for Business – Large, and Governmental & Institutional Tariff programs:** ADM has sampled over 150 distinct projects for the evaluation of these programs. To date, 34 project evaluations are complete, and the remainder are in various stages of evaluation. ADM is coordinating with SWE to carry out ride-along site visits.
- **C&I Demand Response Programs:** ADM has completed initial evaluation of the C&I Demand Response Programs, with results reported herein. ADM is coordinating with the implementation effort in the evaluation of the PY11 Demand Response season. Tetra Tech has conducted interviews with FirstEnergy program managers and is preparing a survey instrument for the PY11/12 process evaluation effort.
- **Residential Behavior Demand Response:** ADM has concluded our initial evaluation of the Behavioral Demand Response program component for PY11, with results reported herein.

## 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 PY11 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 students' 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.
  - **Behavioral Demand Response:** the number of individual accounts in Oracle's treatment group. 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 customers' 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 students' 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 – Small:** The number of participants who participated in one or more demand response events.
  - **C&I Demand Response Program – Large:** The number of participants who participated in one or more demand response events.
  - **Government & Institutional Tariff Program:** The count of completed project applications.

Table 4-1: EE&C Plan Participation by Program<sup>4</sup>

Utility	Program	PYTD Participation	P3TD Participation
Met-Ed	Appliance Turn-in	2,372	16,141
	Energy Efficient Homes	327,017	359,426
	Energy Efficient Products	148,733	1,236,033
	Low Income Energy Efficiency	16,320	48,645
	C&I Energy Solutions for Business - Small	251	1,597
	C&I Demand Response - Small	45	139
	C&I Energy Solutions for Business - Large	103	648
	C&I Demand Response - Large	104	247
	Governmental & Institutional Tariff	11	146
	<b>Portfolio Total</b>	<b>494,956</b>	<b>1,663,022</b>
Penelec	Appliance Turn-in	2,205	14,328
	Energy Efficient Homes	151,637	233,371
	Energy Efficient Products	138,996	1,189,872
	Low Income Energy Efficiency	18,032	55,060
	C&I Energy Solutions for Business - Small	398	2,694
	C&I Demand Response - Small	0	0
	C&I Energy Solutions for Business - Large	79	581
	C&I Demand Response - Large	0	0
	Governmental & Institutional Tariff	52	753
	<b>Portfolio Total</b>	<b>311,399</b>	<b>1,496,659</b>
Penn Power	Appliance Turn-in	681	5,017
	Energy Efficient Homes	49,967	22,371
	Energy Efficient Products	52,762	344,139
	Low Income Energy Efficiency	3,390	15,419
	C&I Energy Solutions for Business - Small	158	1,089
	C&I Demand Response - Small	0	3
	C&I Energy Solutions for Business - Large	19	130
	C&I Demand Response - Large	9	24
	Governmental & Institutional Tariff	1	269
	<b>Portfolio Total</b>	<b>106,987</b>	<b>388,461</b>
West Penn Power	Appliance Turn-in	2,622	18,464
	Energy Efficient Homes	187,216	124,379
	Energy Efficient Products	149,859	1,187,263
	Low Income Energy Efficiency	19,528	44,113
	C&I Energy Solutions for Business - Small	509	2,601
	C&I Demand Response - Small	15	48
	C&I Energy Solutions for Business - Large	63	423
	C&I Demand Response - Large	32	79
	Governmental & Institutional Tariff	63	815
	<b>Portfolio Total</b>	<b>359,907</b>	<b>1,378,185</b>

<sup>4</sup> 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 5-1**<sup>5</sup>.

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

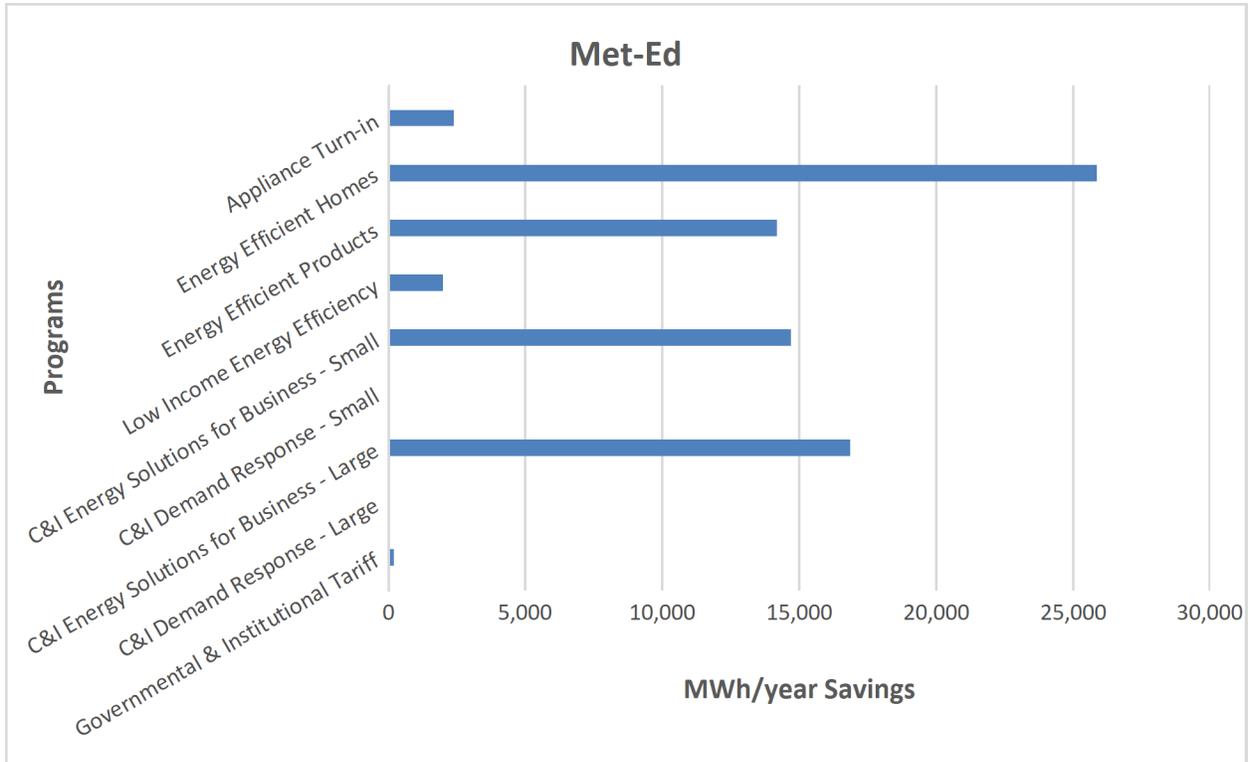
**Table 5-1: Energy Savings by Program (MWh/Year)**

Utility	Program	PYRTD	VTD	PSA	RTD
<b>Met-Ed</b>	Appliance Turn-in	2,376	13,562	15,939	16,235
	Energy Efficient Homes	25,868	171,171	197,039	181,221
	Energy Efficient Products	14,177	102,598	116,775	92,779
	Low Income Energy Efficiency	1,974	34,754	36,728	32,455
	C&I Energy Solutions for Business - Small	14,698	75,279	89,977	90,856
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	16,852	101,423	118,276	119,597
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	192	1,832	2,024	2,051
	<b>Portfolio Total</b>	<b>76,137</b>	<b>500,620</b>	<b>576,757</b>	<b>535,195</b>
<b>Penelec</b>	Appliance Turn-in	2,438	12,385	14,823	15,770
	Energy Efficient Homes	22,787	134,113	156,900	141,940
	Energy Efficient Products	14,632	112,143	126,776	104,446
	Low Income Energy Efficiency	2,111	34,838	36,949	33,714
	C&I Energy Solutions for Business - Small	11,808	75,366	87,174	89,561
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	27,482	106,175	133,658	139,218
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	514	2,661	3,175	3,318
	<b>Portfolio Total</b>	<b>81,774</b>	<b>477,681</b>	<b>559,455</b>	<b>527,967</b>
<b>Penn Power</b>	Appliance Turn-in	745	4,102	4,847	5,565
	Energy Efficient Homes	2,900	40,739	43,639	38,962
	Energy Efficient Products	6,638	37,724	44,362	35,111
	Low Income Energy Efficiency	594	10,110	10,704	10,508
	C&I Energy Solutions for Business - Small	11,201	34,994	46,195	47,504
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	3,798	22,587	26,386	26,998
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	2	1,945	1,948	2,034
	<b>Portfolio Total</b>	<b>25,879</b>	<b>152,201</b>	<b>178,080</b>	<b>166,683</b>
<b>West Penn Power</b>	Appliance Turn-in	2,811	16,423	19,234	19,761
	Energy Efficient Homes	13,356	134,090	147,446	146,536
	Energy Efficient Products	16,765	114,484	131,249	106,660
	Low Income Energy Efficiency	1,872	31,382	33,254	31,763
	C&I Energy Solutions for Business - Small	18,292	78,957	97,250	95,654
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	17,787	76,251	94,038	95,159
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	748	20,779	21,527	20,350
	<b>Portfolio Total</b>	<b>71,632</b>	<b>472,366</b>	<b>543,998</b>	<b>515,882</b>

Figures 7A-7D present a summary of the PYTD reported gross energy savings by program for PY11. The energy impacts in this report are presented at the meter level and do not reflect adjustments for transmission and distribution losses.

