

Semi-Annual Report to the Pennsylvania Public Utility Commission

Phase III of Act 129

Program Year 12

(June 1, 2020 – May 31, 2021)

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

Filed July 15, 2021

For the Reporting Period Ending May 31, 2021

Table of Contents

ACRONYMS	III
TYPES OF SAVINGS	IV
SECTION 1 INTRODUCTION	1
SECTION 2 SUMMARY OF ACHIEVEMENTS	2
2.1 CARRYOVER SAVINGS FROM PHASE II OF ACT 129	2
2.2 PHASE III ENERGY EFFICIENCY ACHIEVEMENTS TO DATE	8
2.3 PHASE III DEMAND RESPONSE ACHIEVEMENTS TO DATE.....	18
2.4 PHASE III PERFORMANCE BY CUSTOMER SEGMENT	23
SECTION 3 UPDATES AND FINDINGS	26
3.1 IMPLEMENTATION UPDATES AND FINDINGS.....	26
3.2 EVALUATION UPDATES AND FINDINGS	32
SECTION 4 SUMMARY OF PARTICIPATION BY PROGRAM	33
SECTION 5 SUMMARY OF ENERGY IMPACTS BY PROGRAM	36
SECTION 6 SUMMARY OF DEMAND IMPACTS BY PROGRAM	43
6.1 ENERGY EFFICIENCY	43
6.2 DEMAND RESPONSE	53
SECTION 7 SUMMARY OF FINANCES	55
7.1 PROGRAM FINANCIALS.....	55
7.2 COST RECOVERY	63

Figures

FIGURES 1A-1D: CARRYOVER SAVINGS FROM PHASE II OF ACT 129	2
FIGURES 2A-2D: CUSTOMER SEGMENT-SPECIFIC CARRYOVER FROM PHASE II	6
FIGURES 3A-3D: PLAN PERFORMANCE TOWARD PHASE III PORTFOLIO COMPLIANCE	9
FIGURES 4A-4D: PLAN PERFORMANCE TOWARD PHASE III LOW-INCOME COMPLIANCE TARGET	13
FIGURES 5A-5D: PLAN PERFORMANCE AGAINST PHASE III GNI COMPLIANCE TARGET	15
FIGURES 6A-6C: EVENT PERFORMANCE COMPARED TO 85% PER-EVENT TARGET	21
FIGURES 7A-7D: REPORTED GROSS ENERGY SAVINGS BY PROGRAM	37
FIGURES 8A-8D: PSA ENERGY SAVINGS BY PROGRAM FOR PHASE III	40
FIGURES 9A-9D: PYRTD GROSS DEMAND SAVINGS BY ENERGY EFFICIENCY PROGRAM	45
FIGURES 10A-10D: PSA DEMAND SAVINGS BY ENERGY EFFICIENCY PROGRAM FOR PHASE III	49

Tables

TABLE 2-1: PHASE II CARRYOVER SAVINGS.....	2
TABLE 2-2: GROSS ELECTRIC AND DEMAND SAVINGS FOR PY12	8
TABLE 2-3: GROSS ELECTRIC AND DEMAND SAVINGS SINCE THE BEGINNING OF PHASE III OF ACT 129.....	8
TABLE 2-4: PHASE III ELECTRIC SAVINGS INCLUDING PHASE II CARRYOVER.....	8
TABLE 2-5: LOW-INCOME PROGRAM ENERGY SAVINGS AND TARGETS.....	13
TABLE 2-6: GNI SAVINGS AND TARGETS	15
TABLES 2-7A-C: PY12 DEMAND PYVTD PERFORMANCE BY EVENT	19
TABLE 2-8: PY12 SUMMARY STATISTICS BY CUSTOMER SEGMENT.....	24
TABLE 2-9: PHASE III SUMMARY STATISTICS BY CUSTOMER SEGMENT	25
TABLE 4-1: EE&C PLAN PARTICIPATION BY PROGRAM.....	35
TABLE 5-1: ENERGY SAVINGS BY PROGRAM (MWh/YEAR).....	36
TABLE 6-1: PEAK DEMAND SAVINGS BY PROGRAM (MW/YEAR)	44
TABLE 6-2: VERIFIED GROSS DEMAND RESPONSE IMPACTS BY PROGRAM.....	54
TABLE 7-1A TO 7-1D: PROGRAM YEAR TO DATE FINANCIALS	56
TABLE 7-2A TO 7-2D: PHASE III TO DATE FINANCIALS	60
TABLE 7-3A TO 7-3D: EE&C PLAN EXPENDITURES BY COST-RECOVERY CATEGORY	64

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 + PYRTD
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 12 (PY12) 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 PY12. 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 PY12 energy efficiency programs will be reported in the final annual report, to be filed on November 15, 2021.

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 0 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.

Section 2 Summary of Achievements

2.1 CARRYOVER SAVINGS FROM PHASE II OF ACT 129

Table 0-1 shows total MWh/year carryover savings from Phase II for each of the FirstEnergy EDCs.

Table 0-1: 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

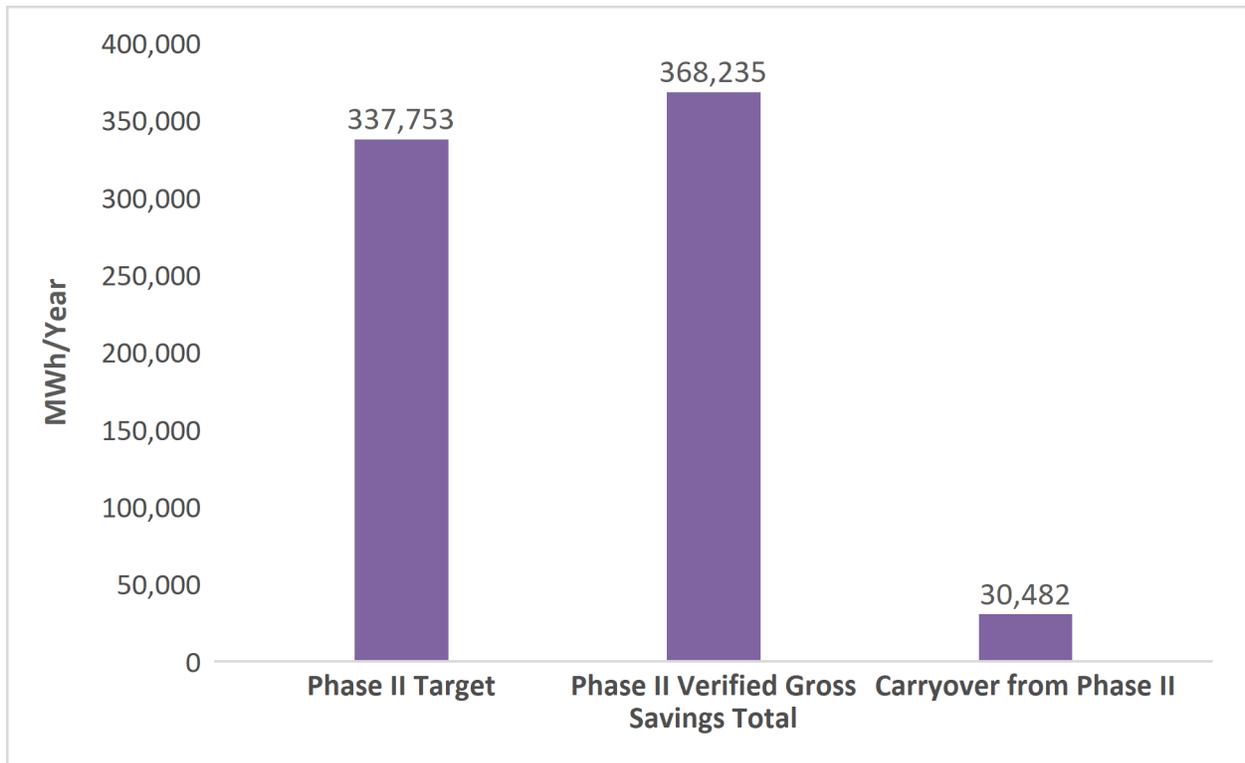


Figure 1B: Carryover Savings from Phase II of Act 129 – Penelec



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

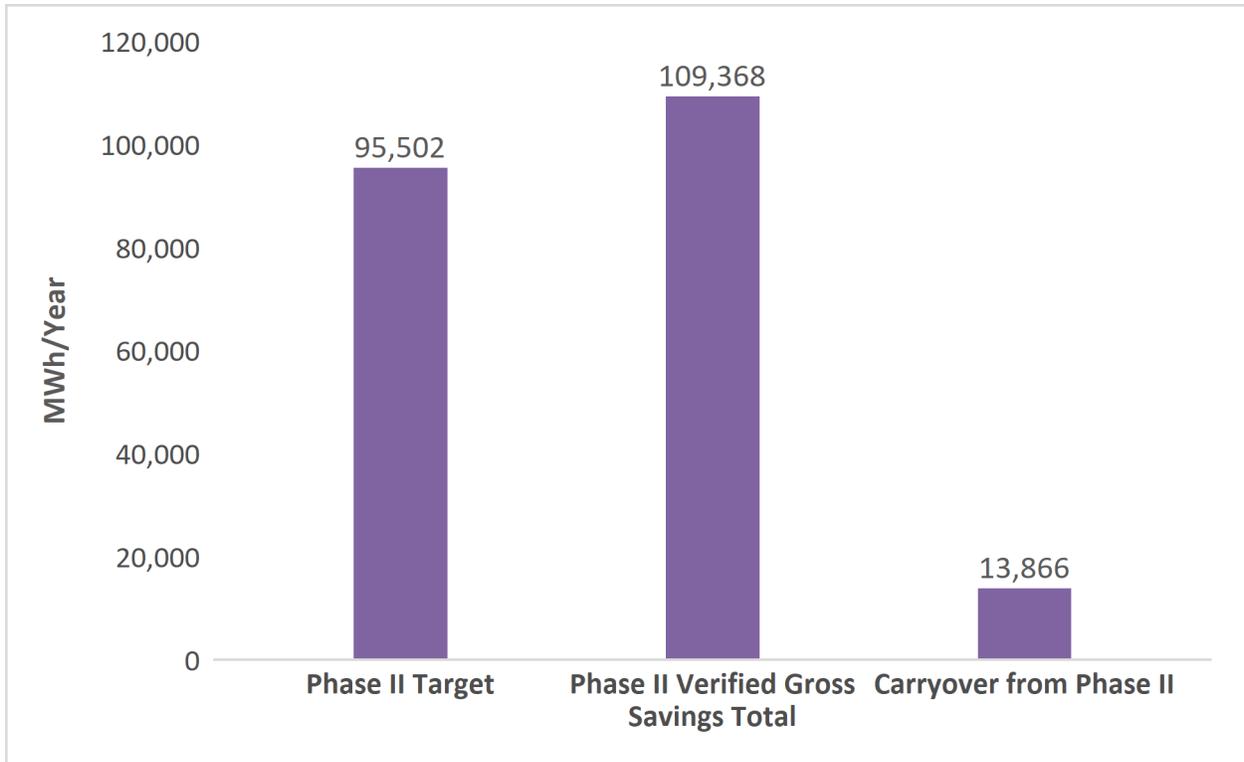
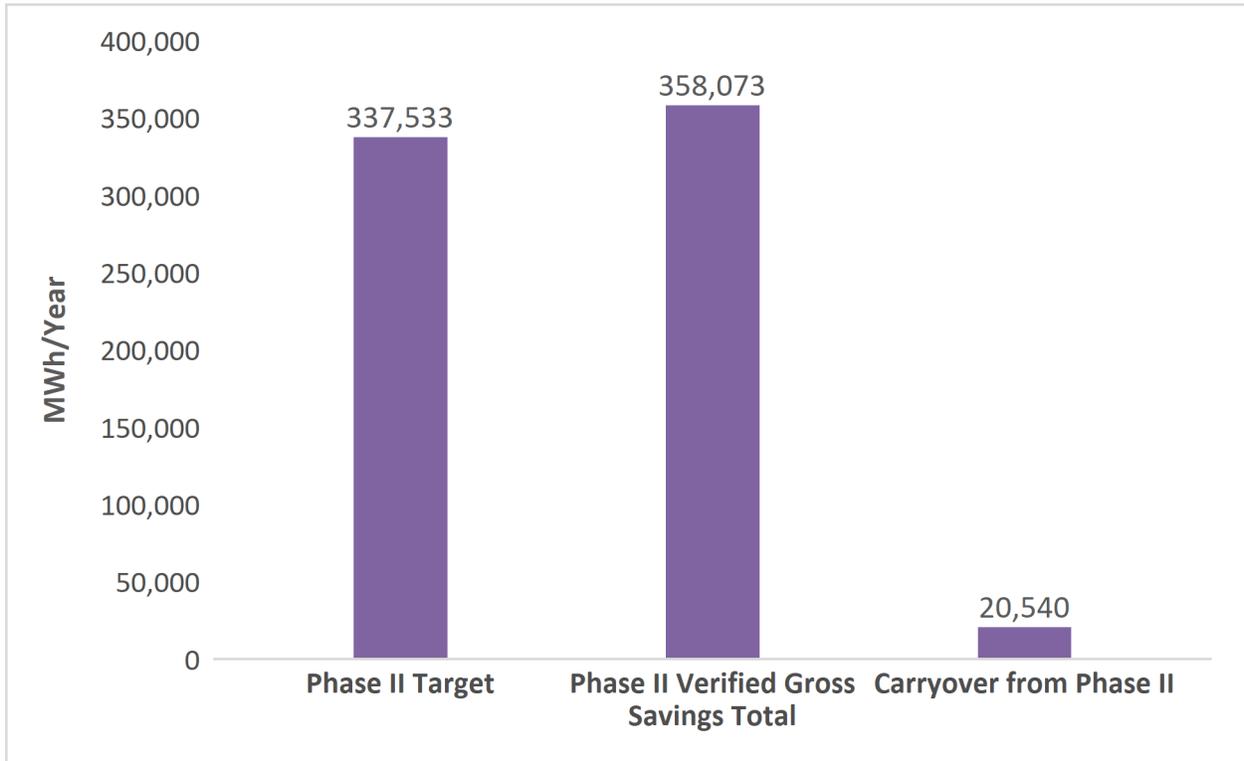