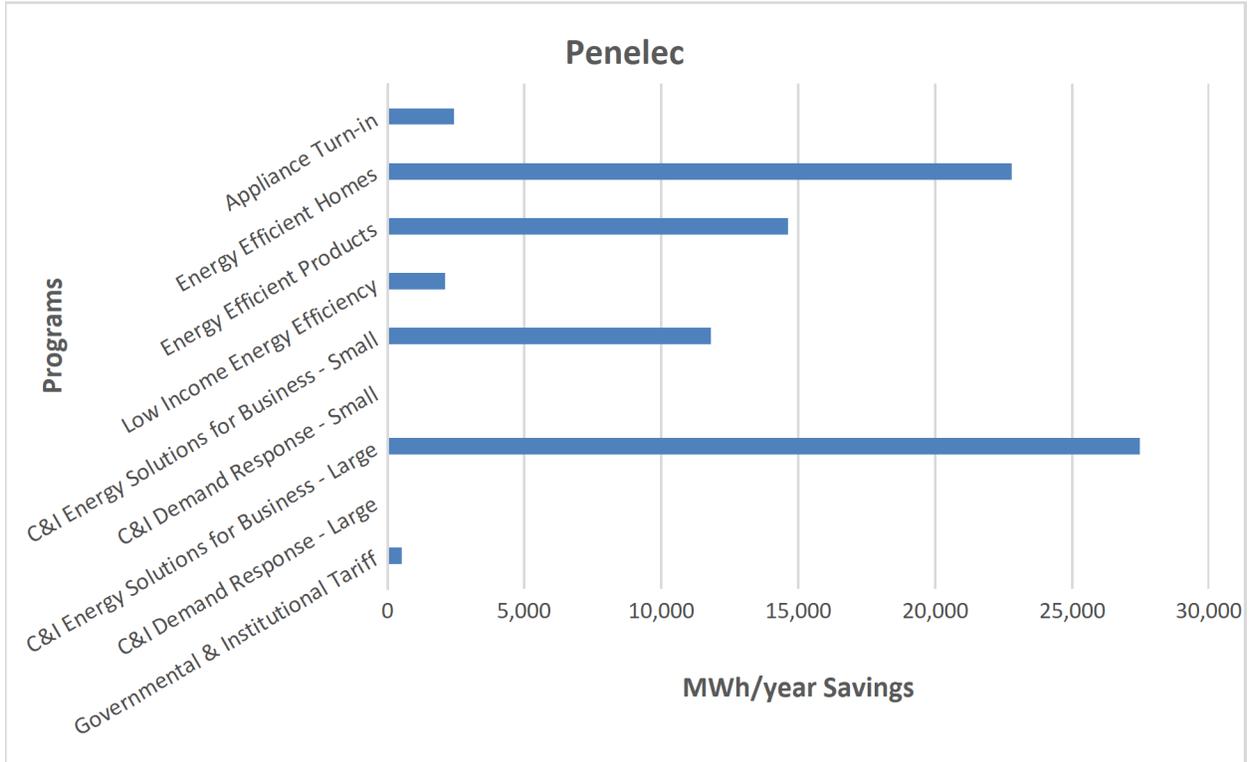
**Figures 7A-7D: Reported Gross Energy Savings by Program<sup>6</sup>**

**Figure 7A: PYTD Reported Gross Energy Savings by Program - Met-Ed**

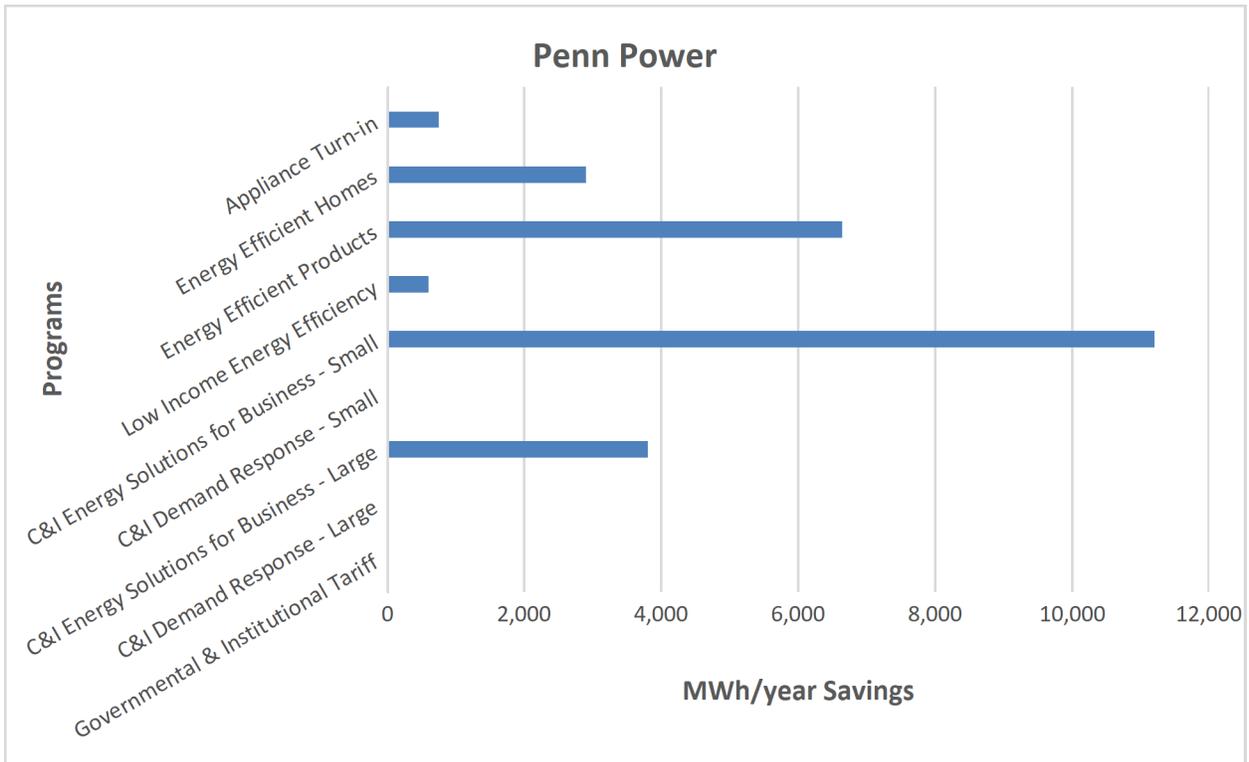


<sup>6</sup> Results for the Small & Large Energy Solutions for Business programs include GNI customers who participated in these programs.

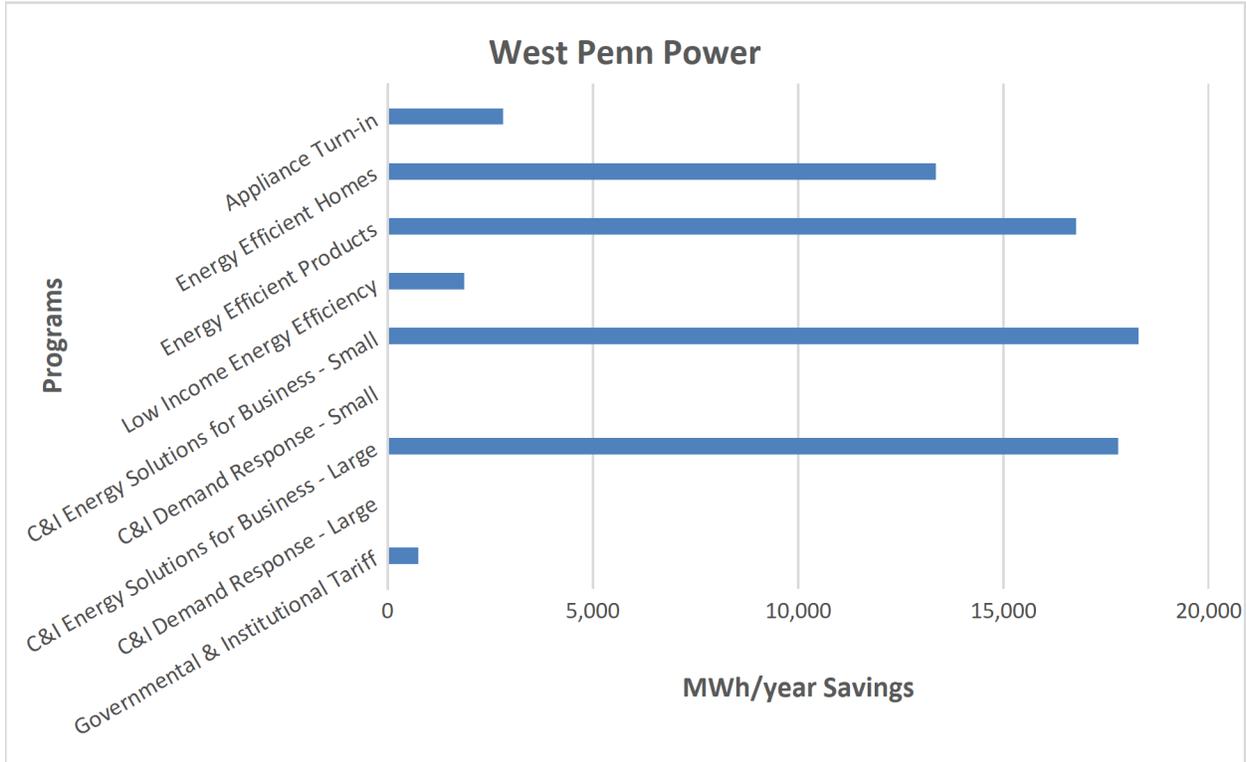
**Figure 7B: PYTD Reported Gross Energy Savings by Program – Penelec**



**Figure 7C: PYTD Reported Gross Energy Savings by Program - Penn Power**



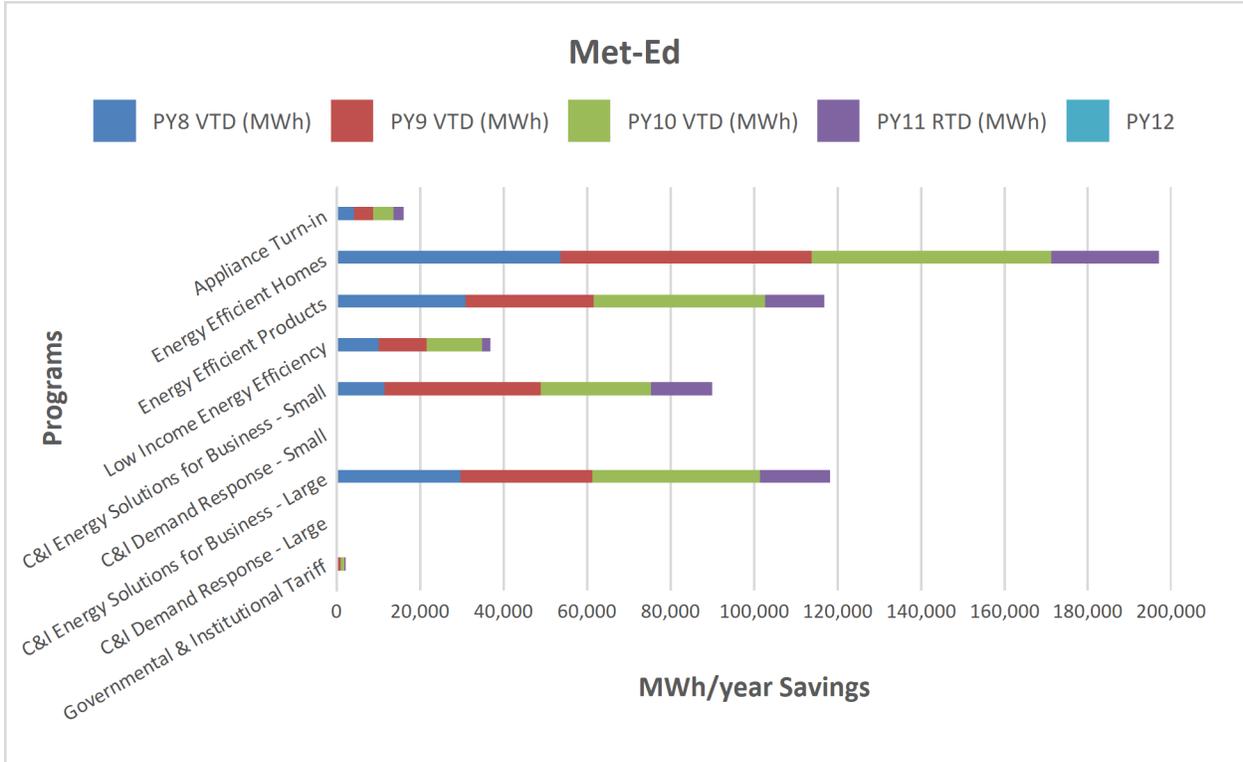
**Figure 7D: PYTD Reported Gross Energy Savings by Program - West Penn Power**



**Figures 8A-8D** 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.

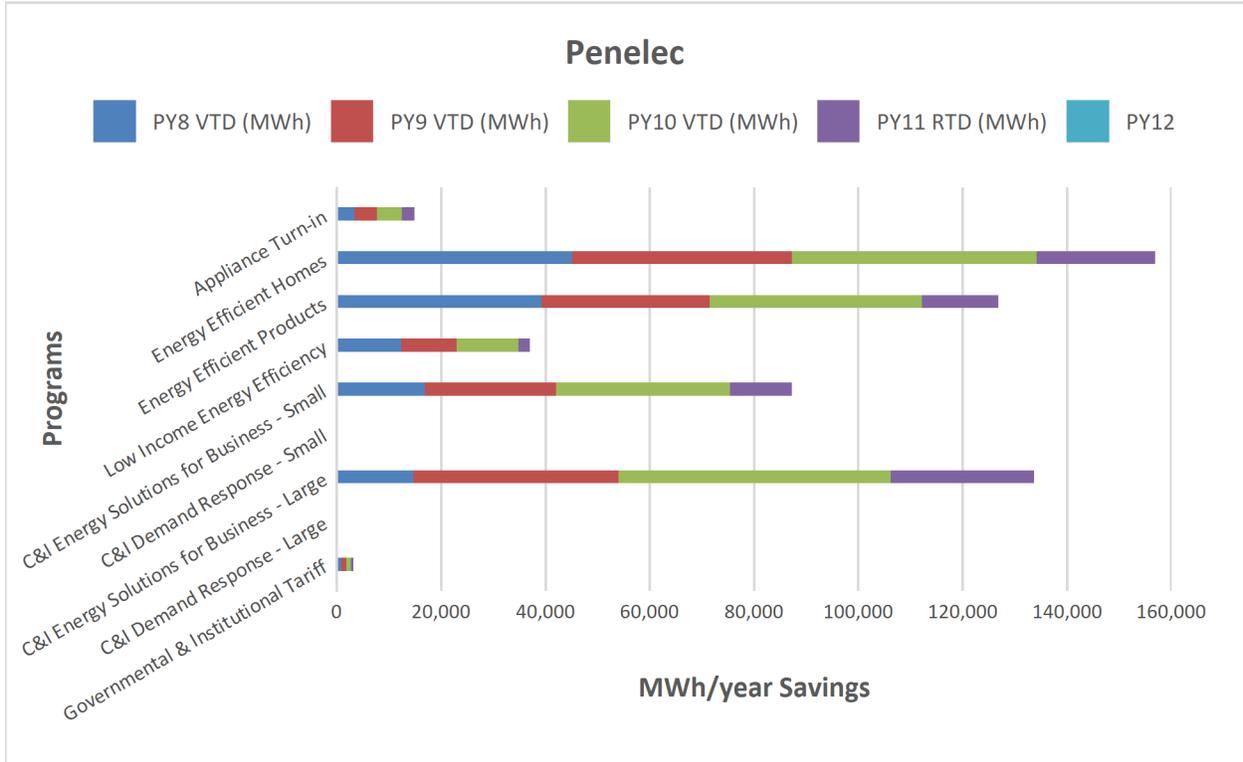
**Figures 8A-8D: PSA Energy Savings by Program for Phase III<sup>7</sup>**

**Figure 8A: PSA Energy Savings by Program for Phase III - Met-Ed**

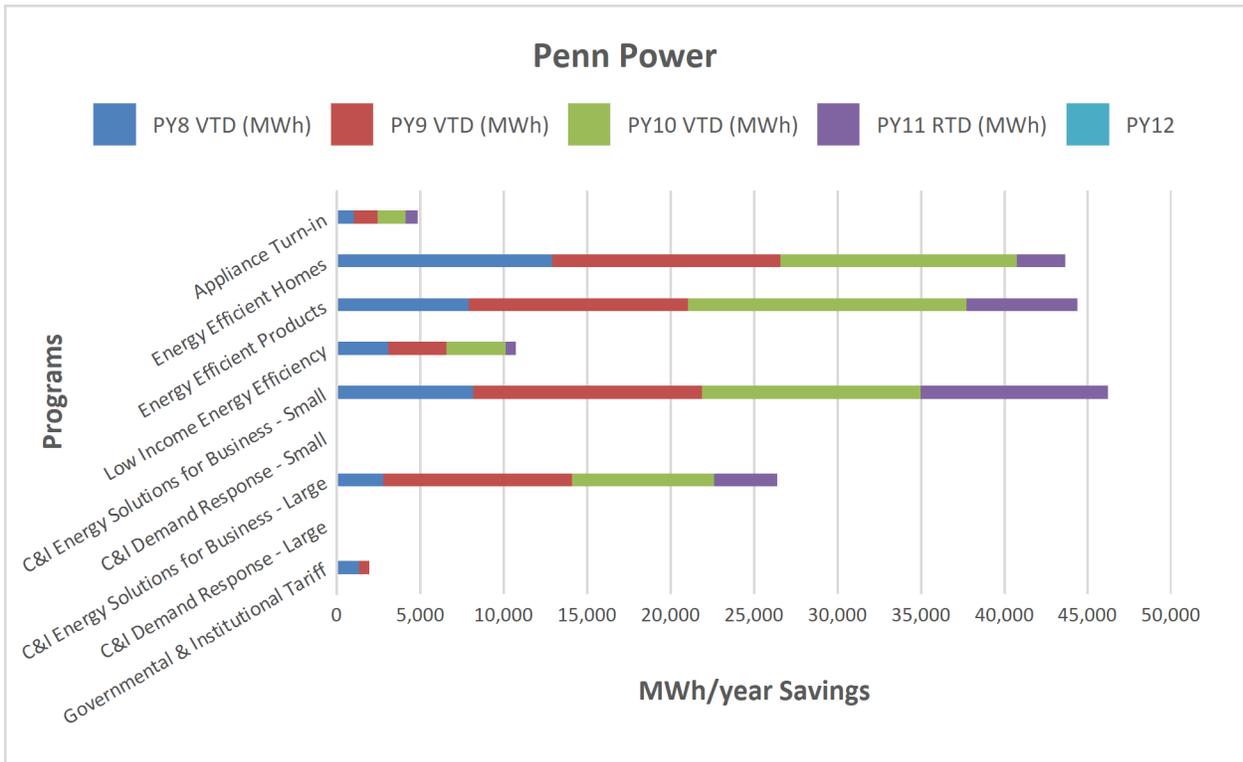


<sup>7</sup> Results for the Small & Large Energy Solutions for Business programs include GNI customers who participated in these programs.