Figure 1D: Carryover Savings from Phase II of Act 129 – West Penn Power

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

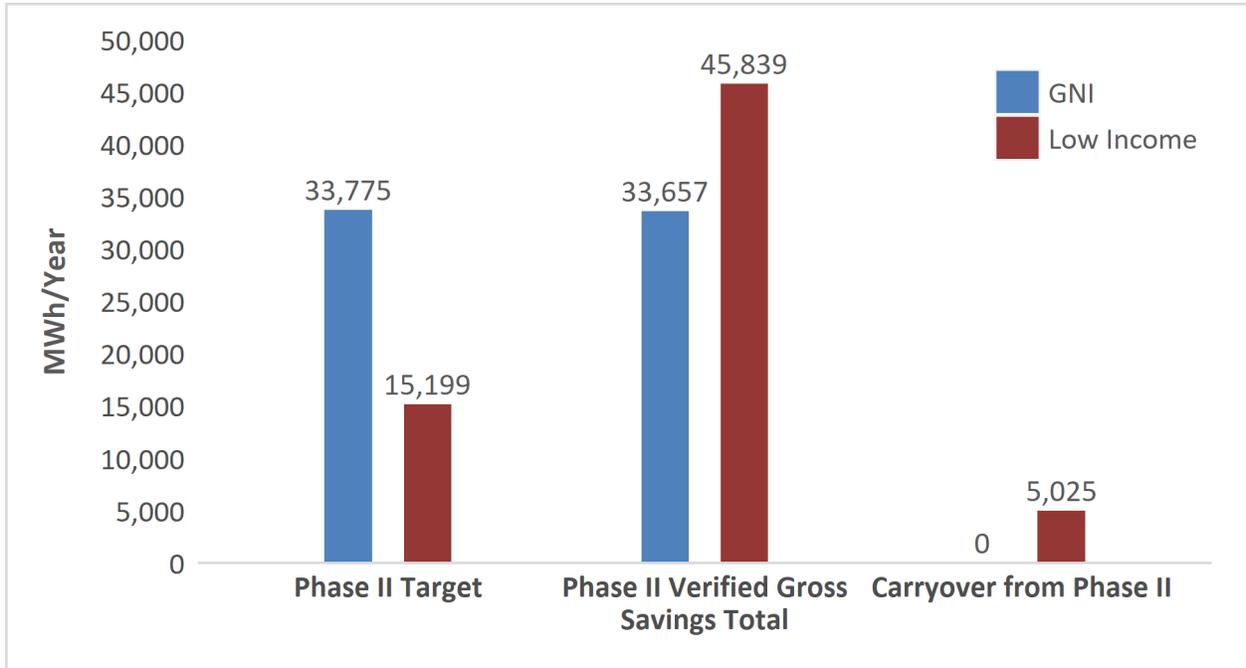


Figure 2B: Customer Segment-Specific Carryover from Phase II – Penelec

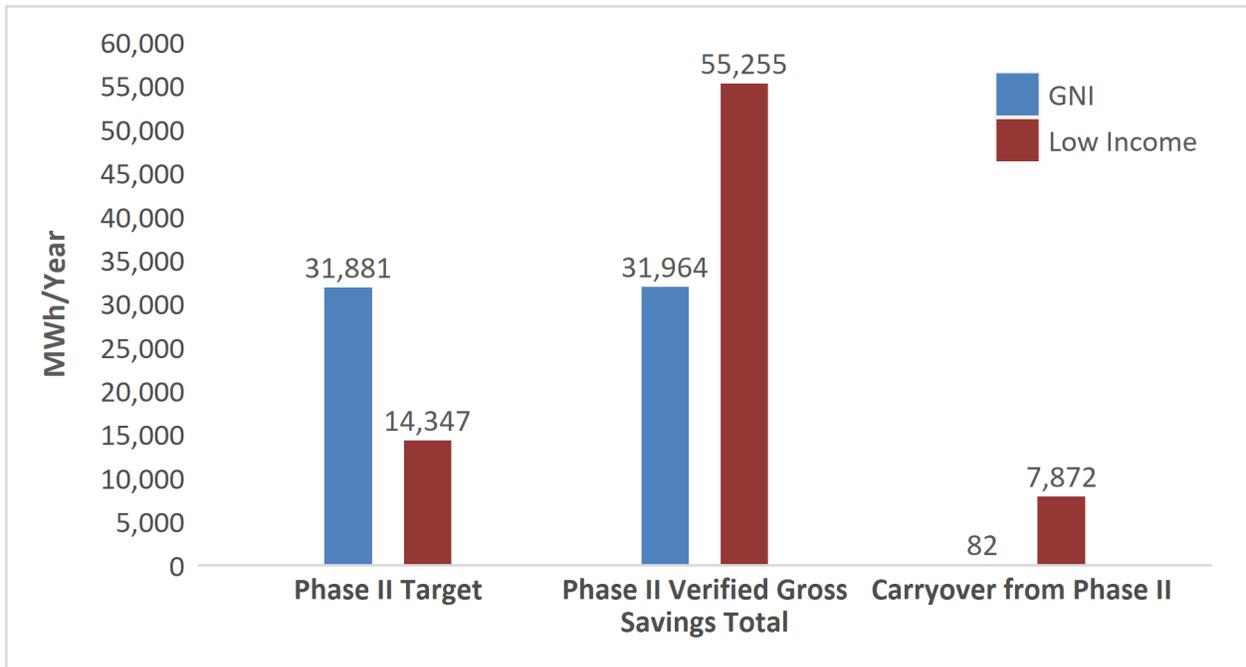


Figure 2C: Customer Segment-Specific Carryover from Phase II – Penn Power

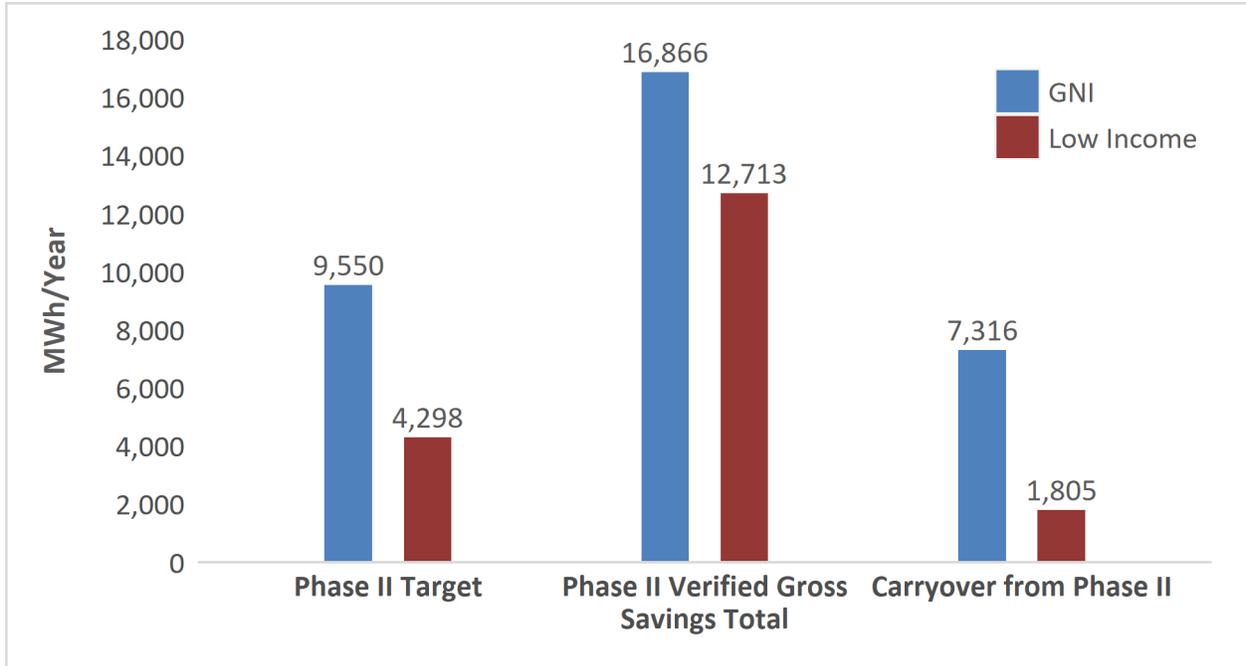
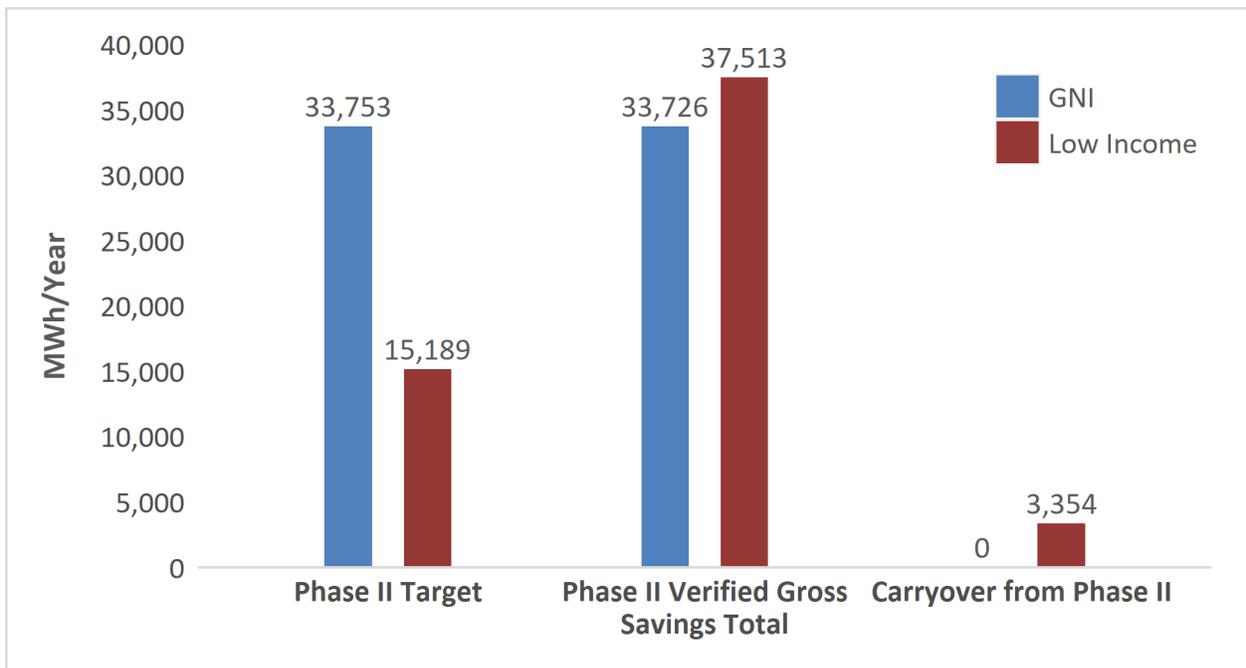


Figure 2D: Customer Segment-Specific Carryover from Phase II – West Penn Power



2.2 PHASE III ENERGY EFFICIENCY ACHIEVEMENTS TO DATE

Table 0-2 presents performance to date for each of the FirstEnergy EDCs since the beginning of Program Year 12 on June 1, 2020. Since the beginning of Phase III of Act 129 on June 1, 2016, the FirstEnergy EDCs have achieved:

Table 0-2: Gross Electric and Demand Savings for PY12

EDC	Gross MWh/yr Savings (PYRTD)	Gross Peak Demand MW Savings (PYRTD)
Met-Ed	83,756	13.13
Penelec	61,513	8.56
Penn Power	13,690	2.38
West Penn Power	86,004	14.04

Table 0-3 and Table 0-4 show achievements to date in Phase III. Since the beginning of Phase III of Act 129 on June 1, 2016, the FirstEnergy EDCs have achieved:

Table 0-3: 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	685,282	95.25	727,453	97.86
Penelec	642,389	81.44	676,082	82.05
Penn Power	200,040	27.69	214,038	29.03
West Penn Power	662,470	93.79	690,480	91.14

Table 0-4: 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
Met-Ed	727,453	30,482	757,935	126%
Penelec	676,082	49,695	725,777	128%
Penn Power	214,038	13,866	227,904	145%
West Penn Power	690,480	20,540	711,020	131%

Figures 3A-3D show results in graphic form.

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

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

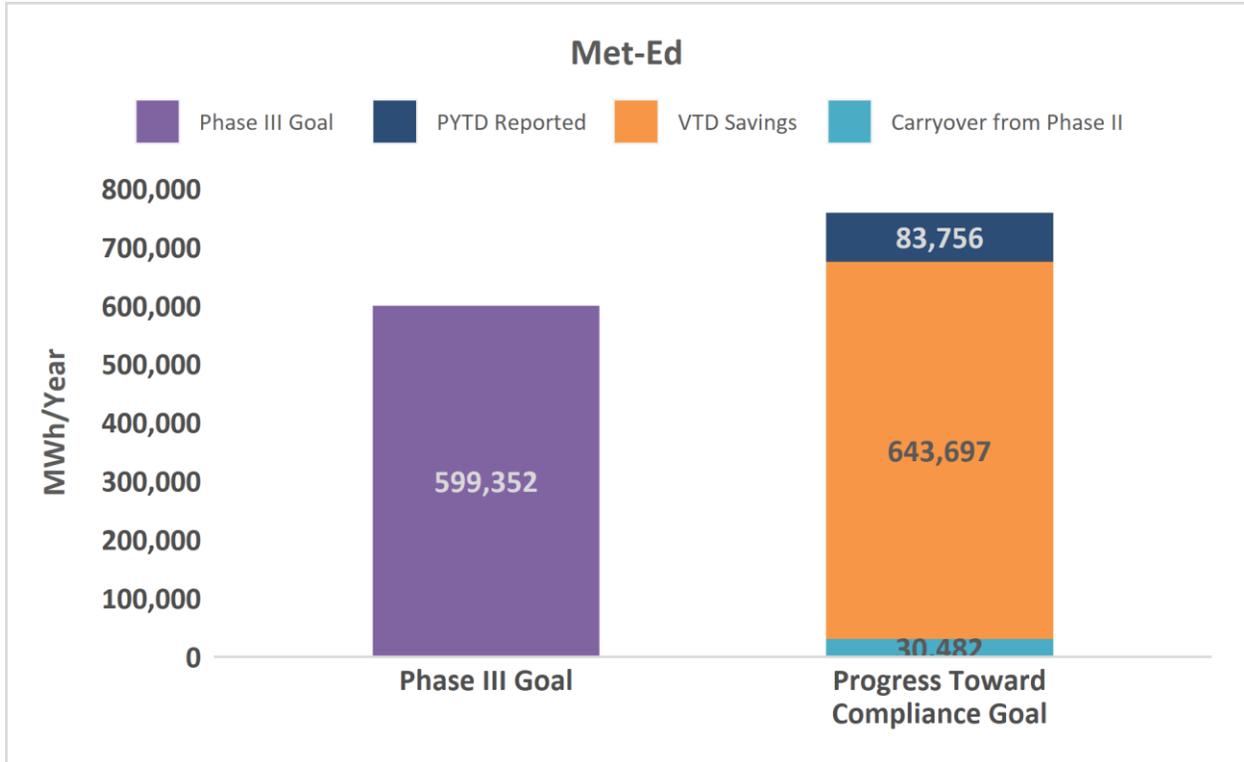


Figure 3B: EE&C Plan Performance toward Phase III Portfolio Compliance Target – Penelec

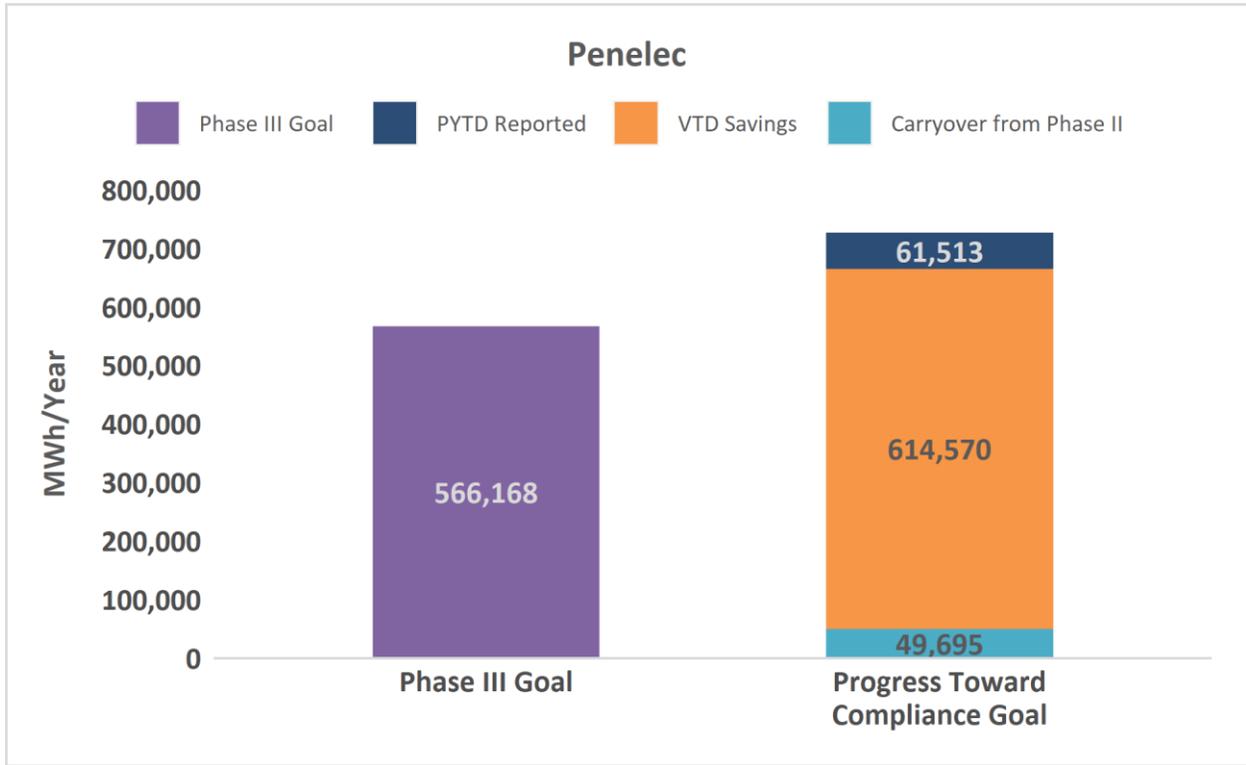


Figure 3C: EE&C Plan Performance toward Phase III Portfolio Compliance Target – Penn Power

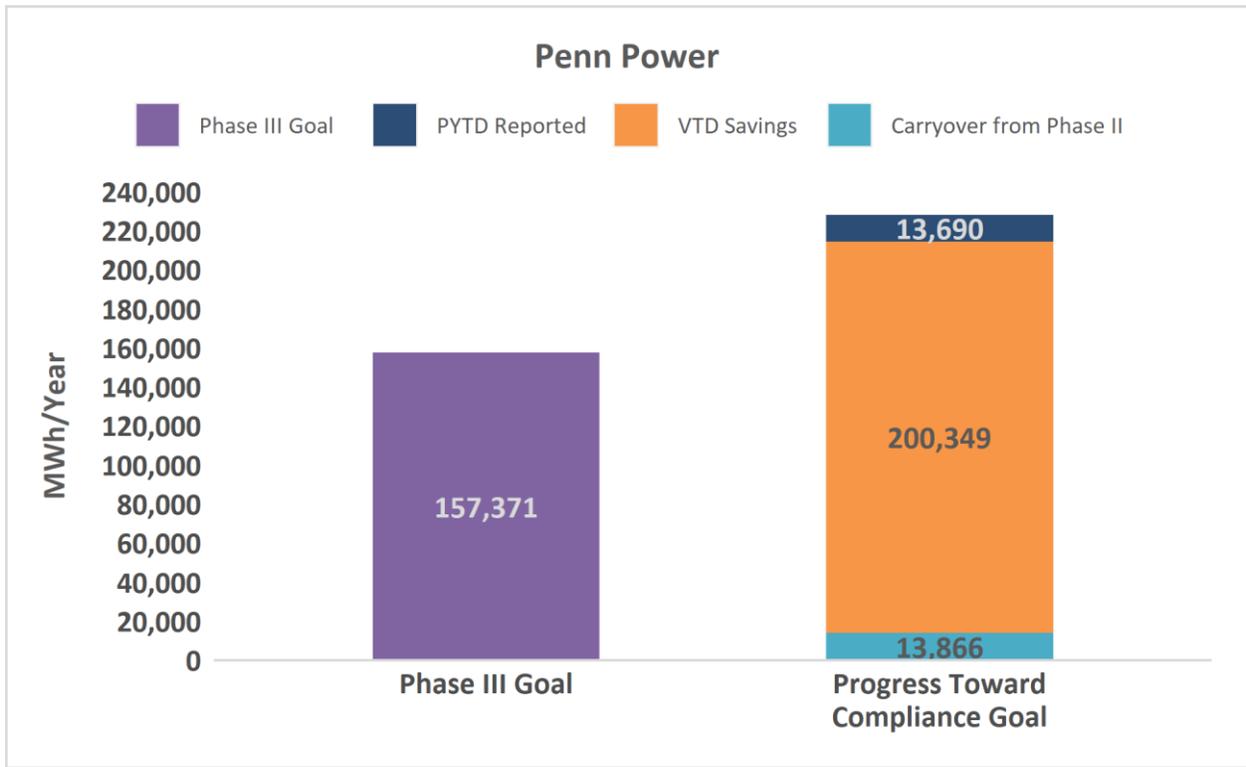
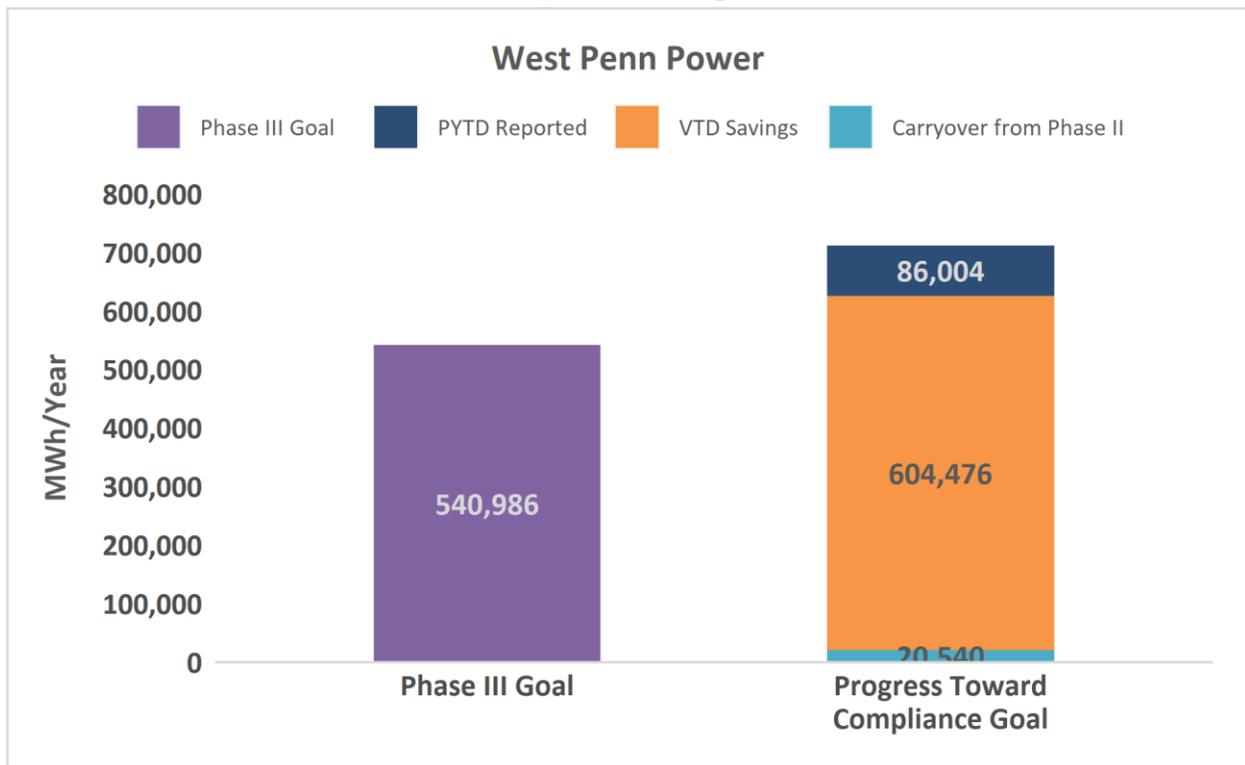


Figure 3D: EE&C Plan Performance toward Phase III Portfolio Compliance Target – West Penn Power



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 0-5 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 0-5: Low-Income Program Energy Savings and Targets

EDC	Low-Income Target (MWh/yr)	PSA + CO (MWh/yr)	% of Low-Income Savings Target Achieved
Met-Ed	32,964	47,348	144%
Penelec	31,139	49,759	160%
Penn Power	8,655	13,906	161%
West Penn Power	29,754	42,148	142%

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

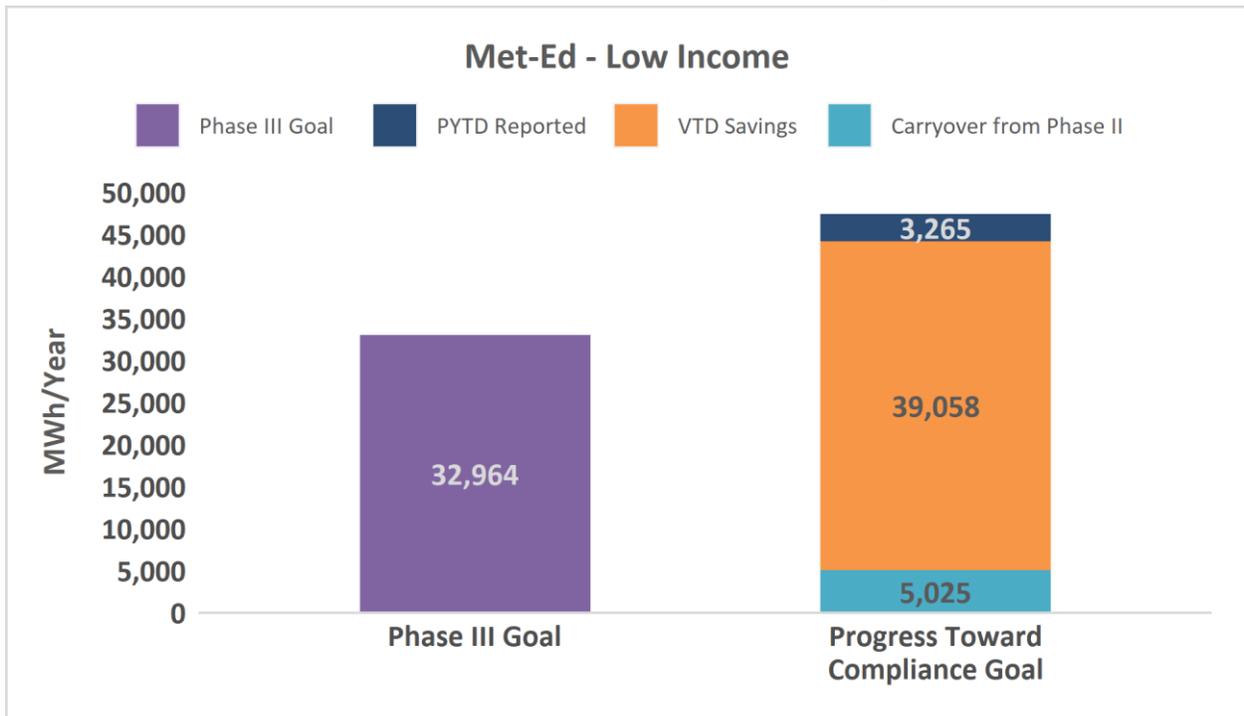


Figure 4B: EE&C Plan Performance toward Phase III Low-Income Compliance Target – Penelec

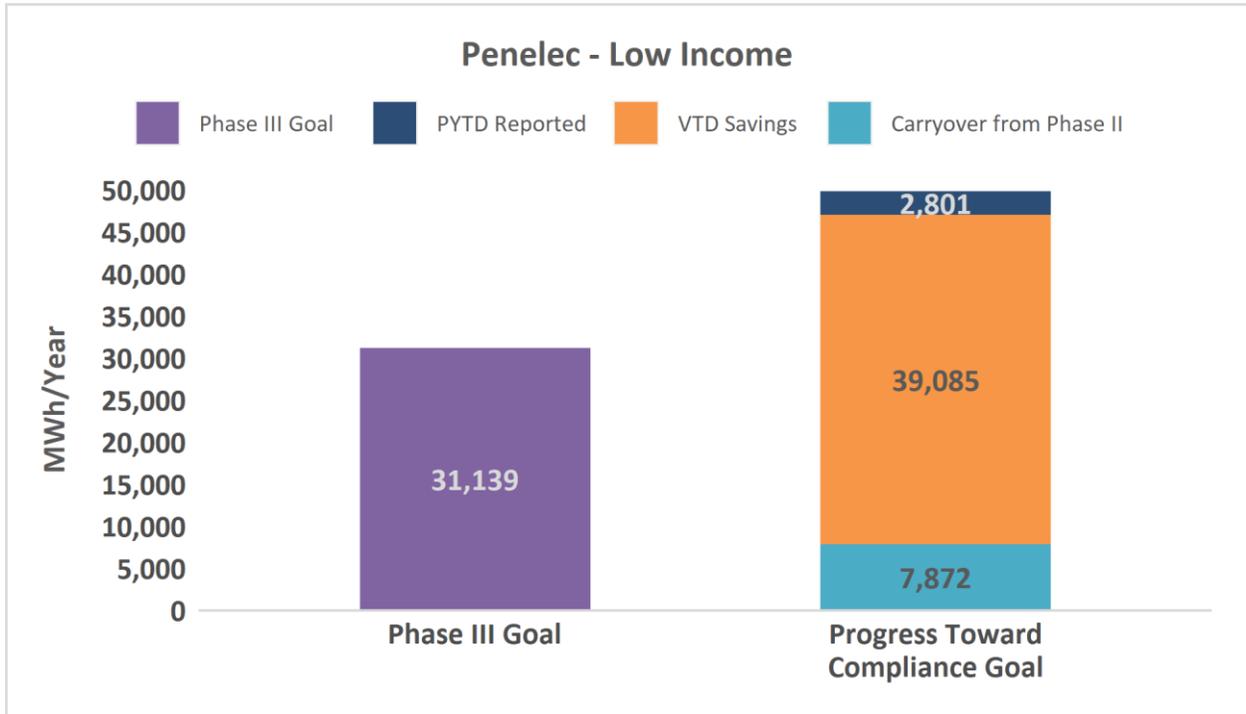


Figure 4C: EE&C Plan Performance toward Phase III Low-Income Compliance Target – Penn Power

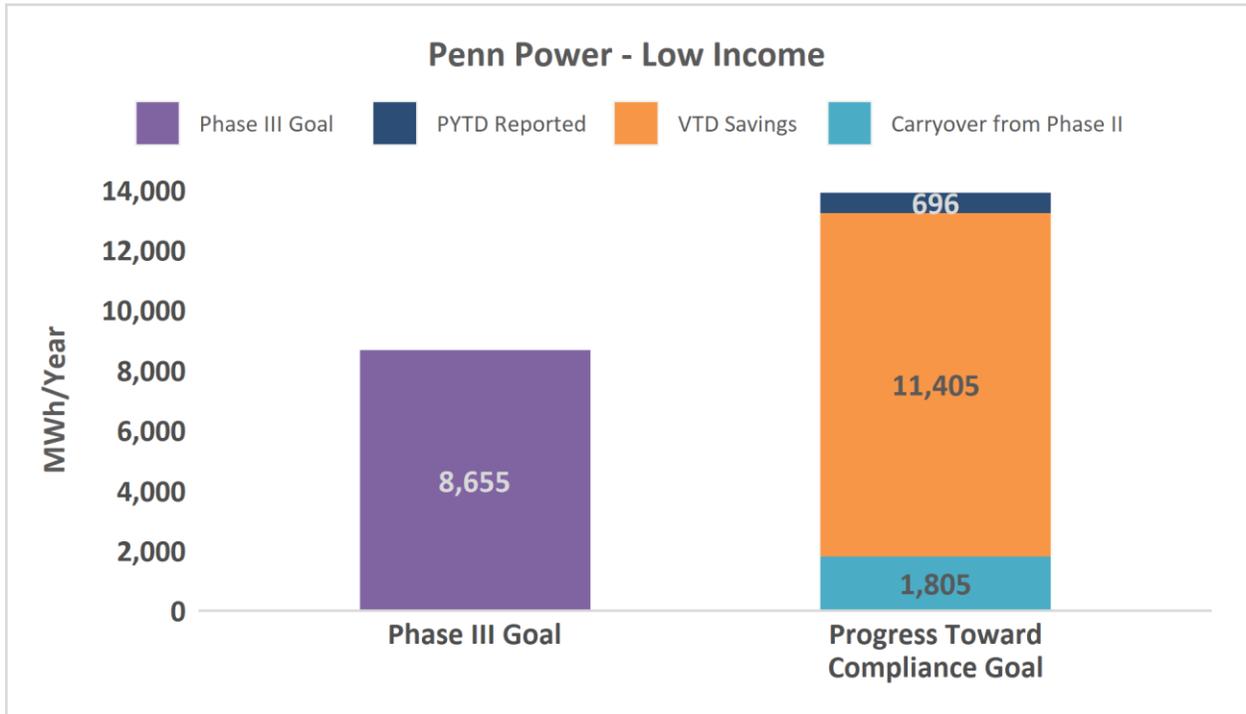
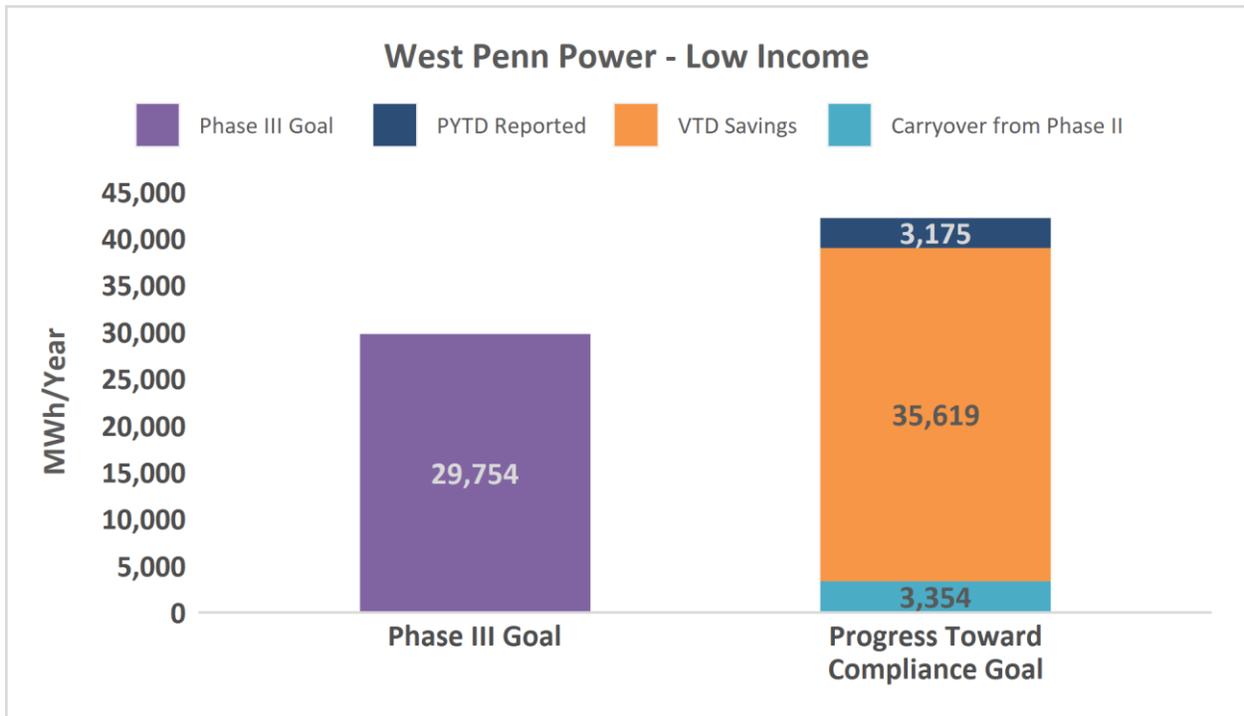


Figure 4D: EE&C Plan Performance toward Phase III Low-Income Compliance Target – West Penn Power



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 0-6 and is based on verified gross savings.

Table 0-6: GNI Savings and Targets

EDC	GNI Target (MWh/yr)	PSA + CO (MWh/yr)	% of GNI Savings Target Achieved
Met-Ed	20,977	34,923	166%
Penelec	19,816	56,801	287%
Penn Power	5,508	17,982	326%
West Penn Power	18,935	82,651	437%

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

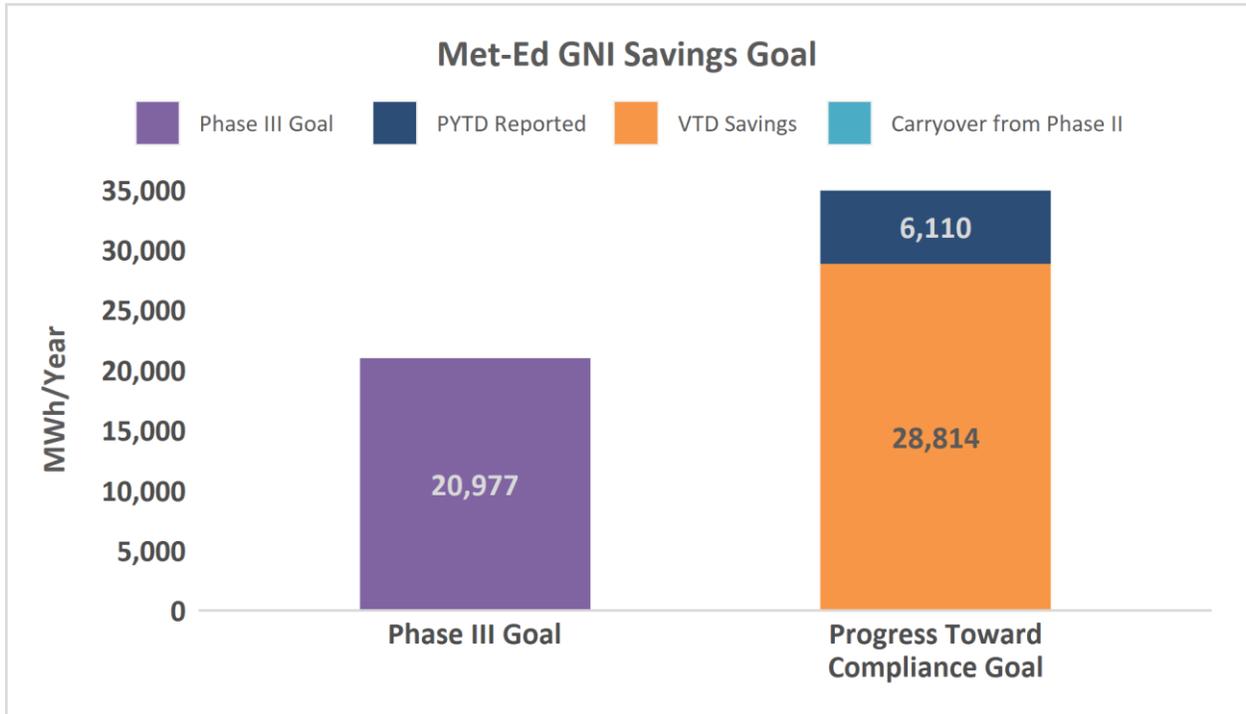


Figure 5B: EE&C Plan Performance against Phase III GNI Compliance Target – Penelec

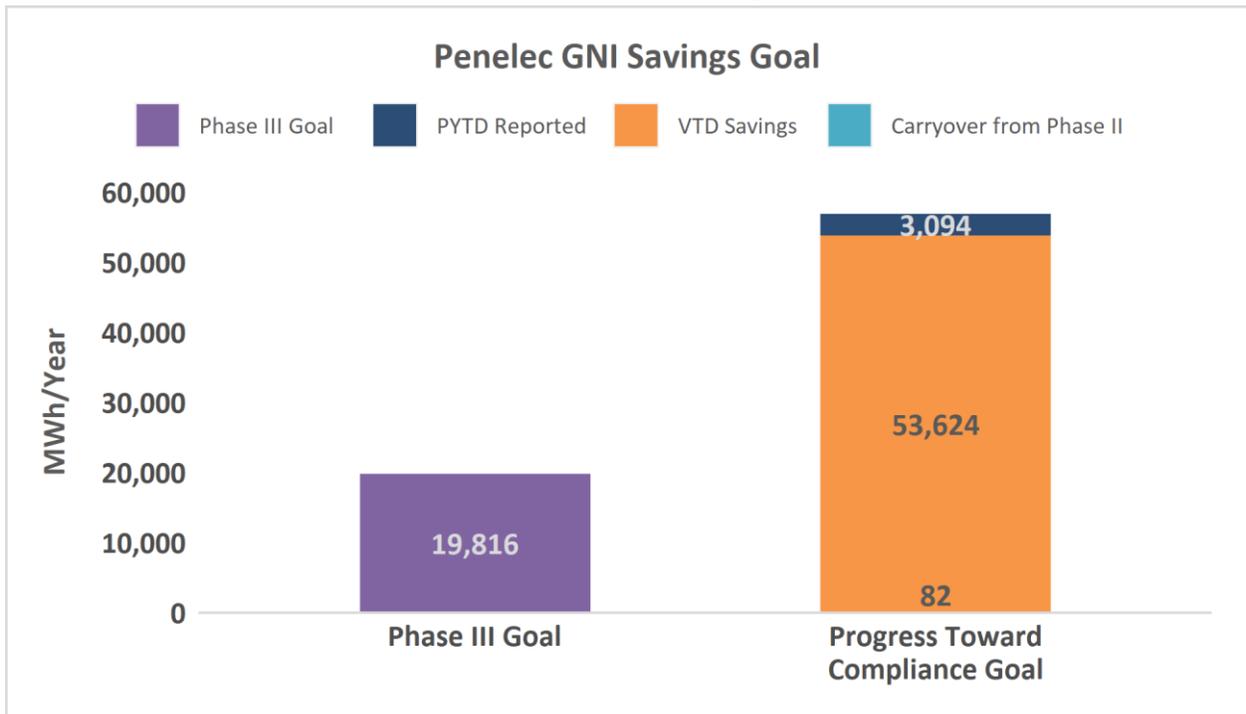


Figure 5C: EE&C Plan Performance against Phase III GNI Compliance Target – Penn Power

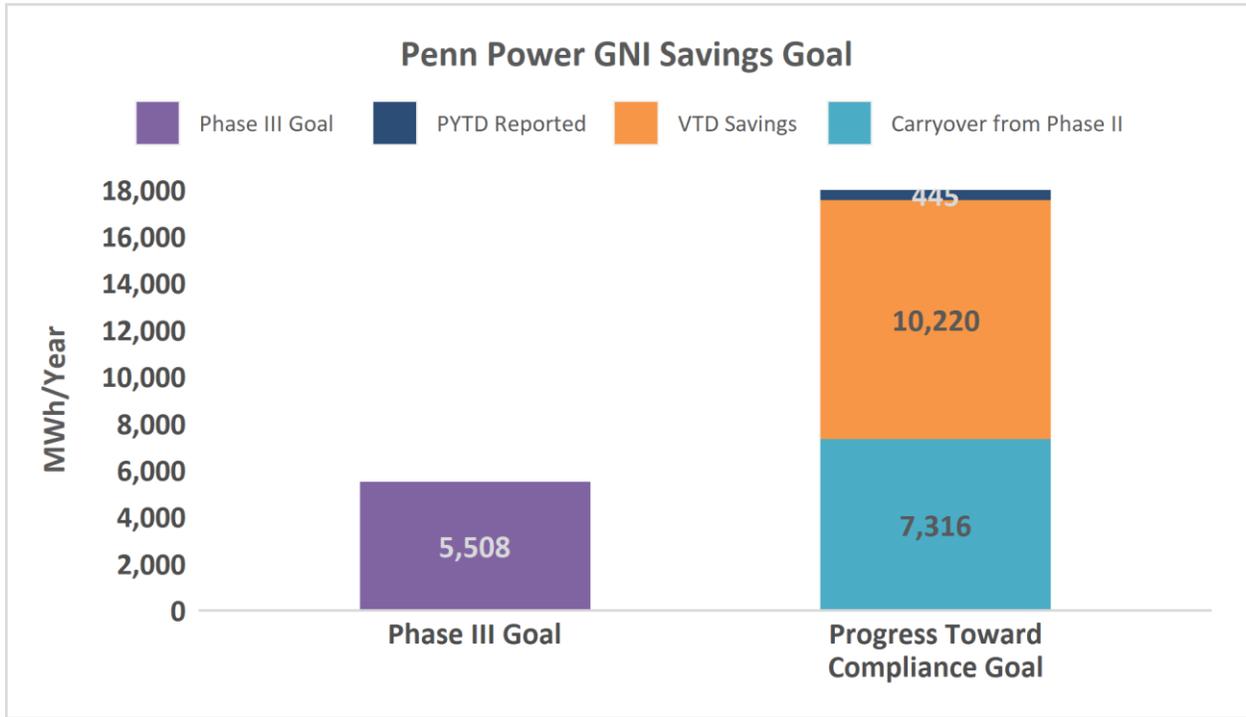
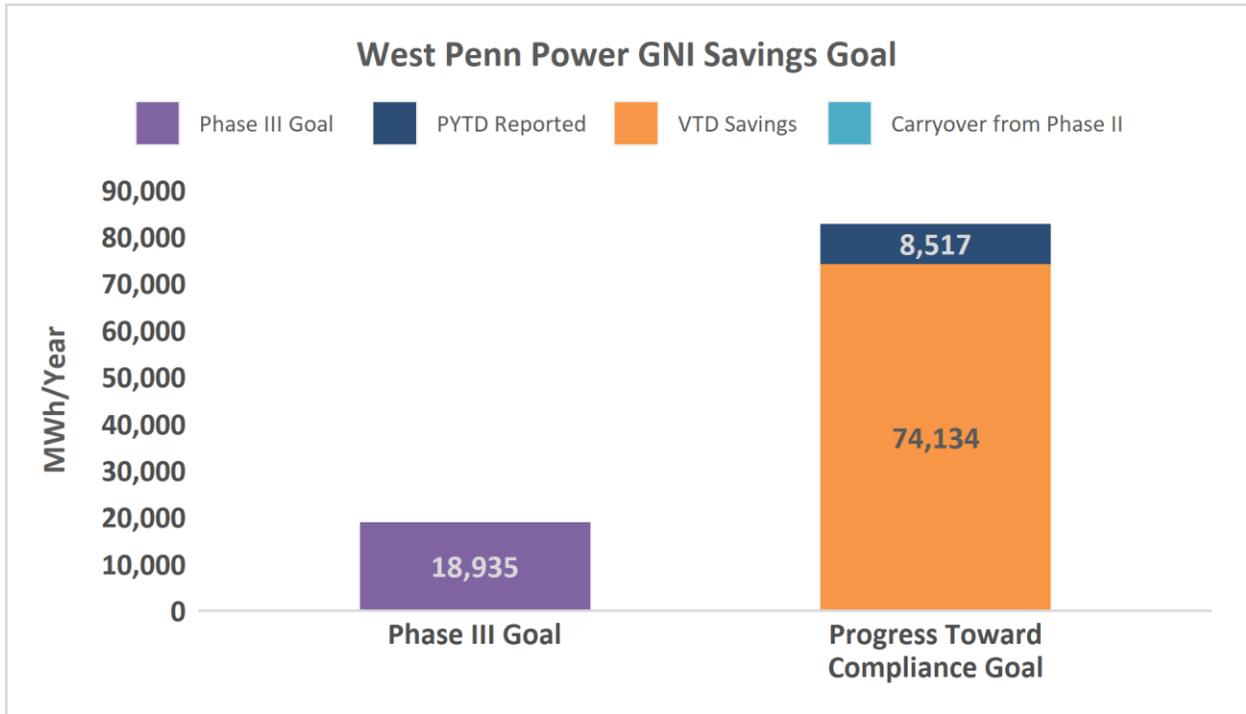


Figure 5D: EE&C Plan Performance against Phase III GNI Compliance Target – West Penn Power



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 during the second, third and fourth program years consistent with the Commission's Order entered on June 3, 2020, amending the original implementation order entered June 19, 2015. This amendment permitted EDCs to operate the approved DR programs on a voluntary basis for the fifth and final year of the program (PY12) with results not counted toward compliance goals. The PY12 results of the DR program are provided below and are based on voluntary customer participation. 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.