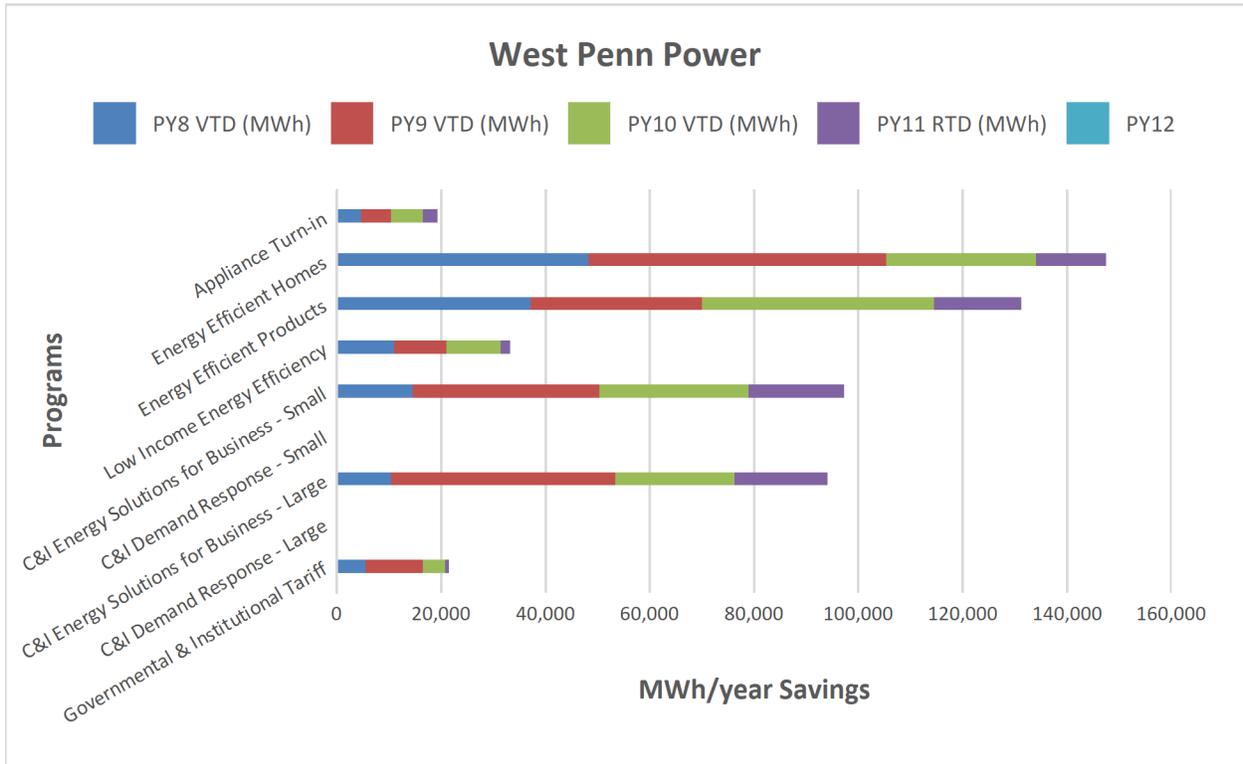
**Figure 8B: PSA Energy Savings by Program for Phase III – Penelec**



**Figure 8C: PSA Energy Savings by Program for Phase III - Penn Power**



**Figure 8D: 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)<sup>8</sup>**

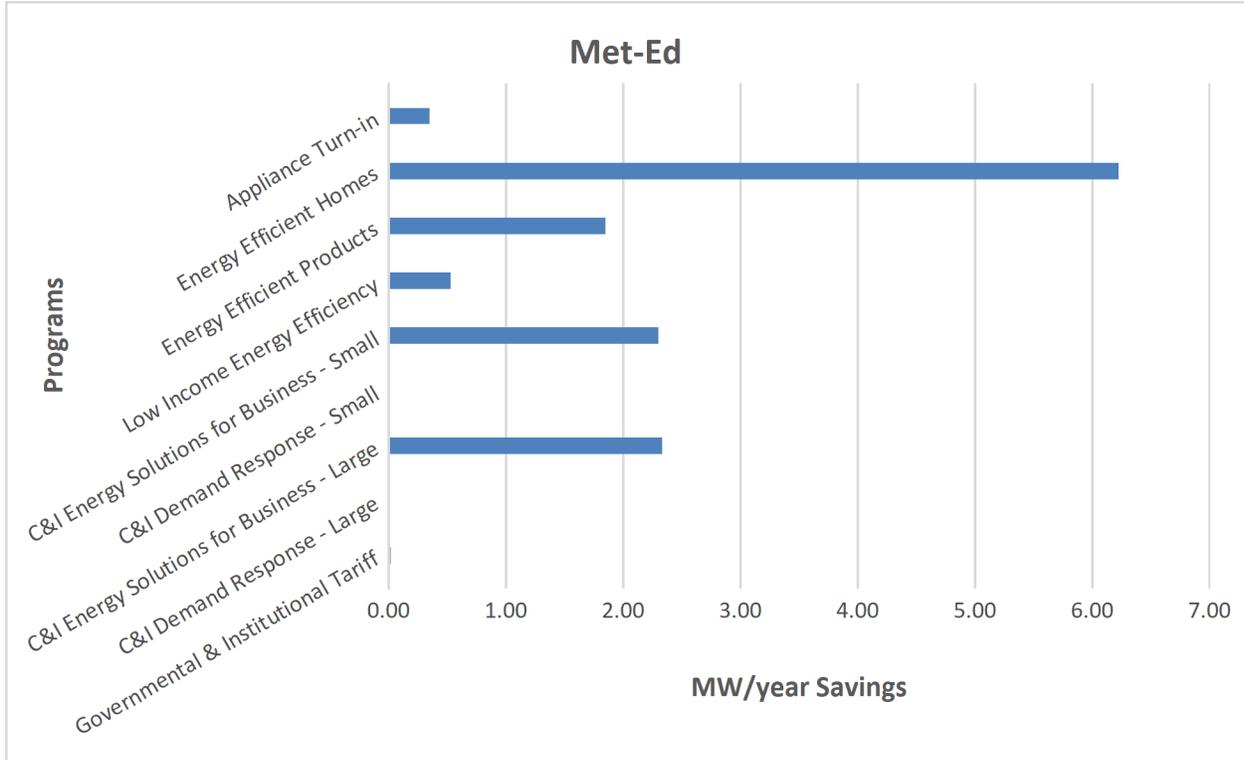
Utility	Program	PYRTD	VTD	PSA	RTD
<b>Met-Ed</b>	Appliance Turn-in	0.35	1.86	2.21	2.30
	Energy Efficient Homes	6.22	20.42	26.64	27.03
	Energy Efficient Products	1.85	13.99	15.84	11.87
	Low Income Energy Efficiency	0.53	4.02	4.54	4.26
	C&I Energy Solutions for Business - Small	2.30	11.44	13.74	13.68
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	2.33	13.76	16.09	16.17
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	0.02	0.02	0.04	0.04
	<b>Portfolio Total</b>	<b>13.59</b>	<b>65.51</b>	<b>79.10</b>	<b>75.34</b>
<b>Penelec</b>	Appliance Turn-in	0.34	1.63	1.97	2.12
	Energy Efficient Homes	3.93	14.54	18.46	18.97
	Energy Efficient Products	1.73	13.66	15.38	11.88
	Low Income Energy Efficiency	0.40	3.72	4.11	4.06
	C&I Energy Solutions for Business - Small	1.79	11.16	12.96	13.65
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	3.34	12.36	15.71	17.01
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	0.01	0.06	0.06	0.06
	<b>Portfolio Total</b>	<b>11.53</b>	<b>57.13</b>	<b>68.66</b>	<b>67.75</b>
<b>Penn Power</b>	Appliance Turn-in	0.09	0.53	0.63	0.71
	Energy Efficient Homes	0.96	5.66	6.62	6.51
	Energy Efficient Products	0.90	4.98	5.88	4.40
	Low Income Energy Efficiency	0.13	1.18	1.32	1.37
	C&I Energy Solutions for Business - Small	1.52	5.20	6.72	6.89
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	0.45	2.51	2.96	3.14
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	0.00	0.07	0.07	0.07
	<b>Portfolio Total</b>	<b>4.06</b>	<b>20.13</b>	<b>24.19</b>	<b>23.09</b>
<b>West Penn Power</b>	Appliance Turn-in	0.38	2.12	2.50	2.56
	Energy Efficient Homes	4.94	17.12	22.06	26.01
	Energy Efficient Products	2.37	16.19	18.56	14.68
	Low Income Energy Efficiency	0.51	3.70	4.20	4.46
	C&I Energy Solutions for Business - Small	2.52	11.01	13.53	13.79
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	2.47	8.44	10.91	11.67
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	0.01	0.18	0.20	0.19
	<b>Portfolio Total</b>	<b>13.19</b>	<b>58.76</b>	<b>71.95</b>	<b>73.37</b>

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

Figures 9A-9D present a summary of the PYRTD reported gross peak demand savings by energy efficiency program for PY11.