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 PY12, five (5) Act 129 DR events occurred. Tables 0-7A-C list the days that DR events were called along with the verified gross demand reductions achieved by each program. Tables 0-7A-C also list the average DR performance for PY12 and for Phase III to date. The DR performance to date, inclusive of PY12 and with consideration of the measurement confidence intervals reflecting the uncertainty of average values³, is 8% above, 117% above, and 89% 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 4% above, 88% above, and 66% 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 the Act 129 target, as the confidence interval associated with measurements exceeds the Act 129 target value. The 51.2 – 54.8 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 the Act 129 target, as the confidence interval associated with measurements exceeds the Act 129

³ 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 sufficient to share candidate baseline days.

target value. The 97.4 – 127.4 MW confidence interval of the measurement exceeds the 64.0 MW target.

Tables 0-7A-C: PY12 Demand PYVTD Performance by Event

Table 2-7A: PY12 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 20	15	18	1.7 ± 0.3	37.0 ± 5.2	9.9 ± 2.9	48.5 ± 6.0
Jul 27	15	18	2.1 ± 0.3	41.5 ± 4.8	10.7 ± 2.9	54.4 ± 5.6
Jul 29	16	19	2.2 ± 0.3	32.9 ± 5.5	7.3 ± 2.7	42.4 ± 6.1
Aug 25	15	18	1.8 ± 0.3	35.9 ± 4.9	9.0 ± 2.6	9.0 ± 5.5
Aug 27	16	19	1.1 ± 0.3	29.2 ± 5.5	7.8 ± 2.8	7.8 ± 6.1
PYVTD - Average PYX DR Event Performance						46 ± 2.6
						43.4 - 48.6
VTD - Average Phase III DR Event Performance						51.1 ± 1.8
						49.3 - 52.9
Compliance - Average DR Event Performance PY9 through PY11						53 ± 1.8
						51.2 - 54.8

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

Table 2-7B: PY12 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 20	15	18	0 ± 0	4.5 ± 4.8	1.6 ± 0.7	6.1 ± 4.8
Jul 27	15	18	0 ± 0	7.3 ± 5.7	1.7 ± 0.8	9 ± 5.7
Jul 29	16	19	0 ± 0	7.5 ± 6	1.6 ± 0.7	9.1 ± 6.0
Aug 25	15	18	0 ± 0	14.3 ± 11.7	1.4 ± 0.7	15.7 ± 11.8
Aug 27	16	19	0 ± 0	16.8 ± 12.8	1.5 ± 0.7	18.2 ± 12.8
PYVTD - Average PYX DR Event Performance						11.6 ± 4.0
						7.6 - 15.6
VTD - Average Phase III DR Event Performance						32 ± 6.6
						25.4 - 38.6
Compliance - Average DR Event Performance PY9 through PY11						39.9 ± 8.8
						31.1 - 48.7

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

**Table 2-7C: PY12 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 20	15	18	1.6 ± 0.3	105.5 ± 49.5	2.8 ± 1.4	109.9 ± 49.5
Jul 27	15	18	0.9 ± 0.3	116.2 ± 52.8	3.2 ± 1.4	120.2 ± 52.8
Jul 29	16	19	1.1 ± 0.3	85.4 ± 40.2	2.8 ± 1.4	89.4 ± 40.2
Aug 25	15	18	1.3 ± 0.3	66.6 ± 48.9	2.9 ± 1.3	70.8 ± 48.9
Aug 27	16	19	0.9 ± 0.3	62.9 ± 32.5	2.6 ± 1.3	66.3 ± 32.5
PYVTD - Average PYX DR Event Performance						91.3 ± 20.3
						71 - 111.6
VTD - Average Phase III DR Event Performance						106.5 ± 14.3
						92.2 - 120.8
Compliance - Average DR Event Performance PY9 through PY11						112.4 ± 15
						97.4 - 127.4

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

The Phase III Implementation Order originally 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. This requirement was eliminated by the Commission’s June 3, 2020 Order amending the original implementation order entered June 19, 2015. **Figures 6 A-C** compare the performance of each of the DR events in PY12 to the event-specific minimum and average targets for Met-Ed, Penn Power and West Penn Power including presentation of error bands. As demonstrated in the PY11 annual report, filed on February 16, 2021, the Companies have exceeded Phase III demand response compliance targets.

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

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

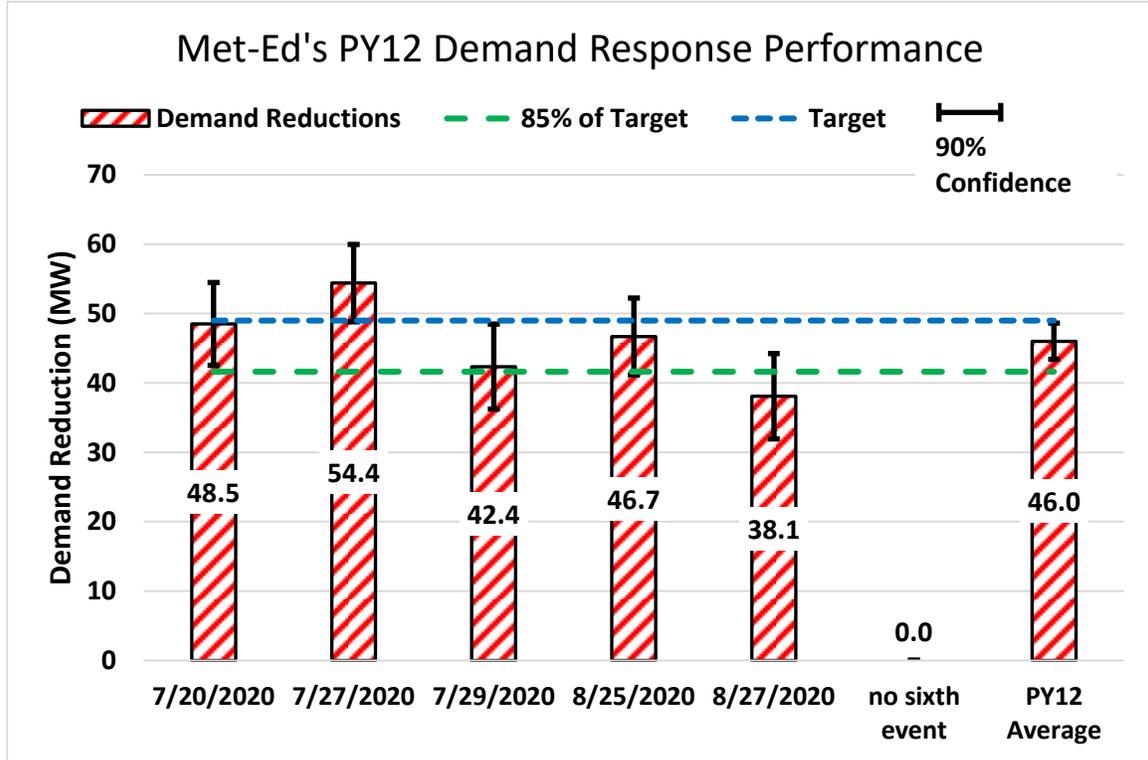


Figure 6B: Event Performance Compared to 85% Per-Event Target Penn Power

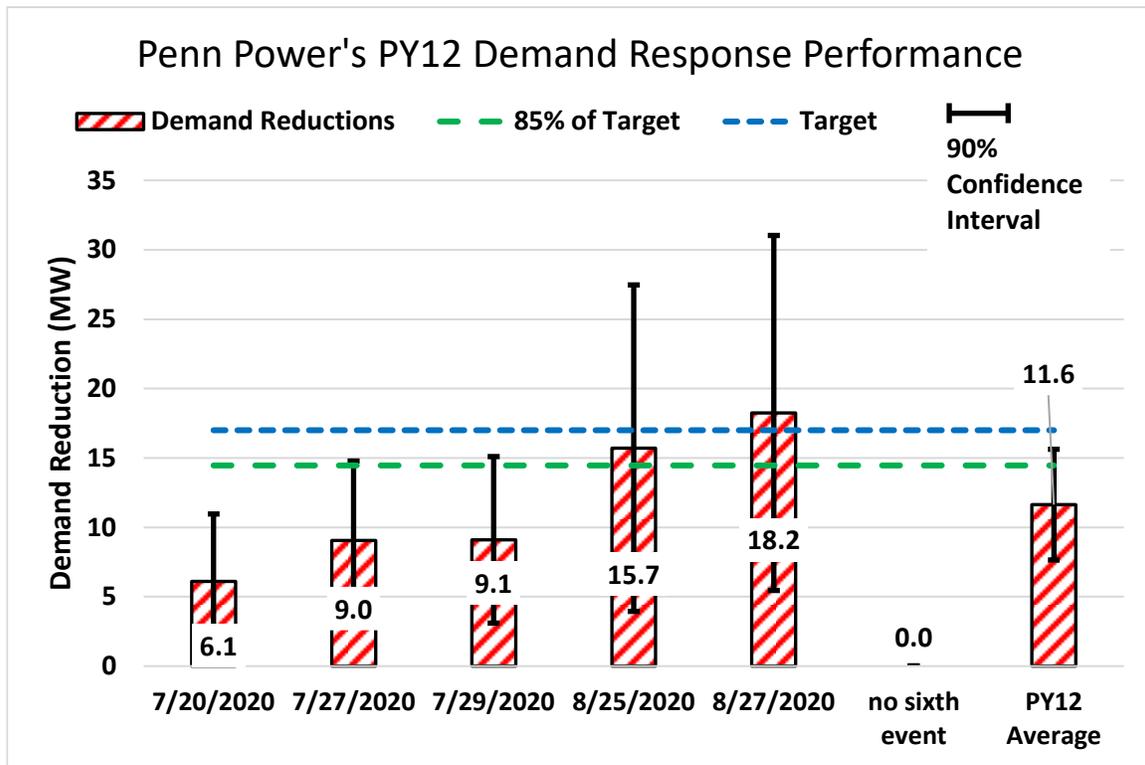
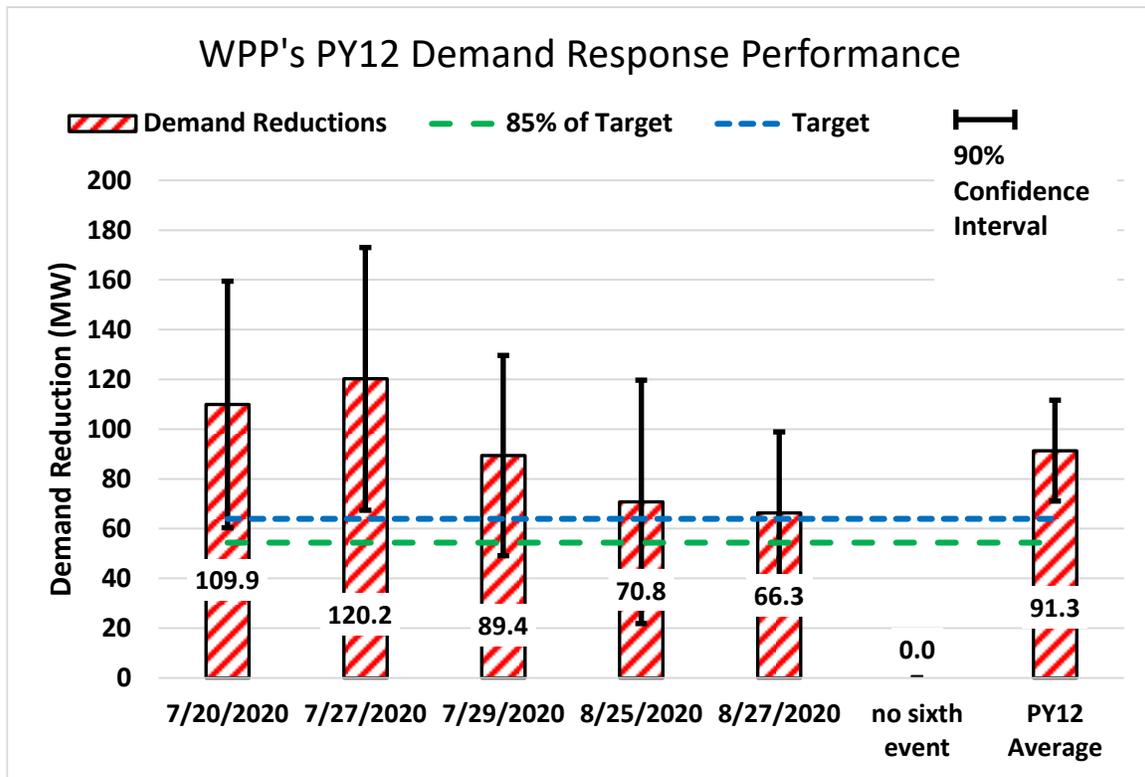


Figure 6C: Event Performance Compared to 85% Per-Event Target West Penn Power



2.4 PHASE III PERFORMANCE BY CUSTOMER SEGMENT

Table 0-8 below presents the participation, savings, and spending by customer sector for PY12. The Residential, Small C&I, and Large C&I sectors are defined by EDC tariff and the Residential Low-Income and Governmental/Educational/NonProfit sector are defined by statute (66 Pa. C.S. § 2806.1). The residential low-income segment is a subset of the residential customer class and the GNI segment includes 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 0-8.

Table 0-8: PY12 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	410,478	16,144	220	134	52
	PYRTD MWh/yr	38,212	3,265	9,754	32,383	6,110
	PYRTD MW/yr (Energy Efficiency)	6.7	0.5	1.5	4.4	1.1
	PYVTD MW (Demand Response)	8.9	0	1.7	32.9	2.4
	Incentives (\$1000)	\$988.47	\$27.31	\$395.00	\$1,041.29	\$302.91
Penelec	# participants	225,340	17,391	268	52	25
	PYRTD MWh/yr	31,007	2,801	11,706	15,997	3,094
	PYRTD MW/yr (Energy Efficiency)	4.3	0.3	1.7	2.2	0.5
	PYVTD MW (Demand Response)	0	0	0	0	0
	Incentives (\$1000)	\$603.78	\$18.44	\$346.67	\$545.24	\$109.43
Penn Power	# participants	75,118	3,134	48	14	8
	PYRTD MWh/yr	8,458	696	2,815	1,721	445
	PYRTD MW/yr (Energy Efficiency)	1.7	0.1	0.3	0.3	0.1
	PYVTD MW (Demand Response)	1.5	0	0.0	10.2	-0.1
	Incentives (\$1000)	\$299.12	\$2.62	\$104.88	\$68.05	\$14.51
West Penn Power	# participants	316,819	18,989	25,525	94	36
	PYRTD MWh/yr	43,021	3,175	17,225	22,583	8,517
	PYRTD MW/yr (Energy Efficiency)	7.8	0.4	2.5	3.3	1.4
	PYVTD MW (Demand Response)	2.8	0	1.2	87.4	-0.1
	Incentives (\$1000)	\$1,120.18	\$16.96	\$507.70	\$632.50	\$306.04

Table 0-9 summarizes plan performance by sector since the beginning of Phase III.

Table 0-9: 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
Met-Ed	# participants	1,873,434	50,239	81,772	831	24,291
	PSA MWh/yr	388,254	42,323	112,694	155,227	34,923
	PSA MW (Energy Efficiency)	49.9	5.0	17.8	20.6	5.6
	Phase III MW (Demand Response)	6.7	0.0	3.0	41.4	0.0
	Incentives (\$1000)	\$22,034.54	\$410.44	\$4,543.60	\$8,287.98	\$1,554.48
Penelec	# participants	1,633,432	56,523	82,573	528	23,887
	PSA MWh/yr	341,549	41,886	109,464	129,558	56,719
	PSA MW (Energy Efficiency)	38.6	4.5	16.6	15.6	7.2
	Phase III MW (Demand Response)	0.0	0.0	0.0	0.0	0.0
	Incentives (\$1000)	\$19,253.06	\$470.44	\$4,867.23	\$6,147.10	\$2,348.39
Penn Power	# participants	442,685	15,984	23,259	149	7,836
	PSA MWh/yr	109,409	12,101	53,578	28,730	10,665
	PSA MW (Energy Efficiency)	15.1	1.4	7.8	3.4	1.4
	Phase III MW (Demand Response)	1.9	0.0	0.0	30.1	0.0
	Incentives (\$1000)	\$6,390.38	\$126.07	\$2,496.40	\$2,235.72	\$495.98
West Penn Power	# participants	1,573,344	45,577	104,146	526	23,266
	PSA MWh/yr	358,766	38,793	124,374	94,413	82,651
	PSA MW (Energy Efficiency)	49.1	4.6	18.3	12.1	8.5
	Phase III MW (Demand Response)	2.5	0.0	1.4	102.7	0.0
	Incentives (\$1000)	\$18,112.66	\$350.95	\$5,304.84	\$7,746.74	\$3,361.80

Section 3 Updates and Findings

3.1 IMPLEMENTATION UPDATES AND FINDINGS

Implementation updates and findings through the first half of PY12 are as follows:

- **Appliance Turn-In:** This program has been marketed through a variety of avenues including bill inserts, e-mail, direct mail campaigns, internet searches, and radio ads. Honeywell also cross-promoted this program while educating retailers about the Appliance Rebates program. This program offers customers the option of an outside only, no contact pickup process which adheres to proper social distancing practices.
- **Energy Efficient Products Program:** This program continued to be marketed through a variety of avenues including in-store displays, outreach events, radio ads, social media, paid searches, digital ads, bill inserts, e-mail, and direct mail campaigns. The CSP for this program was Honeywell. Below are each of the subprogram updates for this program:
 - **Appliances & Electronics:** These subprograms performed well, remained under budget, and continued to accumulate savings across all four PA EDCs.
 - **Lighting:** This subprogram performed above targets, remained under budget, and continued to accumulate savings across all four PA EDCs.
 - **HVAC:** This subprogram performed well, remained under budget, and continued to accumulate savings across all four PA EDCs.

All subprograms continued in limited capacity due to the COVID-19 shutdown from early 2020 and returned to full implementation the week of July 7, 2020, when field work and in-store visits resumed as the phased reopening of businesses proceeded in accordance with government mandates. Outreach events were the exception and remained suspended indefinitely based on the safety guidelines for public events.

- **Energy Efficient Homes Program:**
 - **Behavioral:** Customers enrolled in the program with e-mail addresses receive monthly energy reports with energy consumption patterns and tips on how to save energy. Oracle has continued to implement the Behavioral program during the COVID-19 pandemic. The December reports included winter themed messaging educating customers on winter savings tips. The January through May reports included various savings tips each month, including at home savings tips in March. This subprogram performed above target and under budget across all four PA EDCs.
 - **Energy Audits:** This subprogram implemented by GoodCents performed well. Through multiple marketing efforts such as bill inserts, emails and Facebook ads,

this program has exceeded its Phase III MWh savings goals 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 performed above targets in PY12.
- **School Kits:** This subprogram implemented by AM Conservation ended in December 2019 consistent with the approved plan design.
- **Energy Efficiency Kits:** The Kits subprogram implemented by Power Direct met its goals in 2019 and has been suspended consistent with the approved plan design.
- **The Online Audit:** The software tool, referred to as the Home Energy Analyzer, is available on the Companies' website. Customers enter information about their home into the Analyzer and 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.

- **Low Income Energy Efficiency Program:**

- **Appliance Rebate:** This subprogram performed well, remained under budget, and continued to accumulate savings across all four PA EDCs. The CSP for this subprogram was 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 Met Ed, Penelec, and Penn Power. West Penn Power was just under goal.
- **School Kits:** This subprogram is implemented by AM Conservation and ended in December 2019 consistent with the approved plan design.
- **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. This program offers customers the option of an outside only, no contact pickup process which adheres to proper social distancing practices.
- **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:** The Kits subprogram implemented by Power Direct met its goals in 2019 and has been suspended consistent with the approved plan design.
- **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 suspended all non-essential field work for the WARM Plus, Extra Measures and Multifamily programs on March 18, 2020. Webinars were held

June 16, 2020, and June 18, 2020 to communicate safety expectations for contractors returning to the field after the COVID shutdown. Programs opened back up in West Penn Power, Penn Power and Penelec on June 29, 2020, and Met-Ed on July 06, 2020. Act 129 WARM Plus and Extra Measures programs held annual meetings with contractors and inspectors on November 09, 2020, and November 17, 2020 to communicate the following:

- Act 129 Program Phase III Savings Goal Performance
 - Act 129 Phase IV plan overview
 - Training on LEEN System for new Contractor Dashboard feature
 - Training on new EISA Standard bulbs for Extra Measures contractors in Phase IV
 - General reminders for all Act 129 Programs
-
- **C/I Efficient Solutions for Business – Small:** On September 11, FirstEnergy reopened its EE programs that were temporarily suspended, effective March 16th, due to the COVID-19 pandemic. During the suspension period, there was no active outreach or marketing of programs. However, during this period, Companies did respond to all questions and program related inquiries from our customers and program allies.
 - On September 11th, the Companies introduced a new Conservation Service Provider (CSP) to its customers and program allies through a series of three (3) e-Blasts in September. The new CSP has implemented the following changes:
 - Updated the program website – added Google analytics to track on-site performance and engagement,
 - Launched a new online portal,
 - Put into production a new Program Overview Trifold.
 - The CSP also hosted three (3) online portal training webinars – on September 18, 24 and October 1 – that were targeted at customers and programs allies.
 - FirstEnergy anticipated in participating in the following outreach event:
 - Scheduled to speak at the Northcentral PA Energy Efficiency Roundtable in August 2020. This event was cancelled due to COVID-19 pandemic.
 - Continued outreach and educational efforts by collaborating and working with the following groups:
 - PennTAP
 - Southwest PA Energy Efficiency Roundtable,
 - Westmoreland County Economic Development Council
 - Jefferson County Conservation District
 - North-central PA Energy Efficiency Roundtable
 - Participation in these groups helped the Companies reach a wider audience and increase program participation.
 - To support the outreach effort, 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.

- FirstEnergy continues to offer programs through the end of phase (May 31, 2021), but initiated PA Act 129 Phase III wind-down activities in January 2021 that included:
 - E-mailing customers and trade allies that the program would be ending May 31, 2021, and to submit their applications for projects completed on or before May 31, 2021,
 - Website announcements that the program would be ending May 31, 2021, and to be certain to submit their application(s) for project(s) completed on or before May 31, 2021,
 - Called customers to address their specific questions on the program and projects,
 - Worked closely with Cust Support / Ext Affairs to answer questions on the wind-down process and customer projects.

- **C&I Efficient Solutions for Business - Large:** On September 11th, the Companies introduced a new Conservation Service Provider (CSP) to its customers and program allies through a series of three (3) e-Blasts in September. The new CSP has implemented the following changes:
 - Updated the program website – added Google analytics to track on-site performance and engagement,
 - Launched a new online portal,
 - Put into production a new Program Overview Trifold.
- The CSP also hosted three (3) online portal training webinars – on September 18, 24 and October 1 – that were targeted at customers and programs allies.
- FirstEnergy anticipated in participating in the following outreach event –
 - Scheduled to speak at the Northcentral PA Energy Efficiency Roundtable in August 2020. This event was cancelled due to the COVID-19 pandemic.
- Continued outreach and educational efforts by collaborating and working with the following groups:
 - PennTAP
 - Southwest PA Energy Efficiency Roundtable,
 - Westmoreland County Economic Development Council
 - Jefferson County Conservation District
 - North-central PA Energy Efficiency Roundtable
 - Participation in these groups helped the Companies reach a wider audience and increase program participation.
- To support the outreach effort, 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.
- FirstEnergy continues to offer programs through the end of phase (May 31, 2021), but initiated PA Act 129 Phase III wind-down activities in January 2021 that included:
 - E-mailing customers and trade allies that the program would be ending May 31, 2021, and to submit their applications for projects completed on or before May 31, 2021,

- Website announcements that the program would be ending May 31, 2021, and to be certain to submit their application(s) for project(s) completed on or before May 31, 2021,
 - Called customers to address their specific questions on the program and projects,
- Worked closely with Cust Support / Ext Affairs to answer questions on the wind-down process and customer projects.
- **Government & Institutional Tariff Program:** On September 11th, the Companies introduced a new Conservation Service Provider (CSP) to its customers and program allies through a series of three (3) e-Blasts in September. The new CSP has implemented the following changes:
 - Updated the program website – added Google analytics to track on-site performance and engagement,
 - Launched a new online portal,
 - Put into production a new Program Overview Trifold.
- The CSP also hosted three (3) online portal training webinars – on September 18, 24 and October 1 – that were targeted at customers and programs allies.
- FirstEnergy anticipated in participating in the following outreach event –
 - Scheduled to speak at the Northcentral PA Energy Efficiency Roundtable in August 2020. This event was cancelled due to the COVID-19 pandemic.
- Continued outreach and educational efforts by collaborating and working with the following groups:
 - PennTAP
 - Southwest PA Energy Efficiency Roundtable,
 - Westmoreland County Economic Development Council
 - Jefferson County Conservation District
 - North-central PA Energy Efficiency Roundtable
 - Participation in these groups helped the Companies reach a wider audience and increase program participation.
- To support the outreach effort, 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.
- FirstEnergy continues to offer programs through the end of phase (May 31, 2021), but initiated PA Act 129 Phase III wind-down activities in January 2021 that included:
 - E-mailing customers and trade allies that the program would be ending May 31, 2021, and to submit their applications for projects completed on or before May 31, 2021,
 - Website announcements that the program would be ending May 31, 2021, and to be certain to submit their application(s) for project(s) completed on or before May 31, 2021,
 - Called customers to address their specific questions on the program and projects,

- Worked closely with Cust Support / Ext Affairs to answer questions on the wind-down process and customer projects.
- **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 occur regularly throughout the year with the C&I DR Conservation Service Providers to prepare for summer activities, manage customer enrollments, and adjust for unexpected circumstances like those created by the COVID-19 pandemic.
- 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.
- Because of the COVID-19 pandemic and pursuant to Commission Order amending its original Implementation Order M-2014-2424864, PY12 DR performance was entirely voluntary for customers based on their ability to curtail load under either state mandated or customer-initiated shutdowns. Certain C&I customers supported the medical and food packing industries instrumental in COVID-19 efforts and could not curtail load as provided in prior years. Also, many Residential BDR customers were now working from home and there was uncertainty in their ability to perform. The PY11 report demonstrates compliance with Act 129 Phase III demand reduction targets. Section 2.3 of this report also shows compliance figures (PY9-PY11) and total Phase III achievements for Demand Response.

3.2 EVALUATION UPDATES AND FINDINGS

Evaluation updates and findings through the first half of PY12 are as follows:

- **Portfolio level:** ADM continually reviews the Companies' Tracking and Reporting (T&R) database and collaborates with the Companies' staff and the T&R vendor, AEG, to investigate values that are flagged for review in an automated QA/QC process. In Q3 of PY12, ADM and FirstEnergy reviewed and revised automated QA/QC parameters in FirstEnergy's tracking and reporting system to reflect M&V findings. ADM's fully vaccinated field staff resumed field inspections on a provisional and limited basis in Q4 of PY12, although measurement and verification of most sampled projects still involves remote visits following the Guidance Letter issued by SWE on June 3, 2020.
- **Appliance Turn-In Program:** Participant surveys are conducted on an ongoing basis and is nearly complete for PY12. Preliminary evaluation results are expected in late July 2021.
- **Energy Efficient Products Program:** ADM is reviewing invoices and applications to support our desk review process in PY12. Reviews from Q1-Q3 are completed, and Q4 data are being reviewed presently. Verification surveys for HVAC and downstream appliances are conducted on an ongoing basis.
- **Energy Efficient Homes Program:** The evaluation effort for this program is relatively light for PY12 since the EE Kits component is discontinued and the New Homes and Home Energy Assessment components are not scheduled for evaluation this year. The evaluation of the Home Energy Reports program component is expected to conclude in August 2021.
- **Low-Income Energy Efficiency Program:** ADM has concluded participant surveys for the Low-Income Appliance Turn-In program. ADM is presently reviewing documentation from on-site inspections for the direct install program component.
- **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. Project evaluations are complete for all lighting projects with expected impacts above 750 MWh and all other projects with expected impacts above 500 MWh. The remainder of projects are in various stages of evaluation. ADM continues to evaluate projects in accordance with SWE's June 3rd Guidance Letter. ADM conducted ongoing impact evaluation (billing analysis) for the Business Energy Reports pilot in the first half of PY12 and concluded the evaluation in February 2021.
- **C&I Demand Response Programs:** ADM has completed our initial evaluation of the C&I Demand Response Programs, with results reported herein.
- **Residential Behavior Demand Response:** ADM has concluded our initial evaluation of the Behavioral Demand Response program component for PY12, 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 0-1 provides the current participation totals for PY12 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 number of customers receiving energy saving measures.
 - **Multifamily:** the number of customers receiving energy saving measures.
 - **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 as well as the maximum size of the treatment group for the Business Energy Reports pilot program.

- **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 0-1: EE&C Plan Participation by Program⁴

Utility	Program	PYTD Participation	P3TD Participation
Met-Ed	Appliance Turn-in	2,852	19,940
	Energy Efficient Homes	295,130	414,166
	Energy Efficient Products	112,496	1,542,784
	Low Income Energy Efficiency	16,144	50,239
	C&I Energy Solutions for Business - Small	165	1,943
	C&I Demand Response - Small	62	201
	C&I Energy Solutions for Business - Large	62	781
	C&I Demand Response - Large	94	341
	Governmental & Institutional Tariff	3	151
	Portfolio Total	427,008	2,030,546
Penelec	Appliance Turn-in	2,297	17,301
	Energy Efficient Homes	110,017	227,285
	Energy Efficient Products	113,026	1,491,052
	Low Income Energy Efficiency	17,391	56,523
	C&I Energy Solutions for Business - Small	268	3,271
	C&I Demand Response - Small	0	0
	C&I Energy Solutions for Business - Large	52	694
	C&I Demand Response - Large	0	0
	Governmental & Institutional Tariff	1	793
	Portfolio Total	243,052	1,796,919
Penn Power	Appliance Turn-in	0	5,081
	Energy Efficient Homes	50,043	23,768
	Energy Efficient Products	25,075	443,381
	Low Income Energy Efficiency	3,134	15,984
	C&I Energy Solutions for Business - Small	48	1,244
	C&I Demand Response - Small	0	3
	C&I Energy Solutions for Business - Large	7	144
	C&I Demand Response - Large	9	33
	Governmental & Institutional Tariff	0	269
	Portfolio Total	78,316	489,907
West Penn Power	Appliance Turn-in	2,697	22,074
	Energy Efficient Homes	180,990	122,991
	Energy Efficient Products	133,132	1,526,280
	Low Income Energy Efficiency	18,989	45,577
	C&I Energy Solutions for Business - Small	25,477	28,334
	C&I Demand Response - Small	50	98
	C&I Energy Solutions for Business - Large	67	530
	C&I Demand Response - Large	29	108
	Governmental & Institutional Tariff	1	837
	Portfolio Total	361,432	1,746,829

⁴ 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 0-1⁵.

Table 0-1: Energy Savings by Program (MWh/Year)

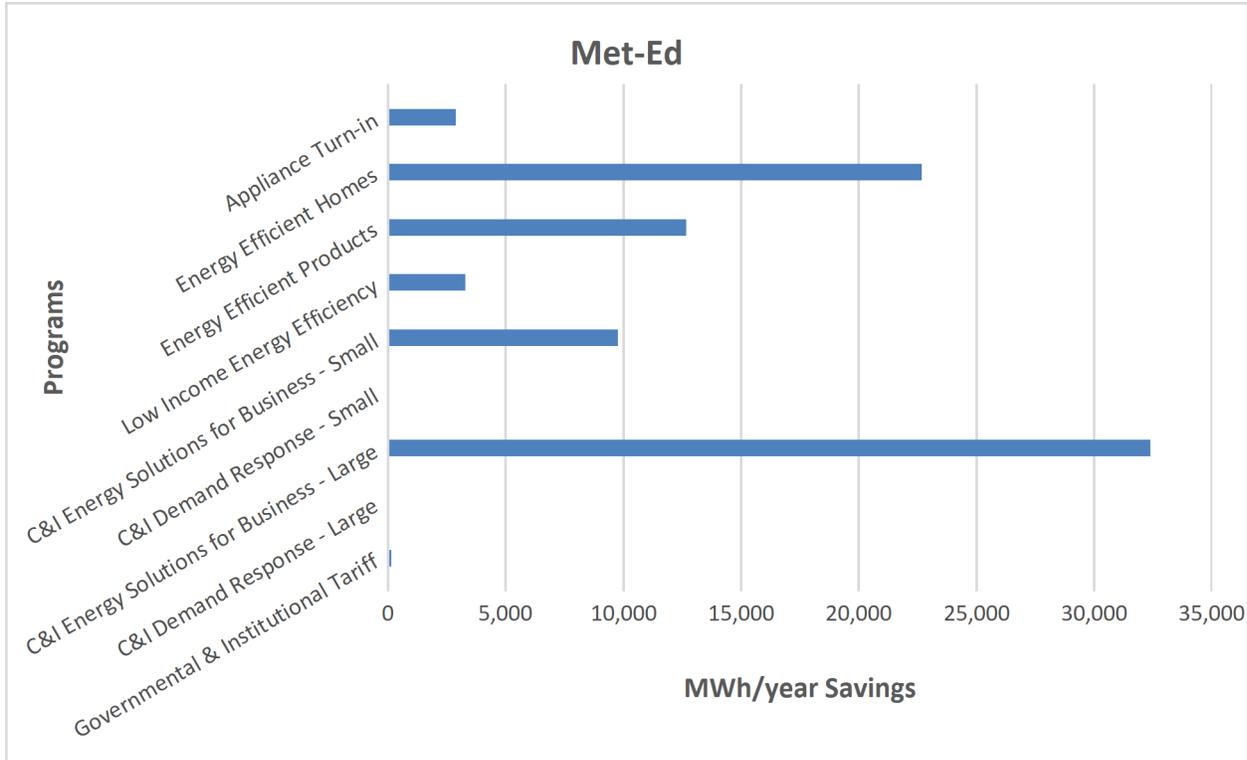
Utility	Program	PYRTD	VTD	PSA	RTD
Met-Ed	Appliance Turn-in	2,883	16,909	19,793	20,092
	Energy Efficient Homes	22,673	209,079	231,752	218,085
	Energy Efficient Products	12,656	142,030	154,686	125,024
	Low Income Energy Efficiency	3,265	38,875	42,140	37,384
	C&I Energy Solutions for Business - Small	9,754	95,836	105,590	107,885
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	32,383	138,949	171,332	174,610
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	141	2,020	2,161	2,203
	Portfolio Total	83,756	643,697	727,453	685,282
Penelec	Appliance Turn-in	2,573	15,498	18,071	19,087
	Energy Efficient Homes	15,193	161,292	176,485	165,313
	Energy Efficient Products	13,241	152,388	165,629	138,317
	Low Income Energy Efficiency	2,801	38,730	41,531	37,945
	C&I Energy Solutions for Business - Small	11,706	102,029	113,736	115,808
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	15,997	141,341	157,338	162,490
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	1	3,291	3,292	3,428
	Portfolio Total	61,513	614,570	676,082	642,389
Penn Power	Appliance Turn-in	0	4,890	4,890	5,635
	Energy Efficient Homes	5,451	47,279	52,730	47,802
	Energy Efficient Products	3,007	55,727	58,733	47,308
	Low Income Energy Efficiency	696	11,199	11,895	11,697
	C&I Energy Solutions for Business - Small	2,815	51,260	54,075	55,267
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	1,721	28,046	29,767	30,298
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	0	1,948	1,948	2,034
	Portfolio Total	13,690	200,349	214,038	200,040
West Penn Power	Appliance Turn-in	2,883	20,188	23,071	23,620
	Energy Efficient Homes	24,634	154,402	179,035	183,655
	Energy Efficient Products	15,505	160,723	176,228	145,655
	Low Income Energy Efficiency	3,175	35,042	38,216	36,894
	C&I Energy Solutions for Business - Small	17,225	110,299	127,525	125,973
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	22,583	102,199	124,781	126,204
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	1	21,623	21,624	20,468
	Portfolio Total	86,004	604,476	690,480	662,470

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

Figures 7A-7D: Reported Gross Energy Savings by Program present a summary of the PYTD reported gross energy savings by program for PY12. 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 Program⁶