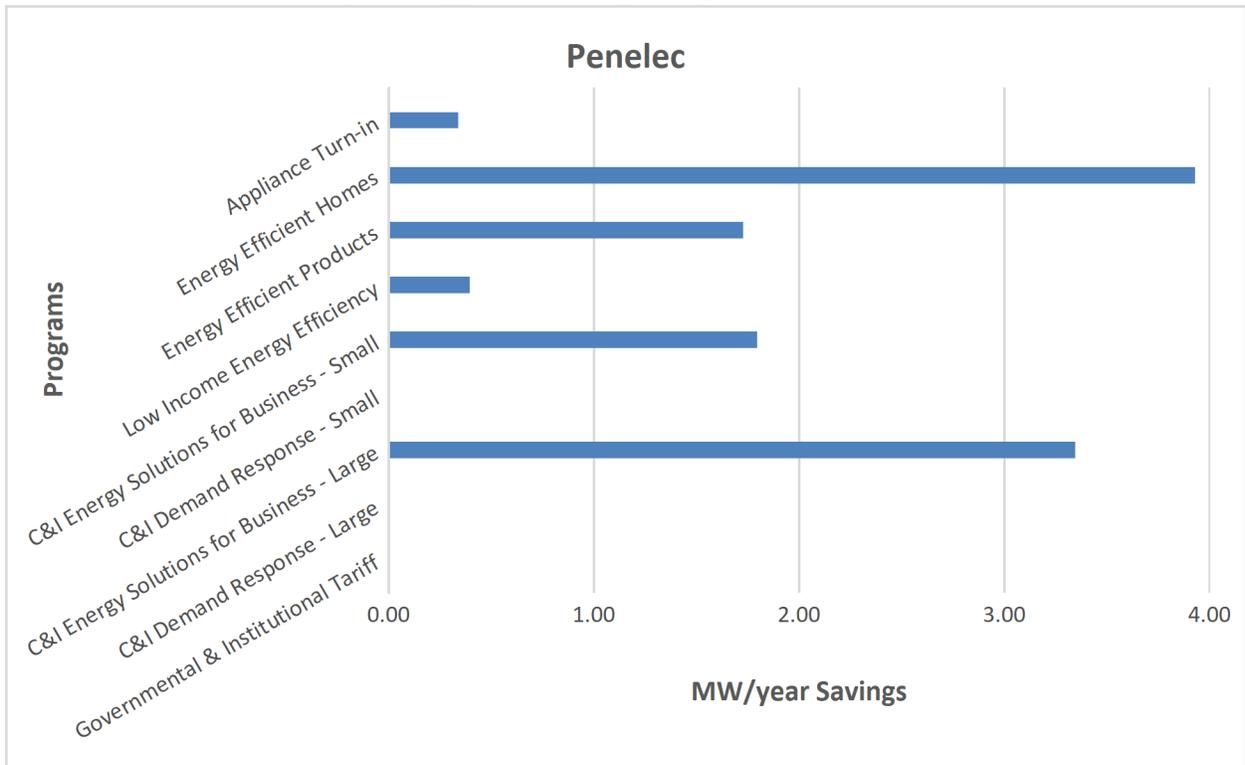
**Figures 9A-9D: PYRTD Gross Demand Savings by Energy Efficiency Program<sup>9</sup>**

**Figure 9A: PYRTD Gross Demand Savings by Energy Efficiency Program - Met-Ed**

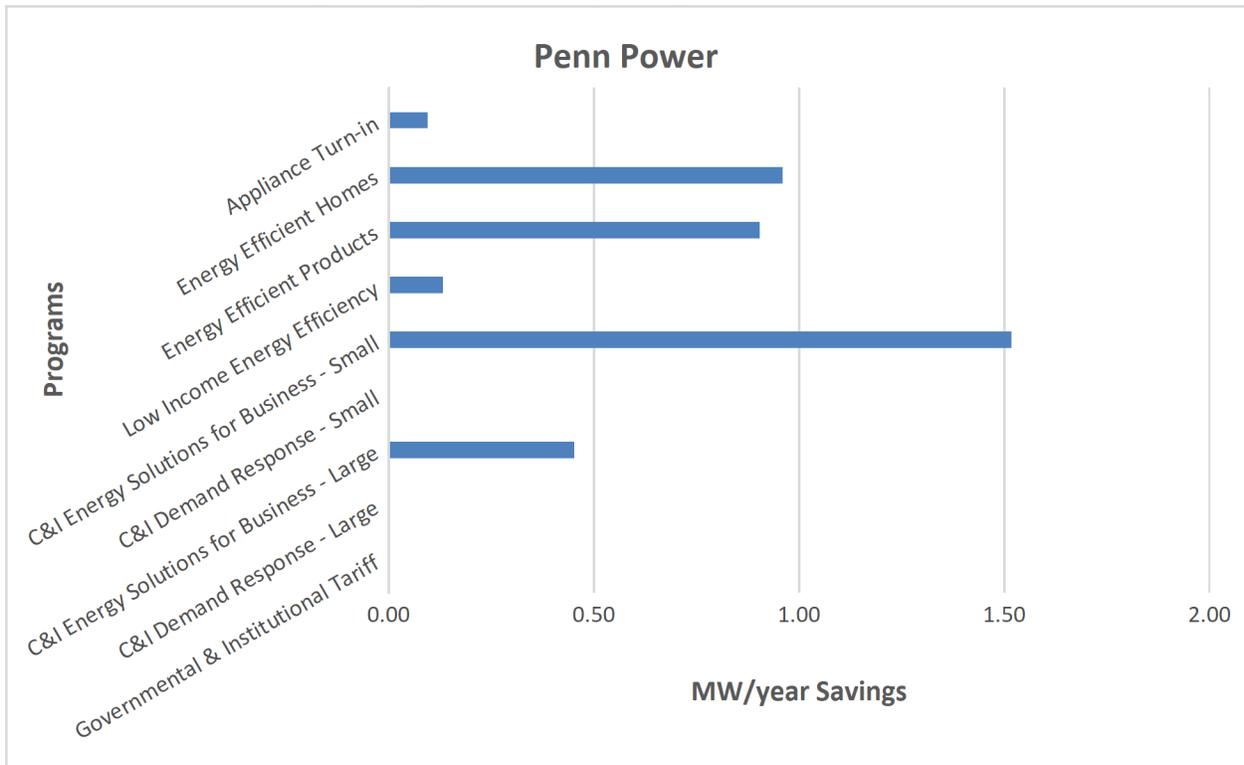


<sup>9</sup> Results for the Small & Large Energy Solutions for Business programs include GNI customers who participated in these programs.

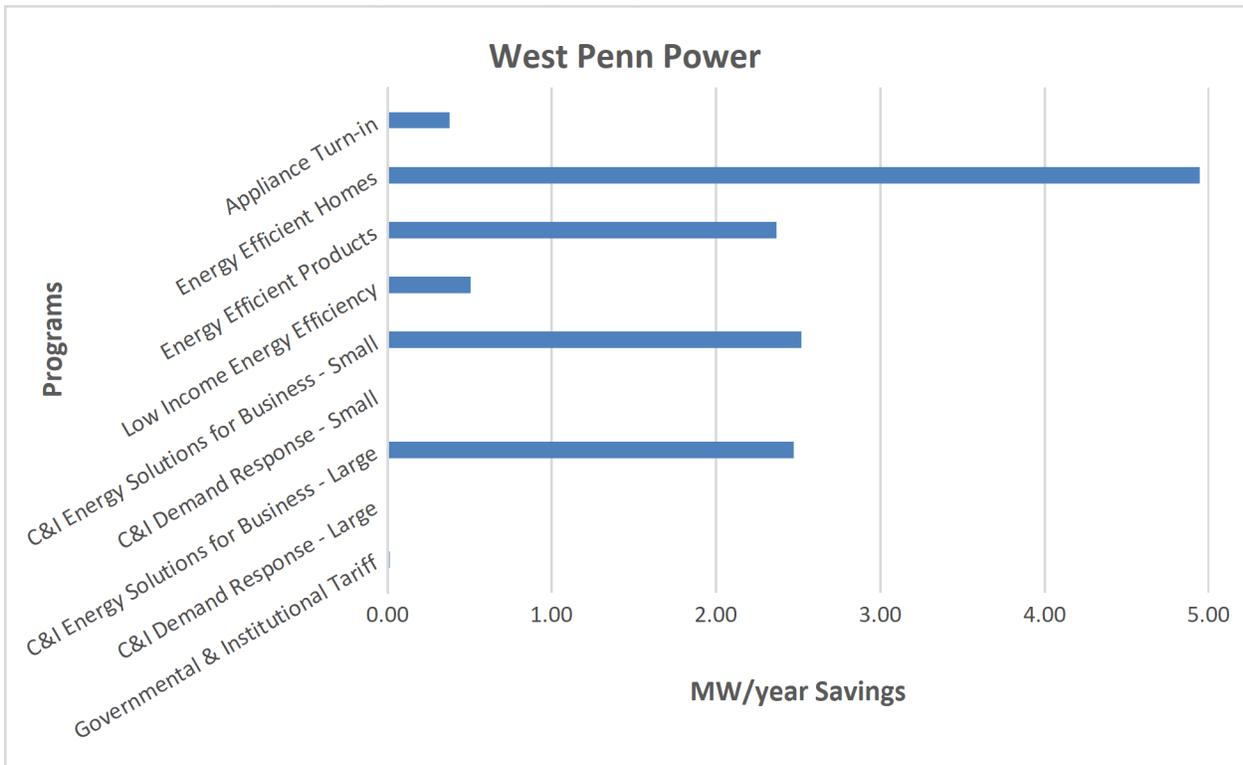
**Figure 9B: PYRTD Gross Demand Savings  
by Energy Efficiency Program – Penelec**