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



⁶ 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

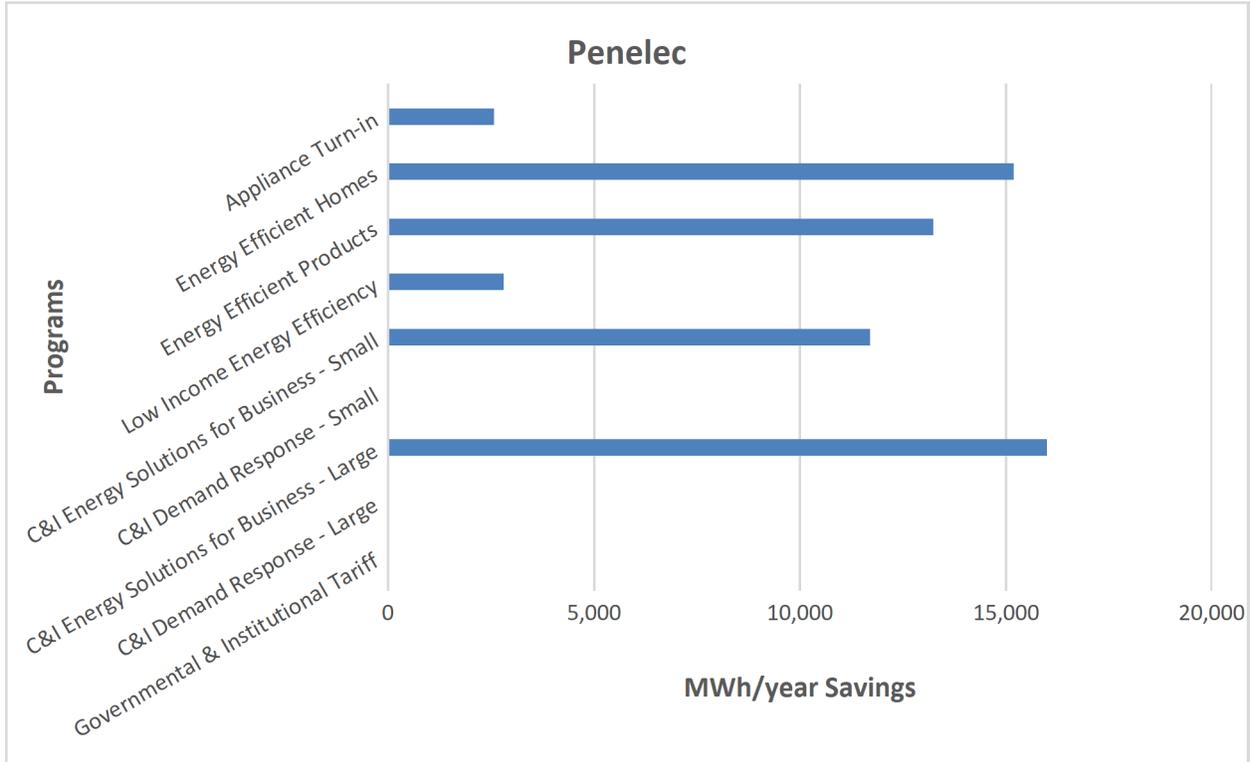


Figure 7C: PYTD Reported Gross Energy Savings by Program - Penn Power

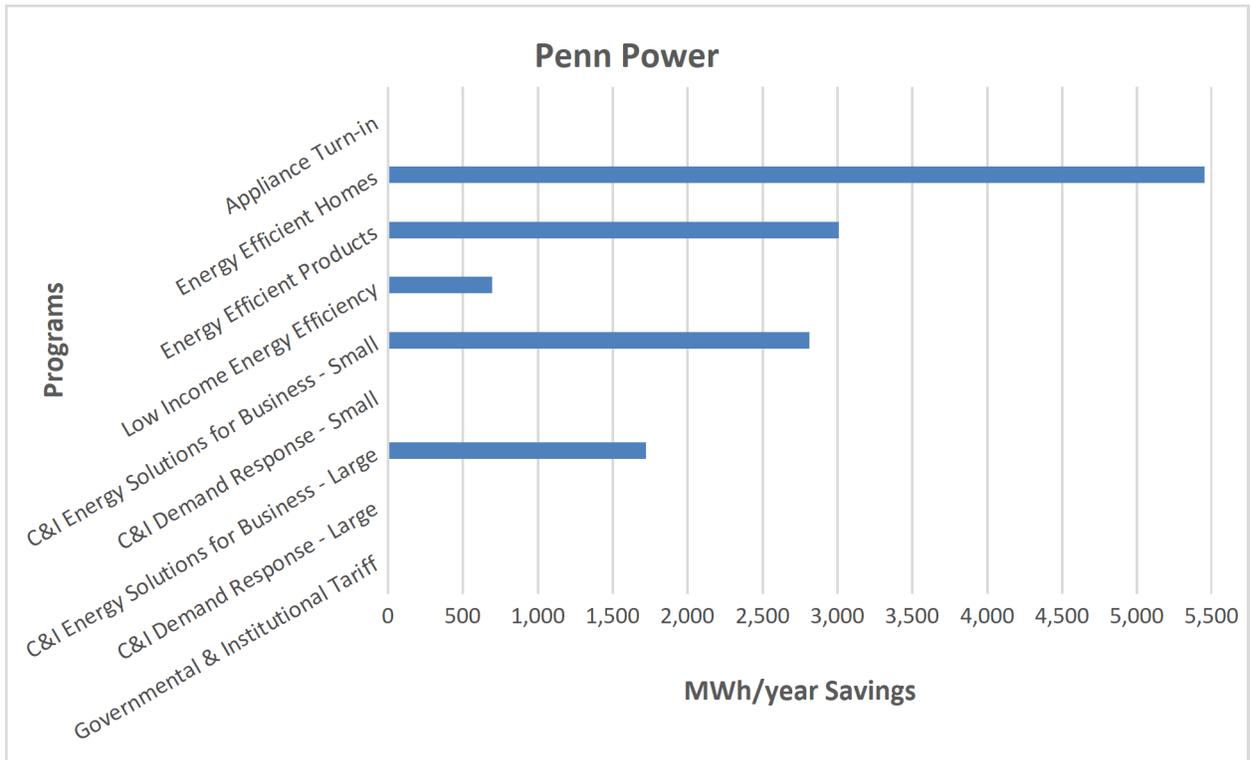
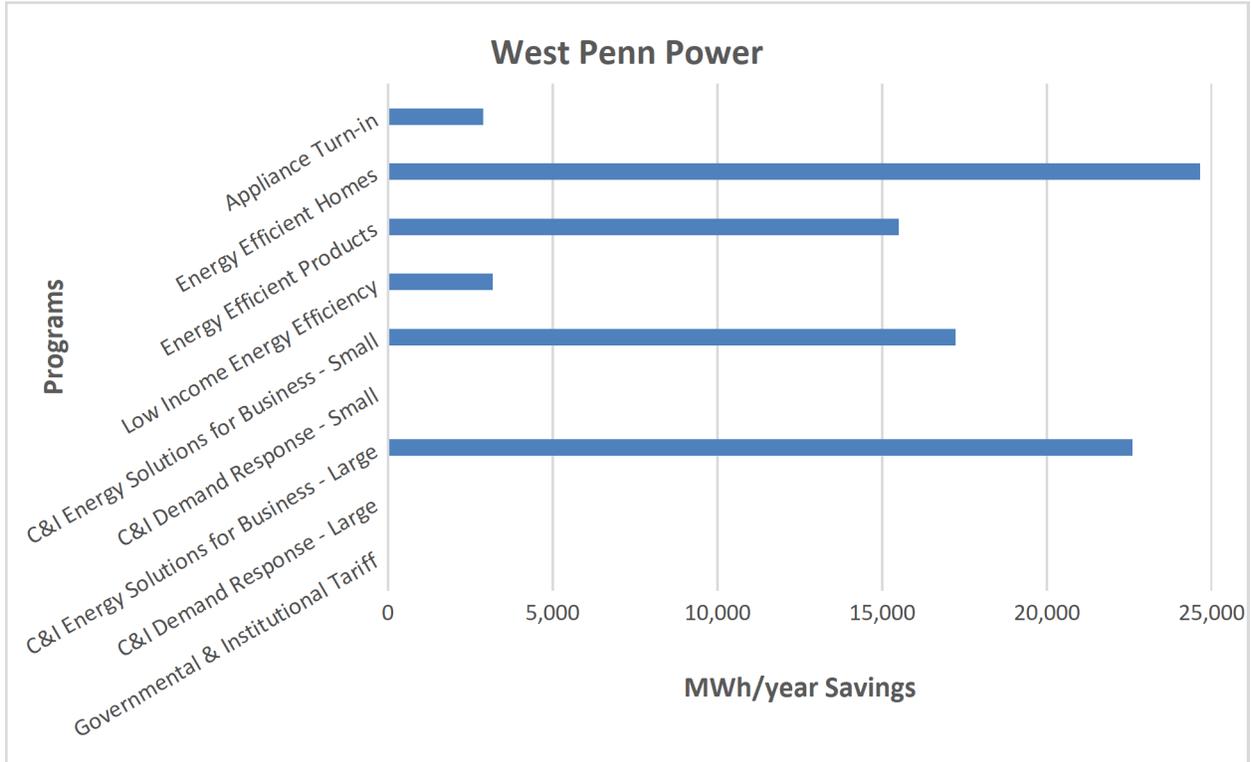


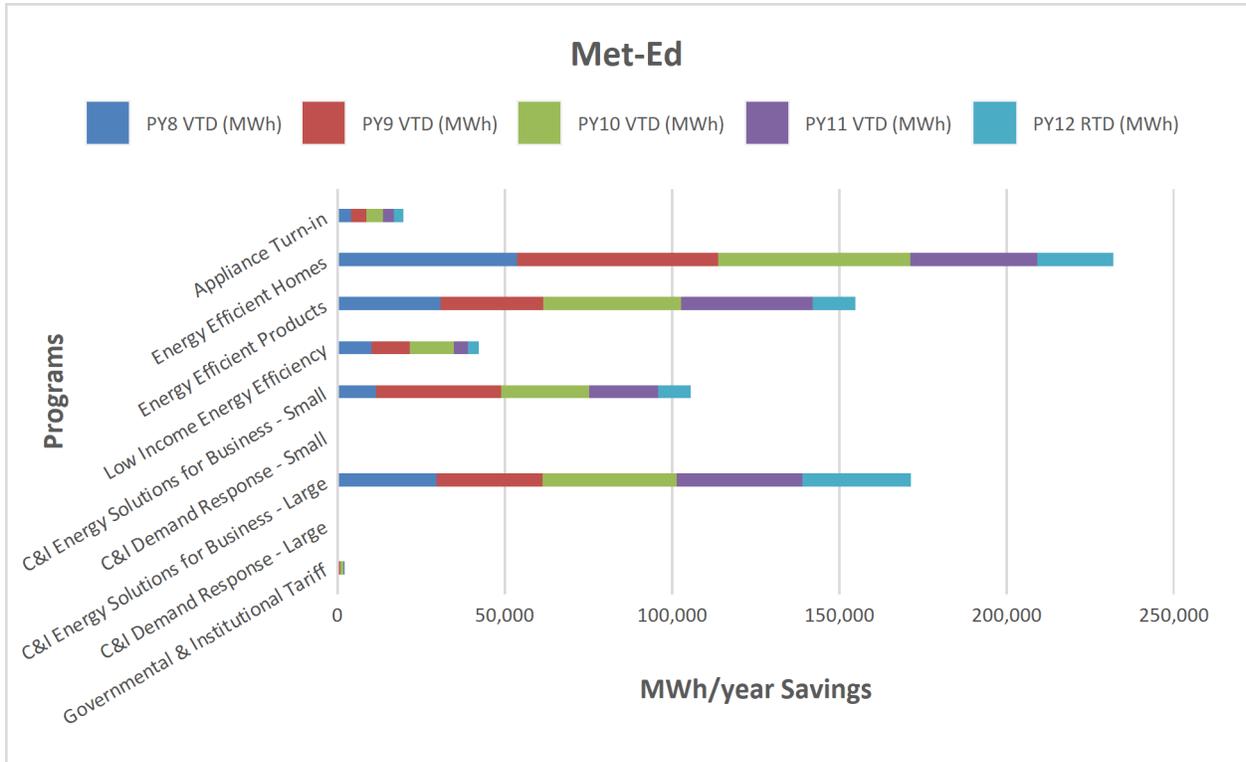
Figure 7D: PYTD Reported Gross Energy Savings by Program - West Penn Power



Figures 8A-8D: 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 8A-8D: PSA Energy Savings by Program for Phase III⁷

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



⁷ 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

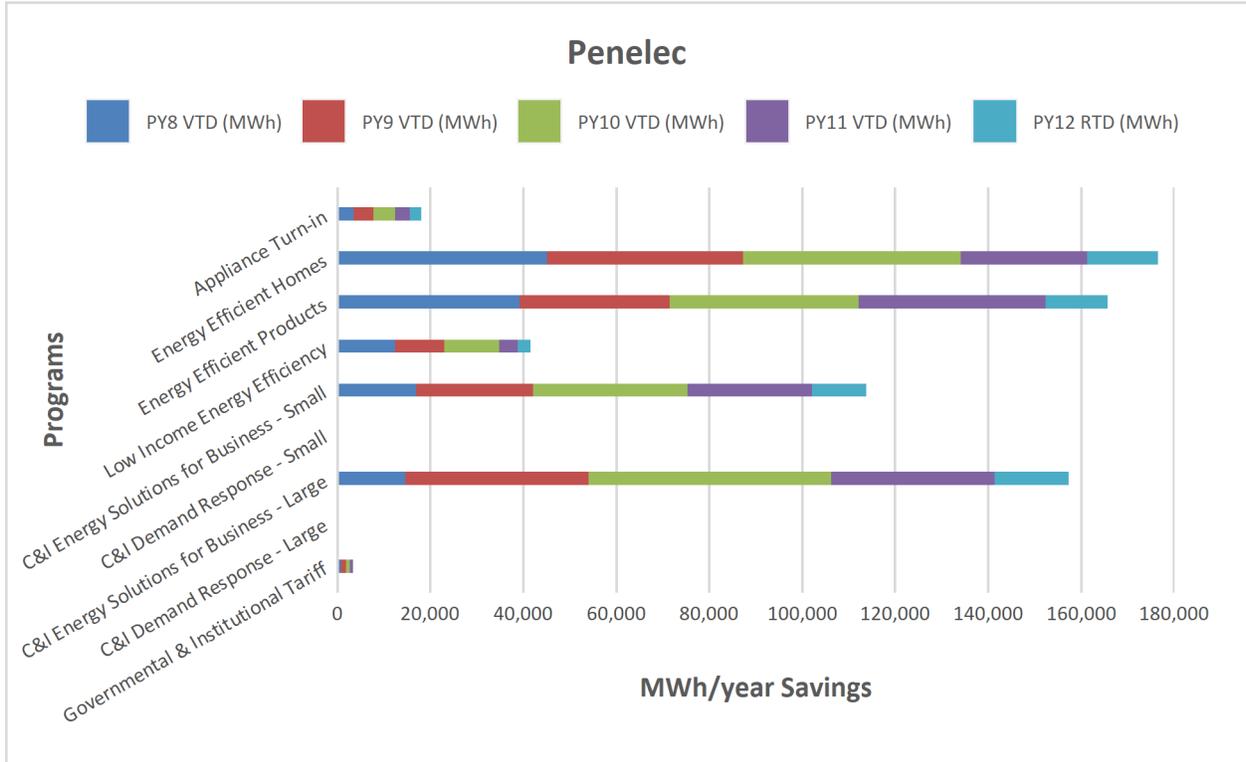


Figure 8C: PSA Energy Savings by Program for Phase III - Penn Power

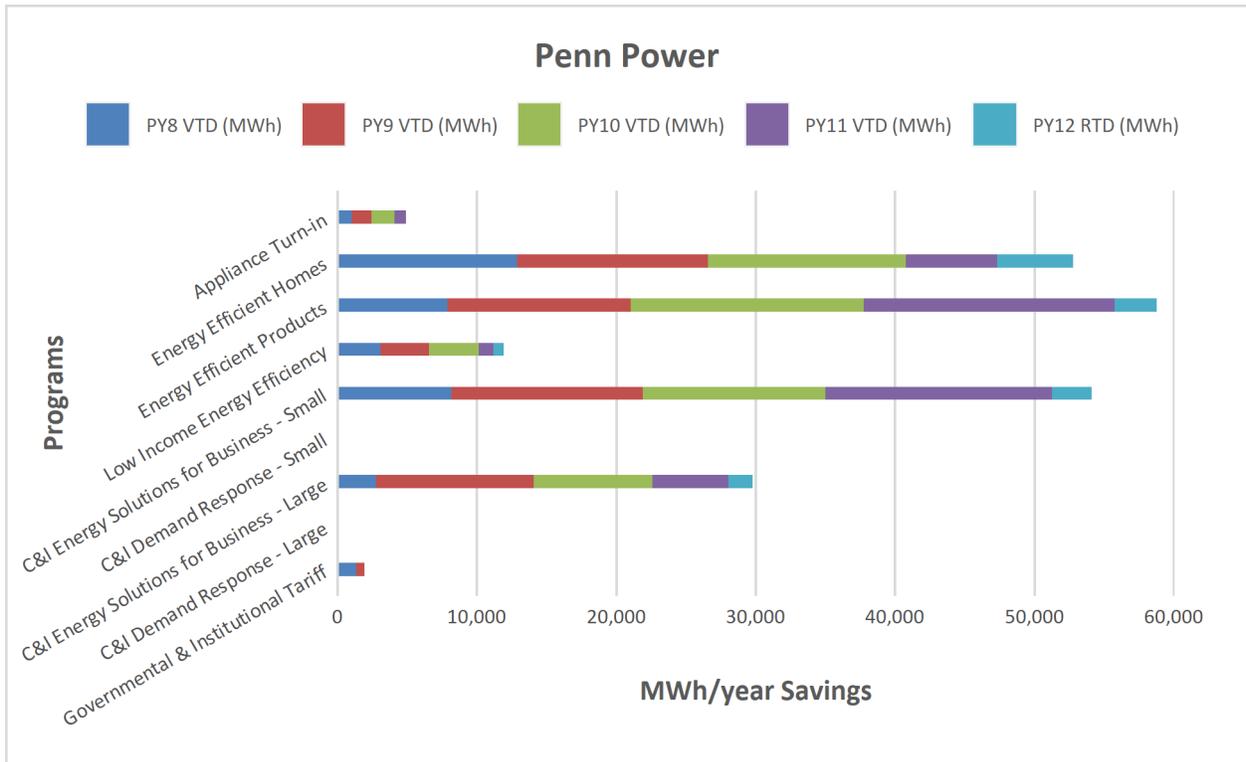
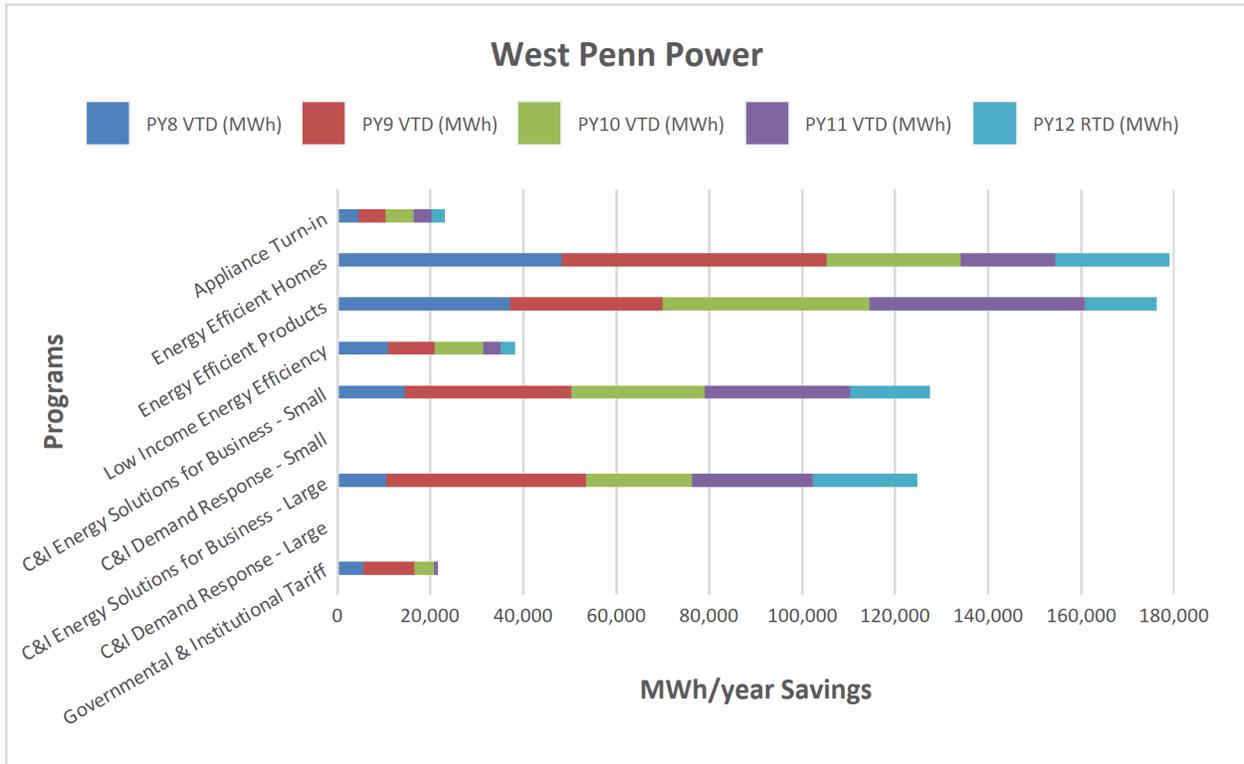


Figure 8D: PSA Energy Savings by Program for Phase III - West Penn Power



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 0-1**:

Table 0-1: Peak Demand Savings by Program (MW/Year)⁸

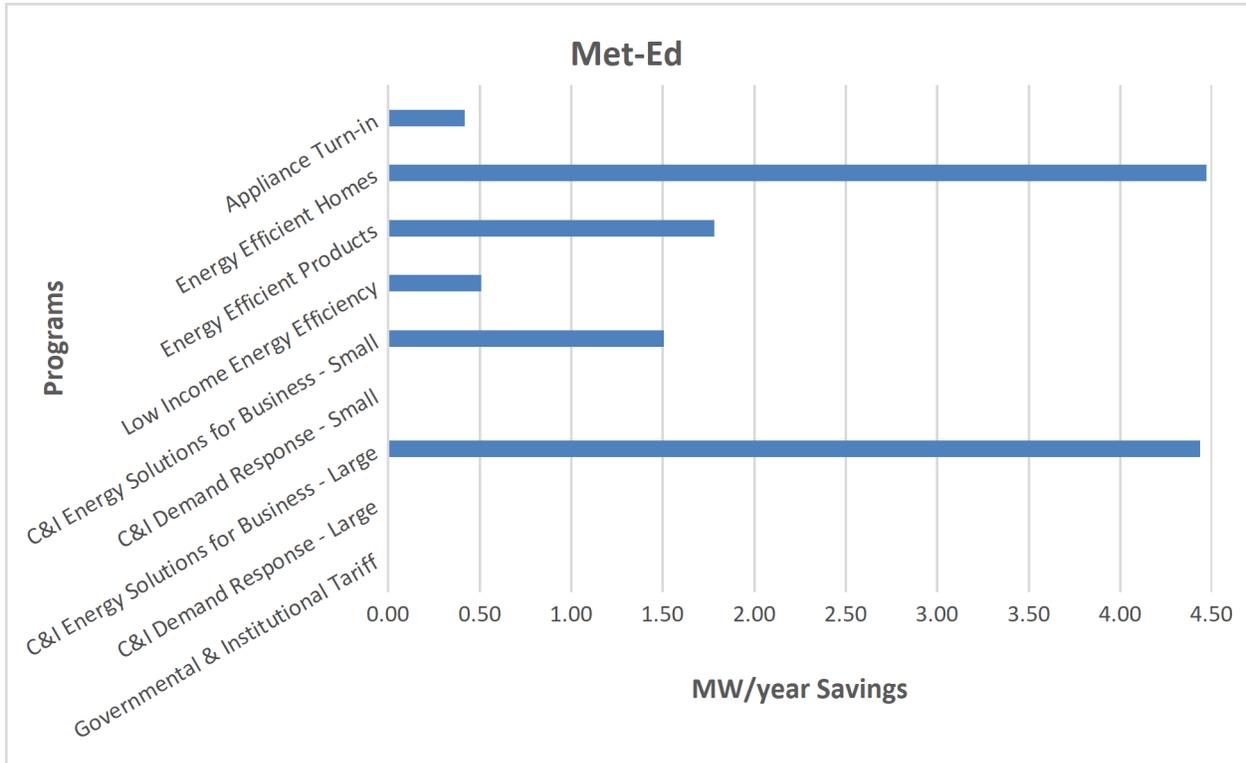
Utility	Program	PYRTD	VTD	PSA	RTD
Met-Ed	Appliance Turn-in	0.42	2.33	2.75	2.86
	Energy Efficient Homes	4.47	25.39	29.86	31.44
	Energy Efficient Products	1.78	19.16	20.94	16.05
	Low Income Energy Efficiency	0.51	4.50	5.01	4.75
	C&I Energy Solutions for Business - Small	1.51	14.39	15.89	16.24
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	4.44	18.93	23.36	23.87
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	0.00	0.03	0.03	0.04
	Portfolio Total	13.13	84.73	97.86	95.25
Penelec	Appliance Turn-in	0.36	2.07	2.43	2.59
	Energy Efficient Homes	2.22	17.56	19.77	21.07
	Energy Efficient Products	1.70	18.47	20.17	15.82
	Low Income Energy Efficiency	0.34	4.15	4.49	4.44
	C&I Energy Solutions for Business - Small	1.73	14.74	16.47	17.34
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	2.20	16.45	18.65	20.12
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	0.00	0.06	0.06	0.07
	Portfolio Total	8.56	73.49	82.05	81.44
Penn Power	Appliance Turn-in	0.00	0.63	0.63	0.72
	Energy Efficient Homes	1.25	6.75	7.99	8.08
	Energy Efficient Products	0.43	7.45	7.87	5.91
	Low Income Energy Efficiency	0.10	1.31	1.40	1.48
	C&I Energy Solutions for Business - Small	0.34	7.32	7.66	7.85
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	0.27	3.13	3.40	3.58
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	0.00	0.07	0.07	0.07
	Portfolio Total	2.38	26.65	29.03	27.69
West Penn Power	Appliance Turn-in	0.38	2.62	3.01	3.07
	Energy Efficient Homes	5.09	19.96	25.05	31.26
	Energy Efficient Products	2.35	22.61	24.96	20.12
	Low Income Energy Efficiency	0.40	4.12	4.52	4.93
	C&I Energy Solutions for Business - Small	2.54	15.46	18.00	18.19
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	3.27	12.13	15.40	16.01
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	0.00	0.21	0.21	0.20
	Portfolio Total	14.04	77.10	91.14	93.79

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

Figures 9A-9D: PYRTD Gross Demand Savings by Energy Efficiency Program present a summary of the PYRTD reported gross peak demand savings by energy efficiency program for PY12.

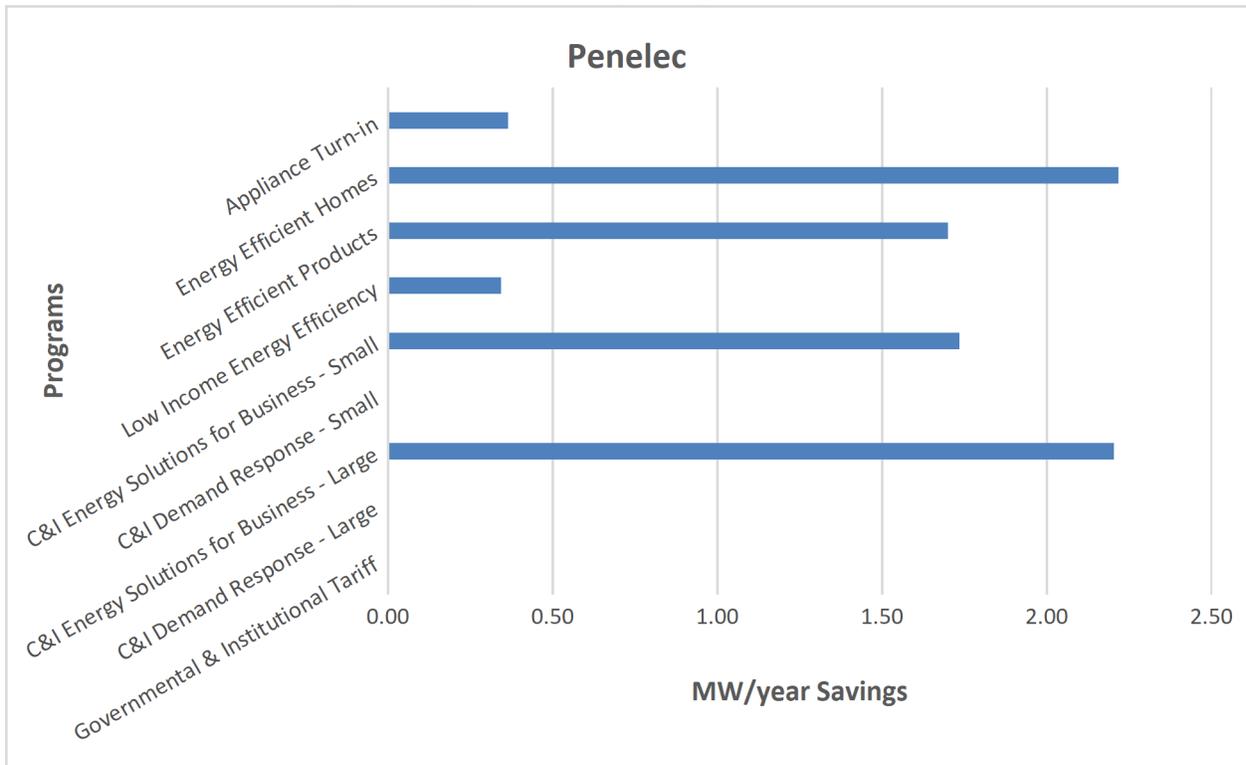
Figures 9A-9D: PYRTD Gross Demand Savings by Energy Efficiency Program⁹

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

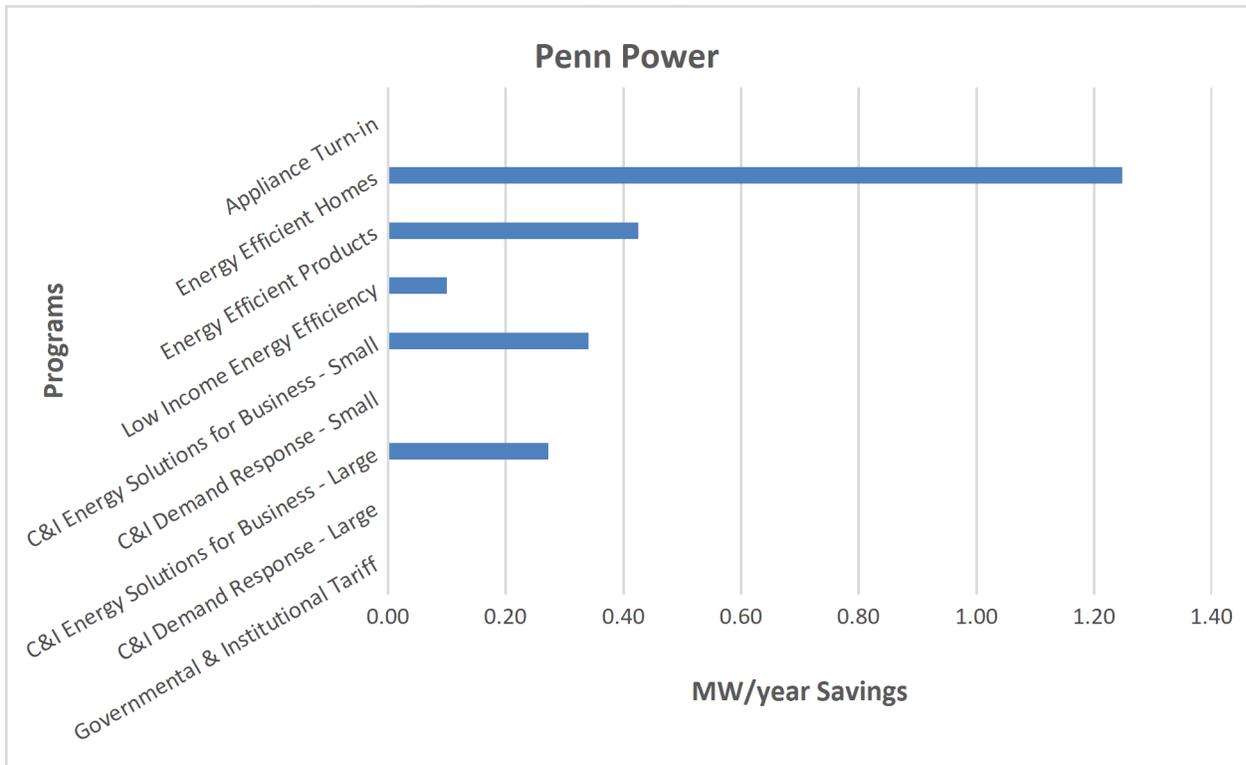


⁹ Results for the Small & Large Energy Solutions for Business programs include GNI customers who participated in these programs.

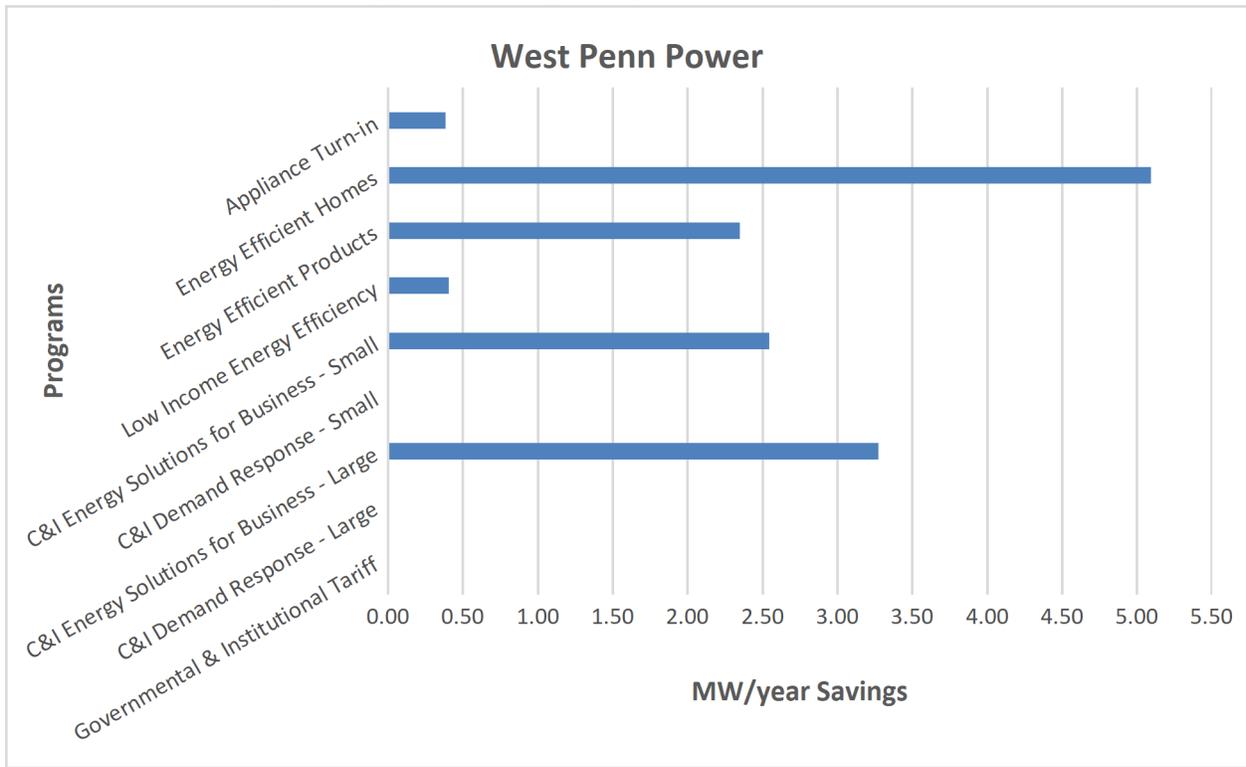
**Figure 9B: PYRTD Gross Demand Savings
by Energy Efficiency Program – Penelec**



**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**

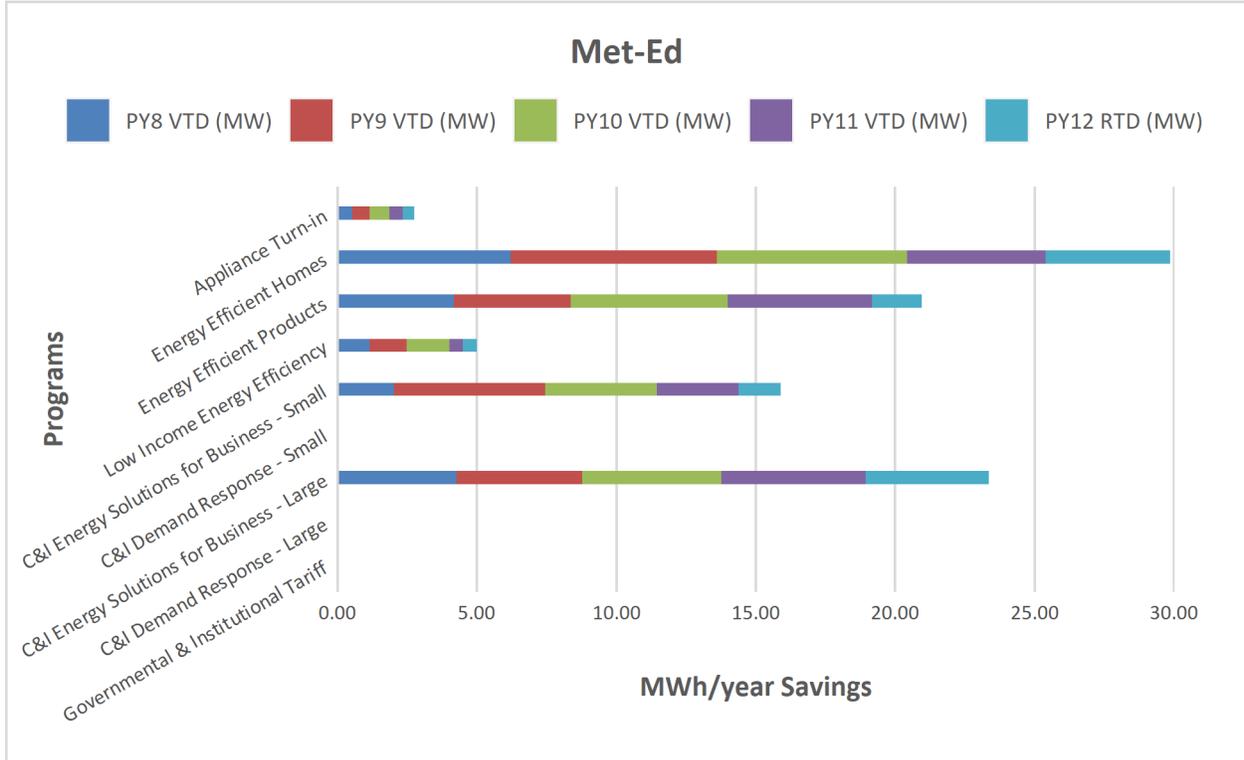


Figures 10A-10D: PSA Demand Savings by Energy Efficiency Program for Phase III present a summary of the PSA gross demand savings by energy efficiency program for Phase III of Act 129.¹⁰

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

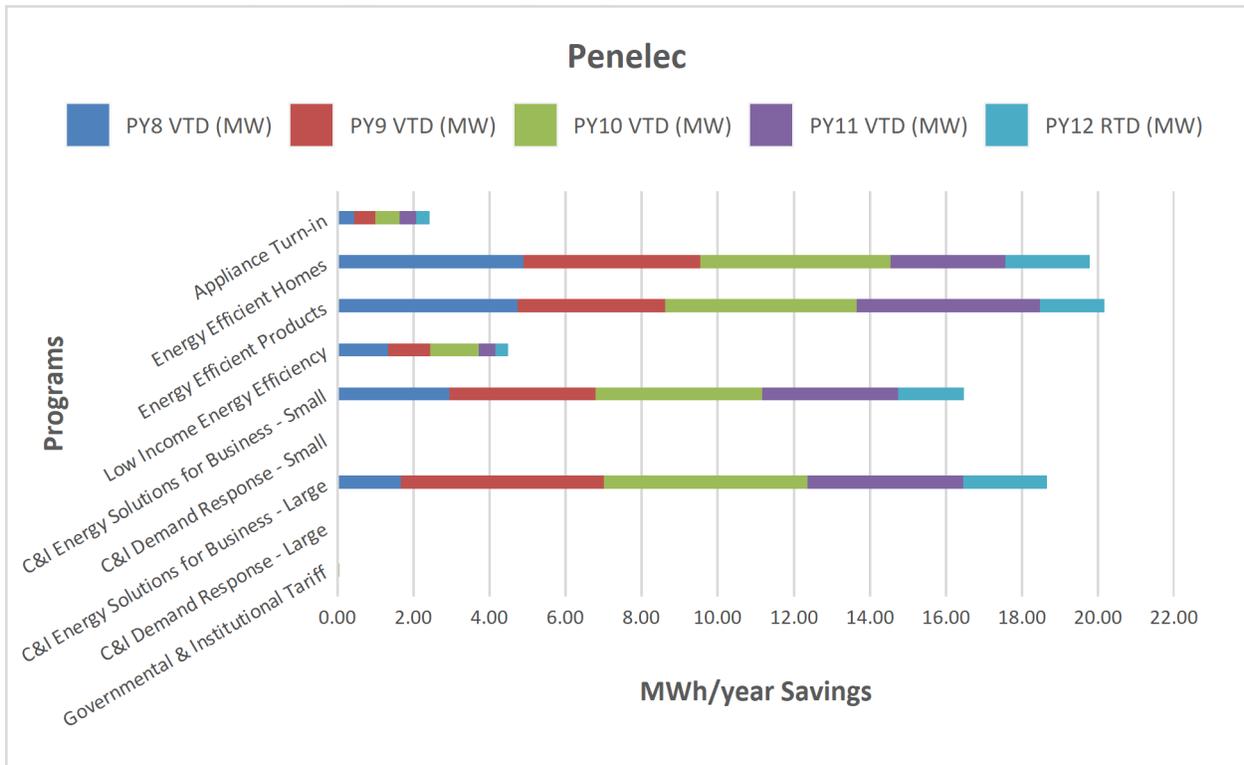
Figures 10A-10D: PSA Demand Savings by Energy Efficiency Program for Phase III¹¹

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

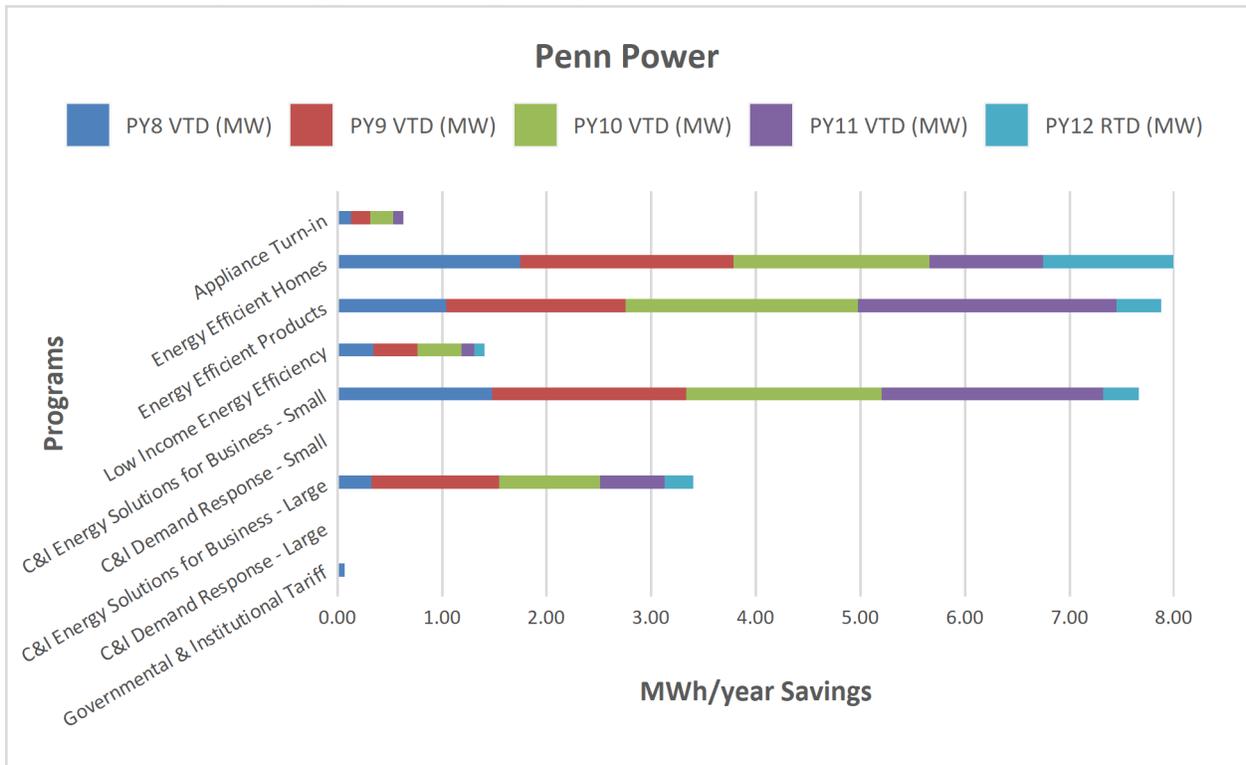


¹¹ Results for the Small & Large Energy Solutions for Business programs include GNI customers who participated in these programs.