**Figure 9C: PYRTD Gross Demand Savings  
by Energy Efficiency Program - Penn Power**



**Figure 9D: PYRTD Gross Demand Savings  
by Energy Efficiency Program - West Penn Power**

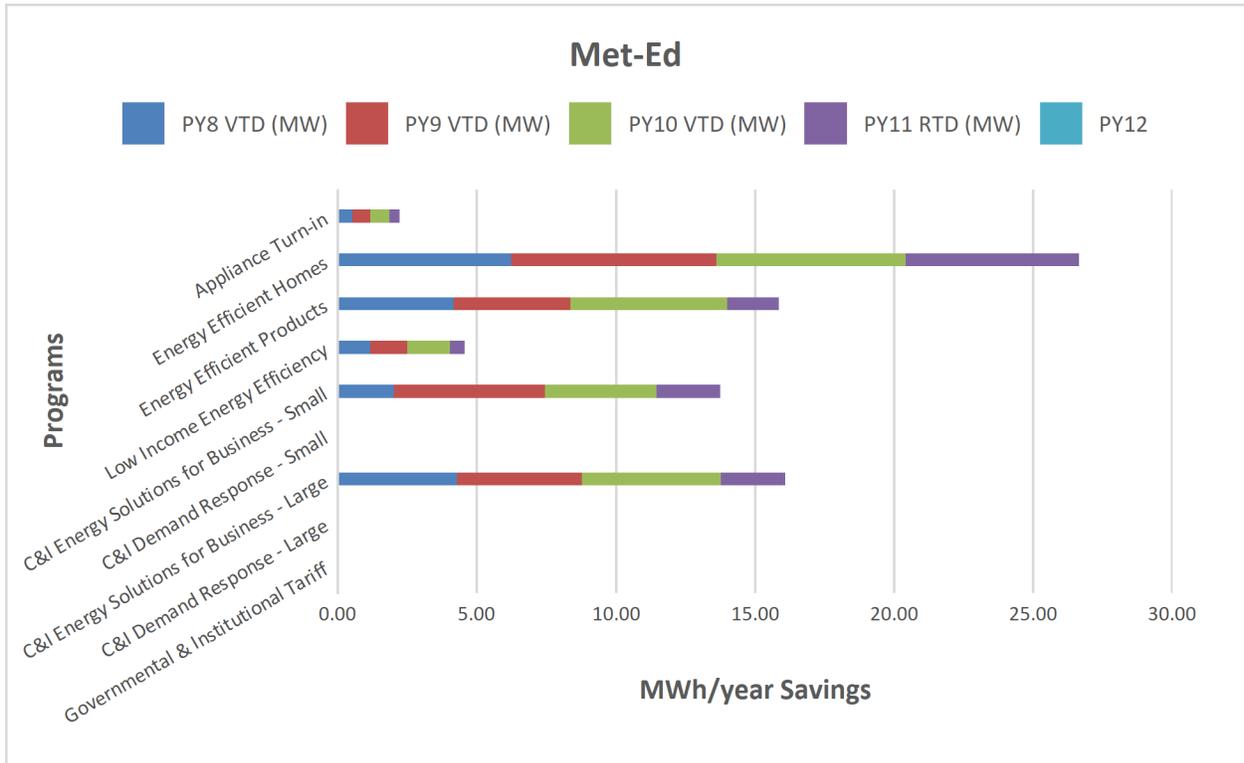


Figures 10A-10D present a summary of the PSA gross demand savings by energy efficiency program for Phase III of Act 129.<sup>10</sup>

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

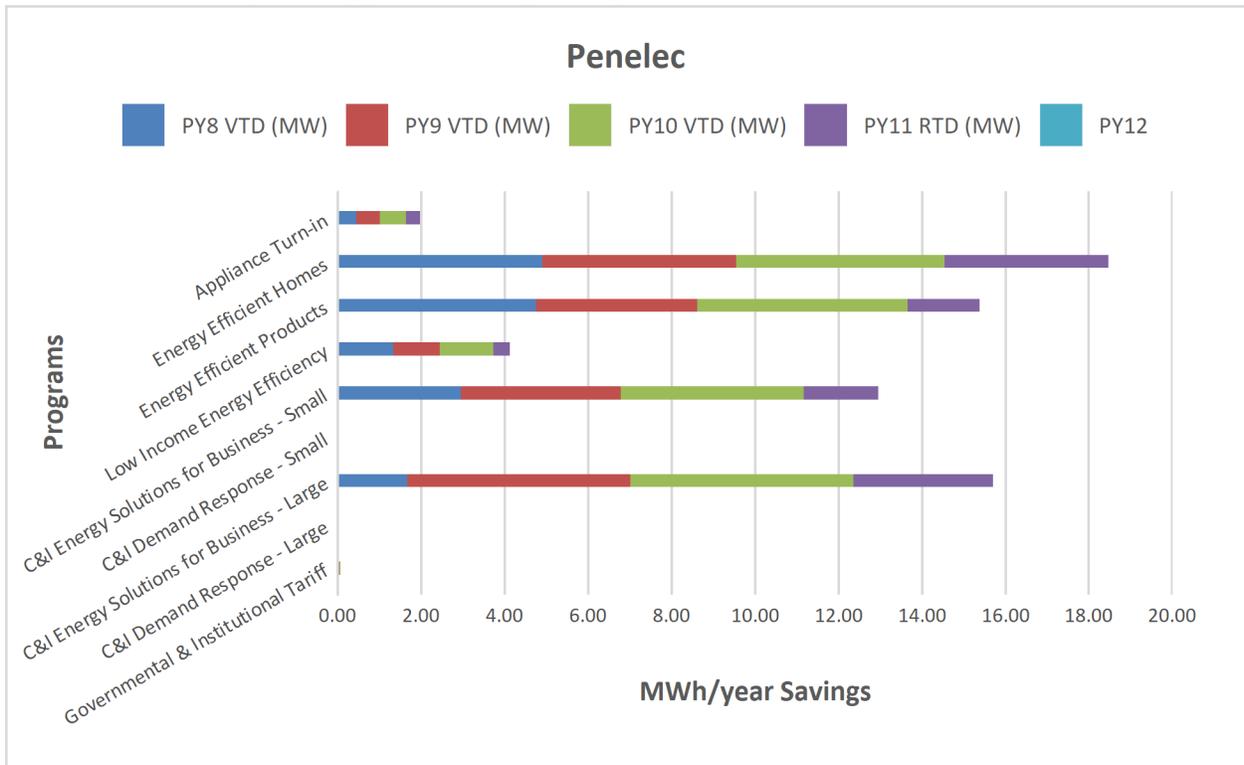
**Figures 10A-10D: PSA Demand Savings by Energy Efficiency Program for Phase III<sup>11</sup>**

**Figure 10A: PSA Demand Savings by Energy Efficiency Program for Phase III – Met-Ed**



<sup>11</sup> Results for the Small & Large Energy Solutions for Business programs include GNI customers who participated in these programs.

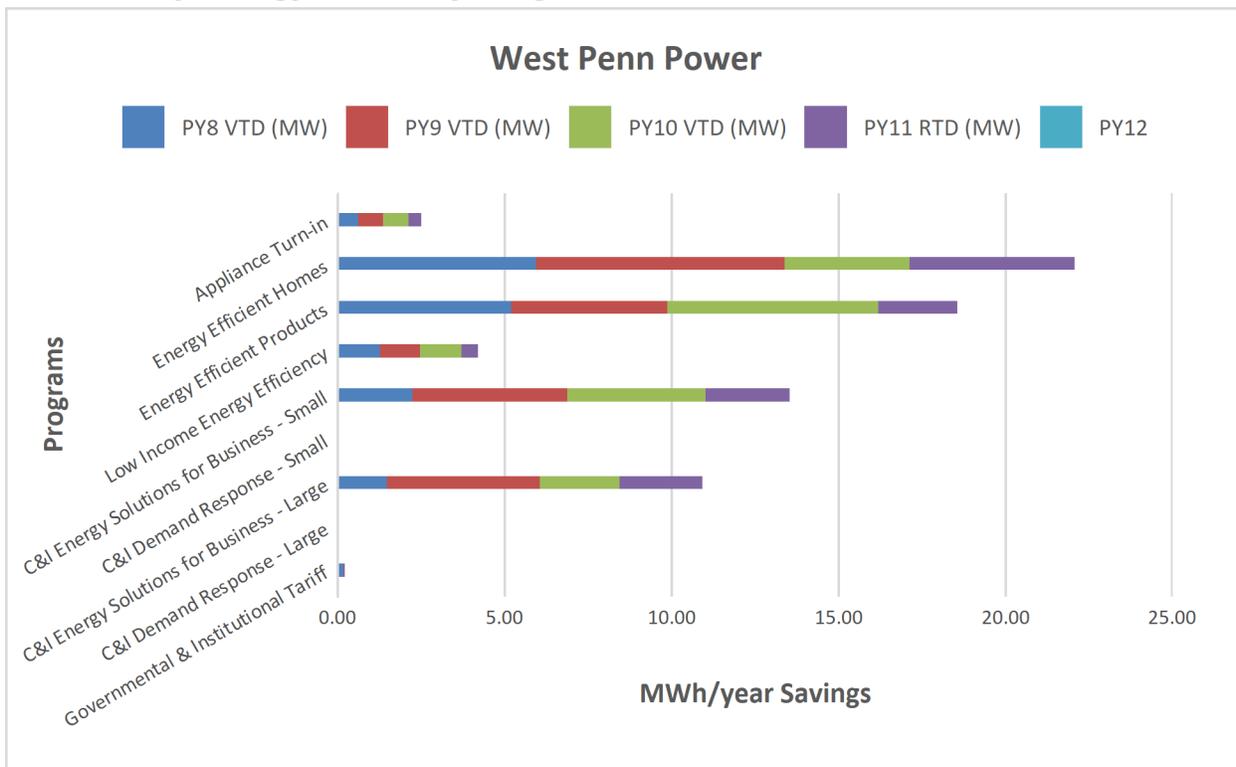
**Figure 10B: PSA Demand Savings  
by Energy Efficiency Program for Phase III – Penelec**



**Figure 10C: PSA Demand Savings  
by Energy Efficiency Program for Phase III – Penn Power**



**Figure 10D: PSA Demand Savings  
by Energy Efficiency Program for Phase III – West Penn Power**



## 6.2 DEMAND RESPONSE

Act 129 defines peak demand savings from demand response as the average reduction in electric demand during the hours when a demand response event is initiated. Phase III DR Events are initiated according to the following guidelines:

- 1) Curtailment events shall be limited to the months of June through September.
- 2) Curtailment events shall be called for the first six days of each program year (starting in PY9) in which the peak hour of PJM’s day-ahead forecast for the PJM RTO is greater than 96% of the PJM RTO summer peak demand forecast for the months of June through September.
- 3) Each curtailment event shall last four contiguous hours.
- 4) Each curtailment event shall be called such that it will occur during the day’s forecasted peak hour(s) above 96% of PJM’s RTO summer peak day-ahead demand forecast.
- 5) Once six curtailment events have been called in a program year, the peak demand reduction program shall be suspended for that program year.

The peak demand impacts from demand response in this report are presented at the system level and reflect adjustments to account for transmission and distribution line losses. FirstEnergy uses the following line loss percentages/multipliers by sector.

Sector	Met-Ed	Penelec	Penn Power	West Penn Power
<b>Residential</b>	1.0945	1.0945	1.0949	1.0943
<b>Small C&amp;I</b>	1.0720	1.0720	1.0545	1.0790
<b>Large C&amp;I</b>	1.0720	1.0720	1.0545	1.0790

Table 6-2 summarizes the PYVTD and VTD demand reductions for each of the demand response programs in the EE&C plan and for the demand response portfolio as a whole. VTD demand reductions are the average performance across all Phase III demand response events independent of how many events occurred in a given program year. The relative precision columns in Table 6-2 indicate the margin of error (at the 90% confidence interval) around the PYVTD and VTD demand reductions.

**Table 6-2: Verified Gross Demand Response Impacts by Program**

Utility	Program	PYVTD Gross MW	Relative Precision (90%)	VTD Gross MW	Relative Precision (90%)
Met-Ed	Energy Efficient Homes	9.6	20.1%	5.8	11.7%
	C&I Demand Response - Small	1.5	9.7%	3.4	7.2%
	C&I Demand Response - Large	45.9	5.3%	43.9	3.7%
	Portfolio Total	57.0	3.2%	53.1	3.4%
	Portfolio Total (Confidence Interval)	55.2 - 58.8		51.3 - 54.9	
Penelec	Energy Efficient Homes	n/a	n/a	n/a	n/a
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Portfolio Total	n/a	n/a	n/a	n/a
Penn Power	Energy Efficient Homes	1.8	31.6%	2.0	10.5%
	C&I Demand Response - Small	0.0	0.0%	0.0	58.1%
	C&I Demand Response - Large	33.4	48.4%	37.8	23.3%
	Portfolio Total	35.2	27.8%	39.9	22.1%
	Portfolio Total (Confidence Interval)	25.4 - 45.0		31.1 - 48.7	
West Penn Power	Energy Efficient Homes	3.1	30.1%	2.4	14.0%
	C&I Demand Response - Small	0.9	5.6%	1.4	17.0%
	C&I Demand Response - Large	90.0	31.2%	108.0	13.8%
	Portfolio Total	94.1	18.2%	111.8	13.4%
	Portfolio Total (Confidence Interval)	77.0 - 111.2		96.9 - 126.7	

## Section 7 Summary of Finances

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

### 7.1 PROGRAM FINANCIALS

Program-specific and portfolio total finances for PY11 are shown in **Table 7-1A to 7-1D**.<sup>12</sup> The columns in these tables are adapted from the 'Direct Program Cost' categories in the Commission's EE&V Plan template<sup>13</sup> 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.

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<sup>12</sup> 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.

<sup>13</sup> <http://www.puc.pa.gov/pcdocs/1372426.doc> Section 10

Table 7-1A to 7-1D: Program Year to Date Financials<sup>14</sup>

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>	\$137,850	\$28,710	\$331,700	\$17,076	\$515,336
<i>Energy Efficient Homes</i>	\$1,942,908	\$123,115	\$853,608	\$132,645	\$3,052,276
<i>Energy Efficient Products</i>	\$711,922	\$45,080	\$422,636	\$90,842	\$1,270,479
<i>Low Income Energy Efficiency</i>	\$37,150	\$129,688	\$492,052	\$45,743	\$704,632
<i>C&amp;I Energy Solutions for Business - Small</i>	\$739,436	\$75,839	\$424,034	\$168,724	\$1,408,033
<i>C&amp;I Demand Response - Small</i>	\$26,144	\$5,842	\$25,957	\$2,799	\$60,742
<i>C&amp;I Energy Solutions for Business - Large</i>	\$771,259	\$55,349	\$409,622	\$175,474	\$1,411,705
<i>C&amp;I Demand Response - Large</i>	\$538,923	\$52,365	\$411,944	\$25,096	\$1,028,329
<i>Governmental &amp; Institutional Tariff</i>	\$7,680	\$4,425	\$13,680	\$13,792	\$39,577
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$4,913,272	\$520,415	\$3,385,233	\$672,191	\$9,491,110
<i>SWE Costs<sup>5</sup></i>	\$0	\$0	\$0	\$0	\$128,000
<i>Total</i>	\$4,913,272	\$520,415	\$3,385,233	\$672,191	\$9,619,110

<sup>14</sup> 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**

<b>Program</b>	<b>Incentives to Participants and Trade Allies</b>	<b>EDC Materials, Labor, and Administration</b>	<b>ICSP Materials, Labor, and Administration</b>	<b>EM&amp;V</b>	<b>Total EDC Cost</b>
<i>Appliance Turn-in</i>	\$126,675	\$32,003	\$310,190	\$18,374	\$487,243
<i>Energy Efficient Homes</i>	\$1,929,742	\$99,135	\$495,048	\$80,625	\$2,604,550
<i>Energy Efficient Products</i>	\$551,885	\$47,361	\$399,823	\$92,766	\$1,091,835
<i>Low Income Energy Efficiency</i>	\$121,755	\$132,567	\$632,232	\$46,041	\$932,595
<i>C&amp;I Energy Solutions for Business - Small</i>	\$676,691	\$79,104	\$433,125	\$176,290	\$1,365,210
<i>C&amp;I Demand Response - Small</i>	\$0	\$0	\$0	\$0	\$0
<i>C&amp;I Energy Solutions for Business - Large</i>	\$1,349,297	\$48,559	\$560,887	\$152,853	\$2,111,598
<i>C&amp;I Demand Response - Large</i>	\$0	\$0	\$0	\$0	\$0
<i>Governmental &amp; Institutional Tariff</i>	\$25,659	\$6,242	\$31,919	\$19,519	\$83,338
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$4,781,705	\$444,970	\$2,863,225	\$586,469	\$8,676,368
<i>SWE Costs<sup>5</sup></i>	\$0	\$0	\$0	\$0	\$116,000
<i>Total</i>	\$4,781,705	\$444,970	\$2,863,225	\$586,469	\$8,792,368

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

<b>Program</b>	<b>Incentives to Participants and Trade Allies</b>	<b>EDC Materials, Labor, and Administration</b>	<b>ICSP Materials, Labor, and Administration</b>	<b>EM&amp;V</b>	<b>Total EDC Cost</b>
<i>Appliance Turn-in</i>	\$37,700	\$7,103	\$107,331	\$4,222	\$156,356
<i>Energy Efficient Homes</i>	\$135,172	\$45,775	\$163,422	\$43,642	\$388,012
<i>Energy Efficient Products</i>	\$282,604	\$9,666	\$136,962	\$20,510	\$449,743
<i>Low Income Energy Efficiency</i>	\$11,780	\$49,816	\$192,177	\$15,981	\$269,754
<i>C&amp;I Energy Solutions for Business - Small</i>	\$565,351	\$35,472	\$274,501	\$41,812	\$917,136
<i>C&amp;I Demand Response - Small</i>	\$0	\$2,033	\$0	\$966	\$2,999
<i>C&amp;I Energy Solutions for Business - Large</i>	\$156,802	\$20,608	\$77,245	\$33,038	\$287,693
<i>C&amp;I Demand Response - Large</i>	\$0	\$18,198	\$114,800	\$8,657	\$141,655
<i>Governmental &amp; Institutional Tariff</i>	\$115	\$2,974	\$4,923	\$4,686	\$12,698
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$1,189,524	\$191,647	\$1,071,362	\$173,512	\$2,626,045
<i>SWE Costs<sup>5</sup></i>	\$0	\$0	\$0	\$0	\$36,000
<i>Total</i>	\$1,189,524	\$191,647	\$1,071,362	\$173,512	\$2,662,045

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

<b>Program</b>	<b>Incentives to Participants and Trade Allies</b>	<b>EDC Materials, Labor, and Administration</b>	<b>ICSP Materials, Labor, and Administration</b>	<b>EM&amp;V</b>	<b>Total EDC Cost</b>
<i>Appliance Turn-in</i>	\$149,375	\$28,848	\$358,246	\$17,074	\$553,543
<i>Energy Efficient Homes</i>	\$376,069	\$120,263	\$567,804	\$115,685	\$1,179,820
<i>Energy Efficient Products</i>	\$790,063	\$51,740	\$532,692	\$100,175	\$1,474,669
<i>Low Income Energy Efficiency</i>	\$44,850	\$133,627	\$1,549,274	\$47,032	\$1,774,783
<i>C&amp;I Energy Solutions for Business - Small</i>	\$991,123	\$87,154	\$771,133	\$200,411	\$2,049,821
<i>C&amp;I Demand Response - Small</i>	\$4,414	\$7,328	\$4,868	\$3,521	\$20,130
<i>C&amp;I Energy Solutions for Business - Large</i>	\$878,337	\$44,620	\$458,865	\$141,208	\$1,523,029
<i>C&amp;I Demand Response - Large</i>	\$588,232	\$66,006	\$468,284	\$31,722	\$1,154,244
<i>Governmental &amp; Institutional Tariff</i>	\$12,602	\$5,600	\$23,206	\$17,372	\$58,779
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$3,835,064	\$545,185	\$4,734,371	\$674,199	\$9,788,820
<i>SWE Costs<sup>5</sup></i>	\$0	\$0	\$0	\$0	\$120,000
<i>Total</i>	\$3,835,064	\$545,185	\$4,734,371	\$674,199	\$9,908,820