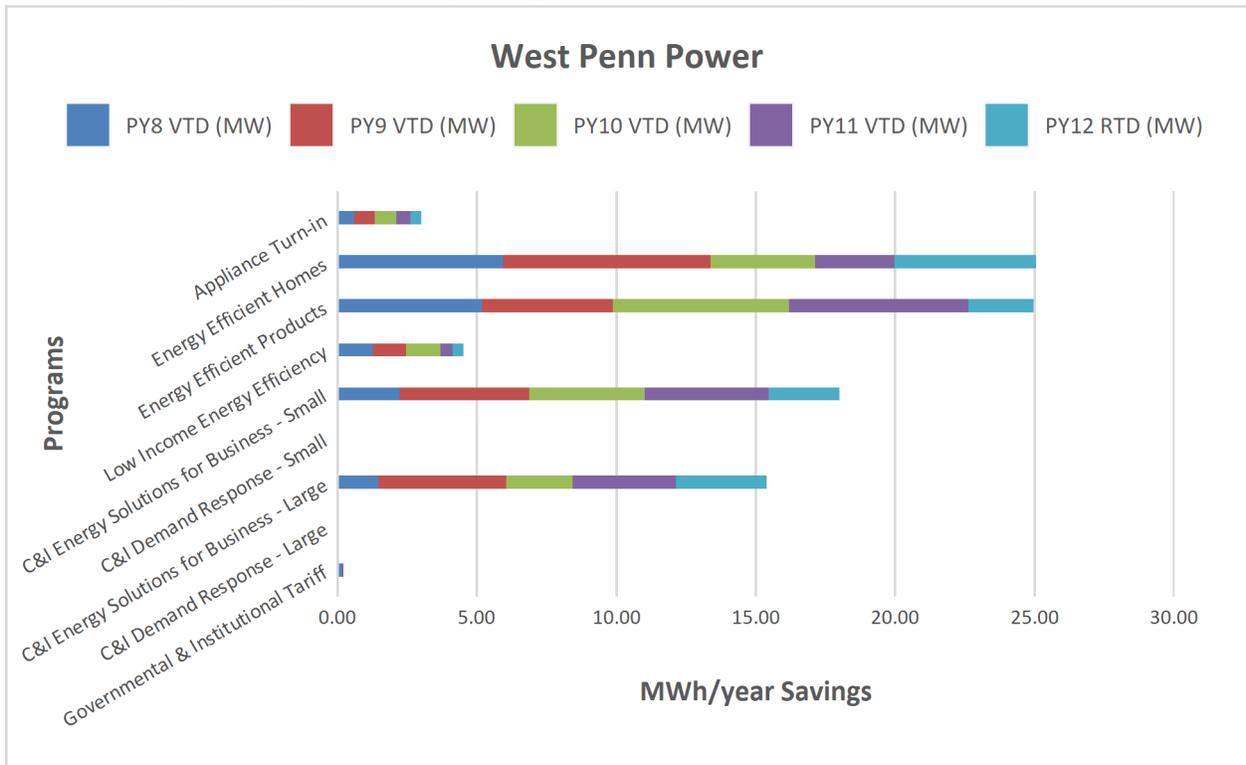
**Figure 10B: PSA Demand Savings
by Energy Efficiency Program for Phase III – Penelec**



**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. The following line loss percentages/multipliers are provided by sector.

Sector	Met-Ed	Penelec	Penn Power	West Penn Power
Residential	1.0945	1.0945	1.0949	1.0943
Small C&I	1.0720	1.0720	1.0545	1.0790
Large C&I	1.0720	1.0720	1.0545	1.0790

Table 0-2 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 0-2 indicate the margin of error (at the 90% confidence interval) around the PYVTD and VTD demand reductions.

Table 0-2: Verified Gross Demand Response Impacts by Program

Utility	Program	PYVTD Gross MW	Relative Precision (90%)	VTD Gross MW	Relative Precision (90%)	Compliance Gross MW	Relative Precision (90%)
Met-Ed	Energy Efficient Homes	8.9	30.9%	6.7	13.6%	5.8	15.7%
	C&I Demand Response - Small	1.8	12.8%	3.0	6.4%	3.4	5.5%
	C&I Demand Response - Large	35.3	10.8%	41.4	3.8%	43.8	3.6%
	Portfolio Total	46.0	5.7%	51.1	3.6%	53.0	3.5%
	Portfolio Total (Confidence Interval)	43.4 - 48.6		49.3 - 52.9		51.2 - 54.8	
Penelec	Energy Efficient Homes	n/a	n/a	n/a	n/a	n/a	n/a
	C&I Demand Response - Small	n/a	n/a	n/a	n/a	n/a	n/a
	C&I Demand Response - Large	n/a	n/a	n/a	n/a	n/a	n/a
	Portfolio Total	n/a	n/a	n/a	n/a	n/a	n/a
Penn Power	Energy Efficient Homes	1.5	46.9%	1.9	13.4%	2.0	10.5%
	C&I Demand Response - Small	0.0	0.0%	0.0	58.1%	0.0	58.1%
	C&I Demand Response - Large	10.1	64.5%	30.1	21.9%	37.8	23.3%
	Portfolio Total	11.6	34.4%	32.0	20.6%	39.9	22.1%
	Portfolio Total (Confidence Interval)	7.6 - 15.6		25.4 - 38.6		31.1 - 48.7	
West Penn Power	Energy Efficient Homes	2.8	47.3%	2.5	17.7%	2.4	14.0%
	C&I Demand Response - Small	1.2	20.3%	1.4	13.8%	1.4	17.0%
	C&I Demand Response - Large	87.3	38.2%	102.7	13.9%	108.6	13.8%
	Portfolio Total	91.3	22.2%	106.5	13.4%	112.4	13.3%
	Portfolio Total (Confidence Interval)	71 - 111.6		92.2 - 120.8		97.4 - 127.4	

Section 7 Summary of Finances

0 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 PY12 are shown in **Table 0-1A to 7-1D**.¹² The columns in these tables are adapted from the 'Direct Program Cost' categories in the Commission's EE&V Plan template¹³ 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 employees to support program delivery. For the low-income direct-install program components all material and installation costs appear under ICSP Materials, Labor, and Administration, rather than under the Incentives category. Participants in this program bear no out-of-pocket costs.

¹² 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.

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

Table 0-1A to 7-1D: Program Year to Date Financials¹⁴

Table 0-1A: 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>	\$64,575	\$44,687	\$161,613	\$31,078	\$301,952
<i>Energy Efficient Homes</i>	\$301,208	\$137,322	\$338,109	\$27,417	\$804,057
<i>Energy Efficient Products</i>	\$622,692	\$65,658	\$265,882	\$34,599	\$988,830
<i>Low Income Energy Efficiency</i>	\$27,312	\$110,098	\$971,175	\$34,748	\$1,143,334
<i>C&I Energy Solutions for Business - Small</i>	\$307,454	\$41,892	\$356,048	\$112,235	\$817,629
<i>C&I Demand Response - Small</i>	\$65,329	\$5,152	(\$19,351)	\$1,084	\$52,214
<i>C&I Energy Solutions for Business - Large</i>	\$679,920	\$29,001	\$406,206	\$105,948	\$1,221,075
<i>C&I Demand Response - Large</i>	\$697,234	\$46,145	(\$366,627)	\$9,709	\$386,461
<i>Governmental & Institutional Tariff</i>	\$624	\$2,313	\$3,086	\$5,834	\$11,858
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$2,766,347	\$482,267	\$2,116,141	\$362,652	\$5,727,408
<i>SWE Costs⁵</i>	\$0	\$0	\$0	\$0	\$64,000
<i>Total</i>	\$2,766,347	\$482,267	\$2,116,141	\$362,652	\$5,791,408

¹⁴ 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>	\$44,525	\$50,232	\$117,982	\$33,238	\$245,977
<i>Energy Efficient Homes</i>	\$93,701	\$128,210	\$128,440	\$25,610	\$375,960
<i>Energy Efficient Products</i>	\$465,549	\$69,389	\$240,829	\$33,561	\$809,328
<i>Low Income Energy Efficiency</i>	\$18,440	\$139,036	\$599,747	\$32,960	\$790,183
<i>C&I Energy Solutions for Business - Small</i>	\$234,899	\$45,288	\$421,609	\$117,449	\$819,245
<i>C&I Demand Response - Small</i>	\$0	\$0	\$0	\$0	\$0
<i>C&I Energy Solutions for Business - Large</i>	\$400,310	\$26,391	\$283,549	\$92,666	\$802,916
<i>C&I Demand Response - Large</i>	\$0	\$0	\$0	\$0	\$0
<i>Governmental & Institutional Tariff</i>	\$0	\$3,368	\$955	\$8,358	\$12,681
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$1,257,425	\$461,914	\$1,793,111	\$343,842	\$3,856,291
<i>SWE Costs⁵</i>	\$0	\$0	\$0	\$0	\$58,000
<i>Total</i>	\$1,257,425	\$461,914	\$1,793,111	\$343,842	\$3,914,291

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>	\$0	\$764	(\$5,985)	\$5,932	\$711
<i>Energy Efficient Homes</i>	\$128,558	\$51,577	\$107,469	\$8,275	\$295,878
<i>Energy Efficient Products</i>	\$170,558	\$18,682	\$38,498	\$7,032	\$234,770
<i>Low Income Energy Efficiency</i>	\$2,622	\$53,361	\$61,500	\$9,179	\$126,662
<i>C&I Energy Solutions for Business - Small</i>	\$56,286	\$21,924	\$258,969	\$28,101	\$365,279
<i>C&I Demand Response - Small</i>	\$0	\$1,984	(\$1,104)	\$410	\$1,290
<i>C&I Energy Solutions for Business - Large</i>	\$16,235	\$12,529	\$76,650	\$20,165	\$125,579
<i>C&I Demand Response - Large</i>	\$45,371	\$17,803	\$33,623	\$3,678	\$100,475
<i>Governmental & Institutional Tariff</i>	\$0	\$1,804	\$3,153	\$2,016	\$6,972
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$419,629	\$180,426	\$572,773	\$84,787	\$1,257,617
<i>SWE Costs⁵</i>	\$0	\$0	\$0	\$0	\$18,000
<i>Total</i>	\$419,629	\$180,426	\$572,773	\$84,787	\$1,275,617

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>	\$52,500	\$43,455	\$136,776	\$30,803	\$263,534
<i>Energy Efficient Homes</i>	\$393,158	\$145,224	\$270,209	\$28,502	\$837,094
<i>Energy Efficient Products</i>	\$674,525	\$72,699	\$352,579	\$38,859	\$1,138,663
<i>Low Income Energy Efficiency</i>	\$16,960	\$113,273	\$629,523	\$32,380	\$792,136
<i>C&I Energy Solutions for Business - Small</i>	\$357,719	\$20,367	\$1,596,763	\$132,332	\$2,107,181
<i>C&I Demand Response - Small</i>	\$20,691	\$6,261	\$10,140	\$1,324	\$38,416
<i>C&I Energy Solutions for Business - Large</i>	\$647,487	\$7,269	\$332,286	\$85,052	\$1,072,094
<i>C&I Demand Response - Large</i>	\$861,472	\$56,396	\$487,684	\$11,930	\$1,417,482
<i>Governmental & Institutional Tariff</i>	\$0	\$909	\$1,434	\$7,339	\$9,682
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$3,024,513	\$465,854	\$3,817,393	\$368,521	\$7,676,281
<i>SWE Costs⁵</i>	\$0	\$0	\$0	\$0	\$60,000
<i>Total</i>	\$3,024,513	\$465,854	\$3,817,393	\$368,521	\$7,736,281

Program-specific and portfolio total finances since the inception of Phase III are shown in Table 0-2A to 7-2D.

Table 0-2A to 7-2D: Phase III to Date Financials¹⁵

Table 0-2A: 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>	\$1,148,525	\$288,550	\$2,852,213	\$147,910	\$4,437,198
<i>Energy Efficient Homes</i>	\$12,697,973	\$1,061,890	\$10,148,023	\$698,386	\$24,606,272
<i>Energy Efficient Products</i>	\$8,188,046	\$352,649	\$3,886,221	\$552,176	\$12,979,093
<i>Low Income Energy Efficiency</i>	\$410,443	\$1,247,998	\$11,612,191	\$497,622	\$13,768,254
<i>C&I Energy Solutions for Business - Small</i>	\$4,804,223	\$818,279	\$3,634,926	\$886,574	\$10,144,002
<i>C&I Demand Response - Small</i>	\$133,648	\$57,005	\$178,834	\$25,979	\$395,465
<i>C&I Energy Solutions for Business - Large</i>	\$7,779,770	\$556,526	\$4,367,825	\$961,245	\$13,665,366
<i>C&I Demand Response - Large</i>	\$1,579,610	\$510,138	\$2,555,302	\$233,103	\$4,878,152
<i>Governmental & Institutional Tariff</i>	\$109,010	\$33,989	\$143,089	\$58,759	\$344,847
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$36,851,248	\$4,927,023	\$39,378,624	\$4,061,754	\$85,218,650
<i>SWE Costs⁵</i>	\$0	\$0	\$0	\$0	\$1,407,987
<i>Total</i>	\$36,851,248	\$4,927,023	\$39,378,624	\$4,061,754	\$86,626,637

¹⁵ 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>	\$986,150	\$318,131	\$2,570,478	\$159,675	\$4,034,434
<i>Energy Efficient Homes</i>	\$11,272,866	\$989,636	\$7,986,713	\$578,208	\$20,827,423
<i>Energy Efficient Products</i>	\$6,994,048	\$373,136	\$3,834,077	\$530,343	\$11,731,604
<i>Low Income Energy Efficiency</i>	\$470,444	\$1,457,606	\$11,041,468	\$528,315	\$13,497,834
<i>C&I Energy Solutions for Business - Small</i>	\$5,922,868	\$837,796	\$4,020,258	\$929,126	\$11,710,046
<i>C&I Demand Response - Small</i>	\$0	\$0	\$0	\$0	\$0
<i>C&I Energy Solutions for Business - Large</i>	\$7,288,194	\$494,422	\$3,845,773	\$843,980	\$12,472,369
<i>C&I Demand Response - Large</i>	\$0	\$0	\$0	\$0	\$0
<i>Governmental & Institutional Tariff</i>	\$171,561	\$59,849	\$266,684	\$87,270	\$585,363
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$33,106,130	\$4,530,576	\$33,565,451	\$3,656,916	\$74,859,073
<i>SWE Costs⁵</i>	\$0	\$0	\$0	\$0	\$1,276,000
<i>Total</i>	\$33,106,130	\$4,530,576	\$33,565,451	\$3,656,916	\$76,135,073

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>	\$282,500	\$54,020	\$814,103	\$33,288	\$1,183,911
<i>Energy Efficient Homes</i>	\$3,623,399	\$395,221	\$2,698,940	\$226,899	\$6,944,459
<i>Energy Efficient Products</i>	\$2,484,485	\$60,363	\$998,633	\$113,048	\$3,656,529
<i>Low Income Energy Efficiency</i>	\$126,068	\$527,828	\$3,053,642	\$168,647	\$3,876,185
<i>C&I Energy Solutions for Business - Small</i>	\$2,825,484	\$309,809	\$1,714,581	\$222,212	\$5,072,086
<i>C&I Demand Response - Small</i>	\$0	\$20,236	\$3,443	\$8,983	\$32,662
<i>C&I Energy Solutions for Business - Large</i>	\$1,390,941	\$183,961	\$798,374	\$182,858	\$2,556,135
<i>C&I Demand Response - Large</i>	\$904,939	\$181,326	\$878,068	\$80,554	\$2,044,886
<i>Governmental & Institutional Tariff</i>	\$109,860	\$21,720	\$99,149	\$20,365	\$251,093
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$11,747,675	\$1,754,484	\$11,058,934	\$1,056,854	\$25,617,946
<i>SWE Costs⁵</i>	\$0	\$0	\$0	\$0	\$396,000
<i>Total</i>	\$11,747,675	\$1,754,484	\$11,058,934	\$1,056,854	\$26,013,946

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>	\$1,237,675	\$293,560	\$3,111,320	\$147,215	\$4,789,771
<i>Energy Efficient Homes</i>	\$8,102,061	\$1,158,479	\$9,412,493	\$663,608	\$19,336,641
<i>Energy Efficient Products</i>	\$8,772,920	\$479,678	\$4,820,786	\$602,089	\$14,675,473
<i>Low Income Energy Efficiency</i>	\$350,951	\$1,280,475	\$12,653,737	\$521,865	\$14,807,028
<i>C&I Energy Solutions for Business - Small</i>	\$6,222,842	\$878,354	\$6,547,269	\$1,011,248	\$14,659,713
<i>C&I Demand Response - Small</i>	\$38,648	\$71,419	\$84,220	\$32,613	\$226,900
<i>C&I Energy Solutions for Business - Large</i>	\$5,647,196	\$428,276	\$3,323,716	\$775,094	\$10,174,282
<i>C&I Demand Response - Large</i>	\$3,590,435	\$642,666	\$3,673,757	\$293,637	\$8,200,495
<i>Governmental & Institutional Tariff</i>	\$934,528	\$50,694	\$545,997	\$75,256	\$1,606,475
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$34,897,255	\$5,283,601	\$44,173,295	\$4,122,624	\$88,476,776
<i>SWE Costs⁵</i>	\$0	\$0	\$0	\$0	\$1,320,000
<i>Total</i>	\$34,897,255	\$5,283,601	\$44,173,295	\$4,122,624	\$89,796,776

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 PY11 were presented in the final annual report to the PA PUC on February 15, 2021 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 0-3A to 7-3D: EE&C Plan Expenditures by Cost-Recovery Category¹⁶

Table 0-3A: 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	\$6,400	\$56,699
	Small C&I	Rate GS-Small, Rate GS-Medium, and Outdoor Lighting Service	\$1,317	\$10,752
	Large C&I	Rate GS-Large, Rate GP and Rate TP	\$3,169	\$18,994
	Street Lighting	Street Lighting Service, LED Street Lighting Service and Ornamental Street Lighting Service	\$3	\$147
	Government & Non-Profit Tariff	Rate GS - Volunteer Fire Company, and Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate and Rate MS	\$30	\$209
Portfolio Total			\$10,921	\$86,802

¹⁶ 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	\$4,536	\$51,006
	Small C&I	Rate GS-Small, Rate GS-Medium, and Outdoor Lighting Service	\$1,485	\$12,004
	Large C&I	Rate GS-Large, Rate GP, and Rate LP	\$1,184	\$12,617
	Street Lighting	Street Lighting Service, LED Street Lighting Service, and Ornamental Street Lighting Service	\$2	\$194
	Government & Non-Profit Tariff	Rate GS – Volunteer Fire Company, and Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate and Rate H	\$34	\$409
Portfolio Total			\$7,242	\$76,229

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	\$1,383	\$15,915
	Small C&I	Rate GS, GS Special Rider GSDS, Rate GM, Rate GS-Large and POL	\$623	\$5,196
	Large C&I	Rate GP, and Rate GT	\$507	\$4,679
	Street Lighting	Rate Schedules SV, SVD, SM and LED	\$1	\$169
	Government & Non-Profit Tariff	Rate GS – Volunteer Fire Company, and Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate and Rate PNP	\$15	\$87
Portfolio Total			\$2,530	\$26,045

**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	\$6,216	\$54,445
	Small C&I	Rate GS 20, Rate GS 30	\$3,025	\$15,155
	Large C&I	Rate GS 35, 40, 44, 46, and Tariff No. 38	\$3,404	\$18,686
	Street Lighting	Rate Schedules 51 through 58, 71, 72	\$2	\$1,317
	Government & Non-Profit Tariff	Rate GS 20 – Volunteer Fire Company, and Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate	\$27	\$303
Portfolio Total			\$12,674	\$89,906

Page left blank on purpose