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 Financials<sup>15</sup>**

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

<b>Program</b>	<b>Incentives to Participants and Trade Allies</b>	<b>EDC Materials, Labor, and Administration</b>	<b>ICSP Materials, Labor, and Administration</b>	<b>EM&amp;V</b>	<b>Total EDC Cost</b>
<i>Appliance Turn-in</i>	\$927,125	\$177,870	\$2,248,748	\$96,376	\$3,450,118
<i>Energy Efficient Homes</i>	\$11,754,848	\$701,761	\$7,936,354	\$560,924	\$20,953,887
<i>Energy Efficient Products</i>	\$6,183,908	\$188,681	\$2,829,172	\$412,758	\$9,614,520
<i>Low Income Energy Efficiency</i>	\$314,699	\$919,940	\$9,518,139	\$362,749	\$11,115,526
<i>C&amp;I Energy Solutions for Business - Small</i>	\$4,105,999	\$493,320	\$2,773,099	\$624,990	\$7,997,409
<i>C&amp;I Demand Response - Small</i>	\$61,391	\$40,365	\$176,527	\$21,569	\$299,852
<i>C&amp;I Energy Solutions for Business - Large</i>	\$5,596,769	\$317,022	\$3,143,852	\$672,046	\$9,729,690
<i>C&amp;I Demand Response - Large</i>	\$705,940	\$361,792	\$2,216,886	\$193,578	\$3,478,195
<i>Governmental &amp; Institutional Tariff</i>	\$104,779	\$14,942	\$120,466	\$48,267	\$288,454
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$29,755,458	\$3,215,692	\$30,963,243	\$2,993,256	\$66,927,650
<i>SWE Costs<sup>5</sup></i>	\$0	\$0	\$0	\$0	\$1,087,987
<i>Total</i>	\$29,755,458	\$3,215,692	\$30,963,243	\$2,993,256	\$68,015,637

<sup>15</sup> 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**

<b>Program</b>	<b>Incentives to Participants and Trade Allies</b>	<b>EDC Materials, Labor, and Administration</b>	<b>ICSP Materials, Labor, and Administration</b>	<b>EM&amp;V</b>	<b>Total EDC Cost</b>
<i>Appliance Turn-in</i>	\$813,850	\$197,494	\$2,065,590	\$104,339	\$3,181,273
<i>Energy Efficient Homes</i>	\$11,031,307	\$652,661	\$6,707,554	\$453,787	\$18,845,309
<i>Energy Efficient Products</i>	\$5,445,872	\$201,846	\$2,839,969	\$401,776	\$8,889,464
<i>Low Income Energy Efficiency</i>	\$390,119	\$1,084,224	\$9,416,880	\$392,624	\$11,283,847
<i>C&amp;I Energy Solutions for Business - Small</i>	\$4,873,348	\$529,139	\$2,814,935	\$655,358	\$8,872,781
<i>C&amp;I Demand Response - Small</i>	\$0	\$0	\$0	\$0	\$0
<i>C&amp;I Energy Solutions for Business - Large</i>	\$6,374,345	\$303,966	\$3,274,865	\$591,517	\$10,544,693
<i>C&amp;I Demand Response - Large</i>	\$0	\$0	\$0	\$0	\$0
<i>Governmental &amp; Institutional Tariff</i>	\$166,073	\$35,461	\$235,548	\$72,242	\$509,324
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$29,094,914	\$3,004,792	\$27,355,341	\$2,671,644	\$62,126,691
<i>SWE Costs<sup>5</sup></i>	\$0	\$0	\$0	\$0	\$986,000
<i>Total</i>	\$29,094,914	\$3,004,792	\$27,355,341	\$2,671,644	\$63,112,691

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

<b>Program</b>	<b>Incentives to Participants and Trade Allies</b>	<b>EDC Materials, Labor, and Administration</b>	<b>ICSP Materials, Labor, and Administration</b>	<b>EM&amp;V</b>	<b>Total EDC Cost</b>
<i>Appliance Turn-in</i>	\$279,050	\$45,669	\$797,523	\$23,760	\$1,146,001
<i>Energy Efficient Homes</i>	\$3,218,464	\$264,197	\$2,155,255	\$186,567	\$5,824,483
<i>Energy Efficient Products</i>	\$1,888,570	\$14,938	\$734,958	\$87,111	\$2,725,577
<i>Low Income Energy Efficiency</i>	\$117,980	\$381,446	\$2,748,150	\$127,534	\$3,375,111
<i>C&amp;I Energy Solutions for Business - Small</i>	\$2,505,695	\$193,876	\$1,181,761	\$156,834	\$4,038,166
<i>C&amp;I Demand Response - Small</i>	\$0	\$14,060	\$3,442	\$7,403	\$24,904
<i>C&amp;I Energy Solutions for Business - Large</i>	\$1,209,908	\$116,740	\$636,710	\$128,037	\$2,091,395
<i>C&amp;I Demand Response - Large</i>	\$682,339	\$125,949	\$604,975	\$66,377	\$1,479,639
<i>Governmental &amp; Institutional Tariff</i>	\$109,860	\$12,051	\$87,095	\$16,733	\$225,738
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$10,011,866	\$1,168,925	\$8,949,868	\$800,355	\$20,931,015
<i>SWE Costs<sup>5</sup></i>	\$0	\$0	\$0	\$0	\$306,000
<i>Total</i>	\$10,011,866	\$1,168,925	\$8,949,868	\$800,355	\$21,237,015

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

<b>Program</b>	<b>Incentives to Participants and Trade Allies</b>	<b>EDC Materials, Labor, and Administration</b>	<b>ICSP Materials, Labor, and Administration</b>	<b>EM&amp;V</b>	<b>Total EDC Cost</b>
<i>Appliance Turn-in</i>	\$1,033,850	\$184,266	\$2,539,754	\$96,086	\$3,853,955
<i>Energy Efficient Homes</i>	\$6,953,891	\$773,763	\$7,455,133	\$520,277	\$15,703,063
<i>Energy Efficient Products</i>	\$6,571,963	\$294,949	\$3,470,219	\$443,854	\$10,780,986
<i>Low Income Energy Efficiency</i>	\$286,704	\$944,583	\$10,022,754	\$384,984	\$11,639,025
<i>C&amp;I Energy Solutions for Business - Small</i>	\$5,074,156	\$561,513	\$3,867,621	\$701,973	\$10,205,262
<i>C&amp;I Demand Response - Small</i>	\$15,243	\$50,902	\$61,632	\$27,126	\$154,904
<i>C&amp;I Energy Solutions for Business - Large</i>	\$4,380,842	\$269,196	\$2,658,055	\$542,711	\$7,850,805
<i>C&amp;I Demand Response - Large</i>	\$2,569,675	\$457,846	\$2,486,279	\$244,215	\$5,758,016
<i>Governmental &amp; Institutional Tariff</i>	\$932,424	\$30,881	\$521,288	\$62,053	\$1,546,646
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$27,818,748	\$3,567,899	\$33,082,736	\$3,023,279	\$67,492,662
<i>SWE Costs<sup>5</sup></i>	\$0	\$0	\$0	\$0	\$1,020,000
<i>Total</i>	\$27,818,748	\$3,567,899	\$33,082,736	\$3,023,279	\$68,512,662

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 PY10 were presented in the final annual report to the PA PUC on November 15, 2019 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 charged for electric service. Readers should be mindful of the differences between Table 2-7 Section 2.4 and Tables 7-3A-7-3D. For example, the low-income customer segment is a subset of the FirstEnergy EDCs' residential tariff(s) and therefore not listed in Tables 7-3A to 7-3D.

**Table 7-3A to 7-3D: EE&C Plan Expenditures by Cost-Recovery Category<sup>16</sup>**

**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	\$5,626	\$45,841
	Small C&I	Rate GS-Small, Rate GS-Medium, and Outdoor Lighting Service	\$1,488	\$8,460
	Large C&I	Rate GS-Large, Rate GP and Rate TP	\$2,464	\$13,417
	Street Lighting	Street Lighting Service, LED Street Lighting Service and Ornamental Street Lighting Service	\$12	\$141
	Government & Non-Profit Tariff	Rate GS - Volunteer Fire Company, and Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate and Rate MS	\$29	\$156
Portfolio Total			\$9,619	\$68,016

<sup>16</sup> 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	\$5,199	\$42,911
	Small C&I	Rate GS-Small, Rate GS-Medium, and Outdoor Lighting Service	\$1,385	\$9,035
	Large C&I	Rate GS-Large, Rate GP, and Rate LP	\$2,123	\$10,645
	Street Lighting	Street Lighting Service, LED Street Lighting Service, and Ornamental Street Lighting Service	\$11	\$184
	Government & Non-Profit Tariff	Rate GS – Volunteer Fire Company, and Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate and Rate H	\$74	\$338
<b>Portfolio Total</b>			<b>\$8,792</b>	<b>\$63,113</b>

**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	\$13,071	\$13,271
	Small C&I	Rate GS, GS Special Rider GSDS, Rate GM, Rate GS-Large and POL	\$4,063	\$4,108
	Large C&I	Rate GP, and Rate GT	\$3,571	\$3,629
	Street Lighting	Rate Schedules SV, SVD, SM and LED	\$165	\$166
	Government & Non-Profit Tariff	Rate GS – Volunteer Fire Company, and Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate and Rate PNP	\$60	\$63
<b>Portfolio Total</b>			<b>\$20,931</b>	<b>\$21,237</b>

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

<b>Operating Company</b>	<b>Cost Recovery Sector</b>	<b>Rate Classes Included</b>	<b>PYTD \$ Spending (\$1,000)</b>	<b>P3TD \$ Spending (\$1,000)</b>
<b>West Penn Power</b>	<b>Residential (incl. Low Income)</b>	Rate 10	\$5,059	\$42,627
	<b>Small C&amp;I</b>	Rate GS 20, Rate GS 30	\$2,089	\$10,524
	<b>Large C&amp;I</b>	Rate GS 35, 40, 44, 46, and Tariff No. 38	\$2,700	\$13,804
	<b>Street Lighting</b>	Rate Schedules 51 through 58, 71, 72	\$13	\$1,312
	<b>Government &amp; Non-Profit Tariff</b>	Rate GS 20 – Volunteer Fire Company, and Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate	\$47	\$245
<b>Portfolio Total</b>			\$9,909	\$68,513

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