

Semi-Annual Report to the Pennsylvania Public Utility Commission

Phase III of Act 129

Program Year 12

(June 1, 2020 – November 30, 2020)

For Pennsylvania Act 129 of 2008

Energy Efficiency and Conservation Plan

Prepared by ADM

and the FirstEnergy Pennsylvania EDCs for:

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Pennsylvania Electric Company	M-2015-2514768
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Acronyms

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

Types of Savings

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Table A - P3TD Savings Calculation Example

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

PYRTD (PY10) = 500 MWh/year

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

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

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

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

Section 1. Introduction

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

Implementation of Phase III of the Act 129 programs began on June 1, 2016. This report documents the progress and effectiveness of the Phase III EE&C accomplishments in Program Year 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: Met-Ed, 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 2-1 shows total MWh/year carryover savings from Phase II for each of the FirstEnergy EDCs.

Table 2-1: Phase II Carryover Savings

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

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

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

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

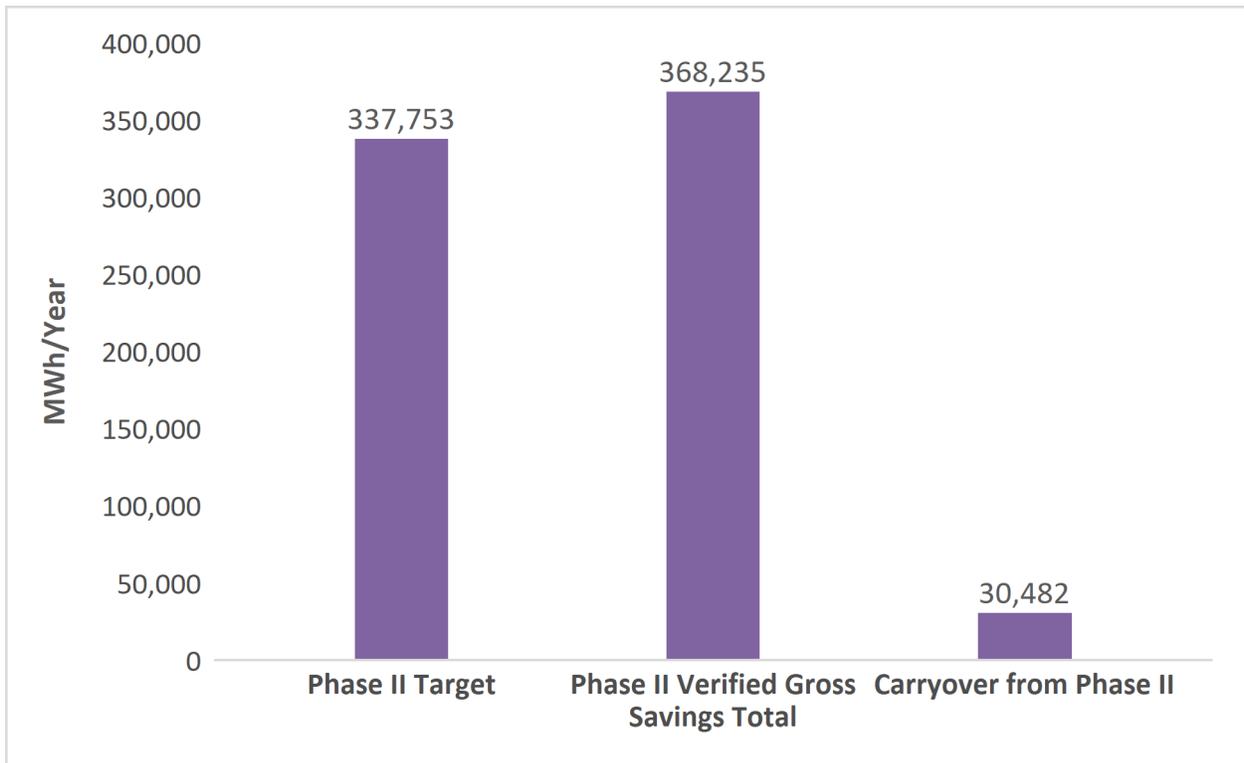


Figure 1B: Carryover Savings from Phase II of Act 129 – Penelec

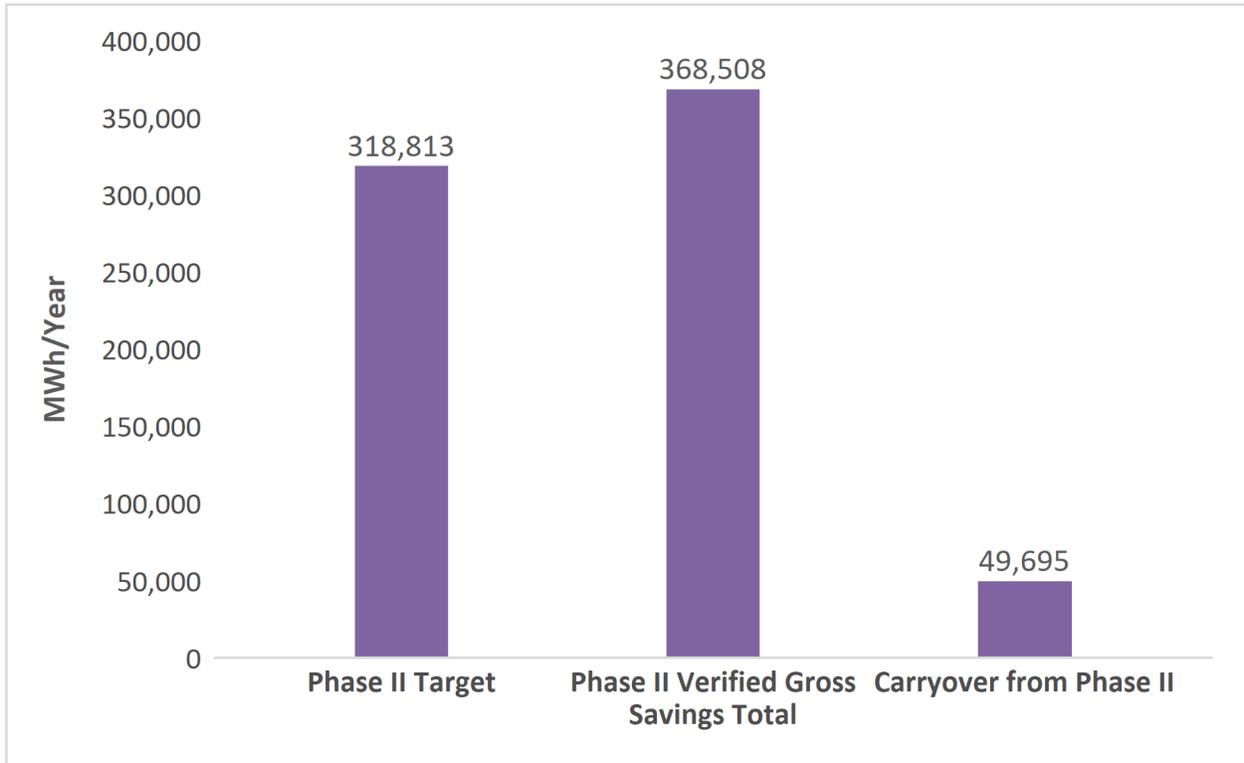


Figure 1C: Carryover Savings from Phase II of Act 129 – Penn Power

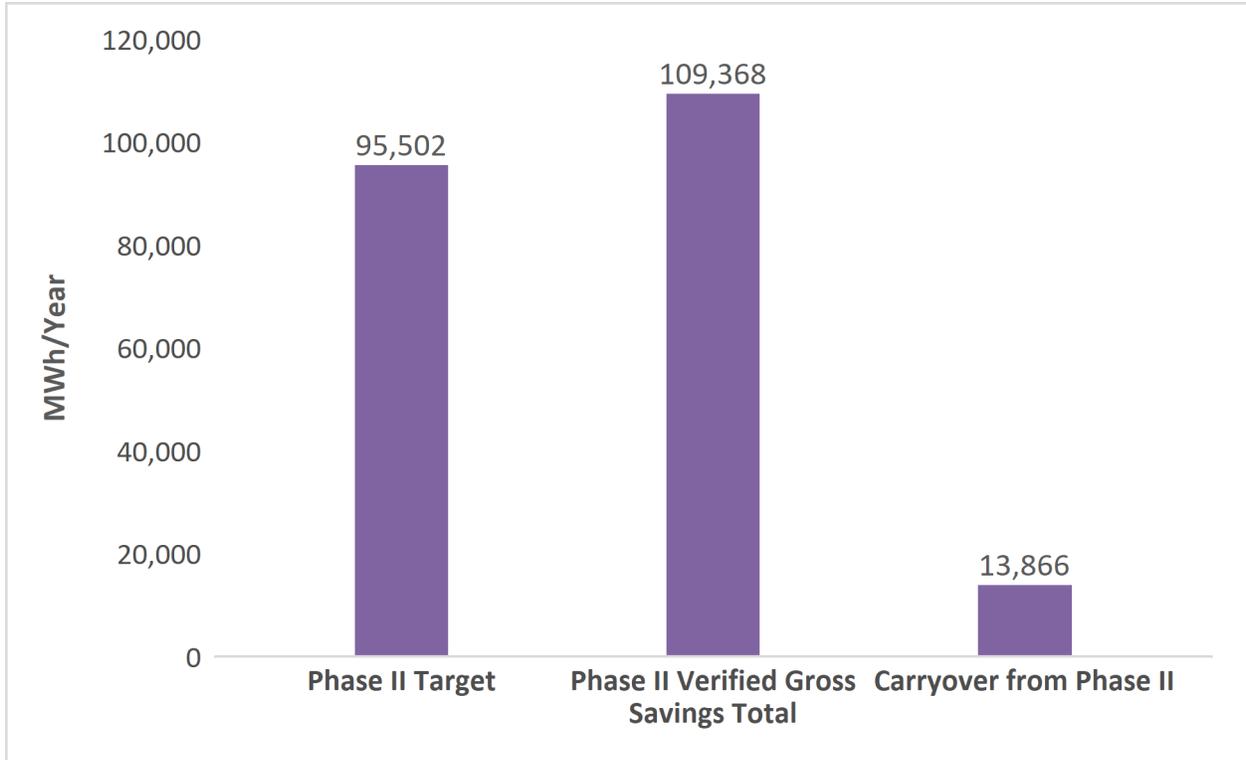
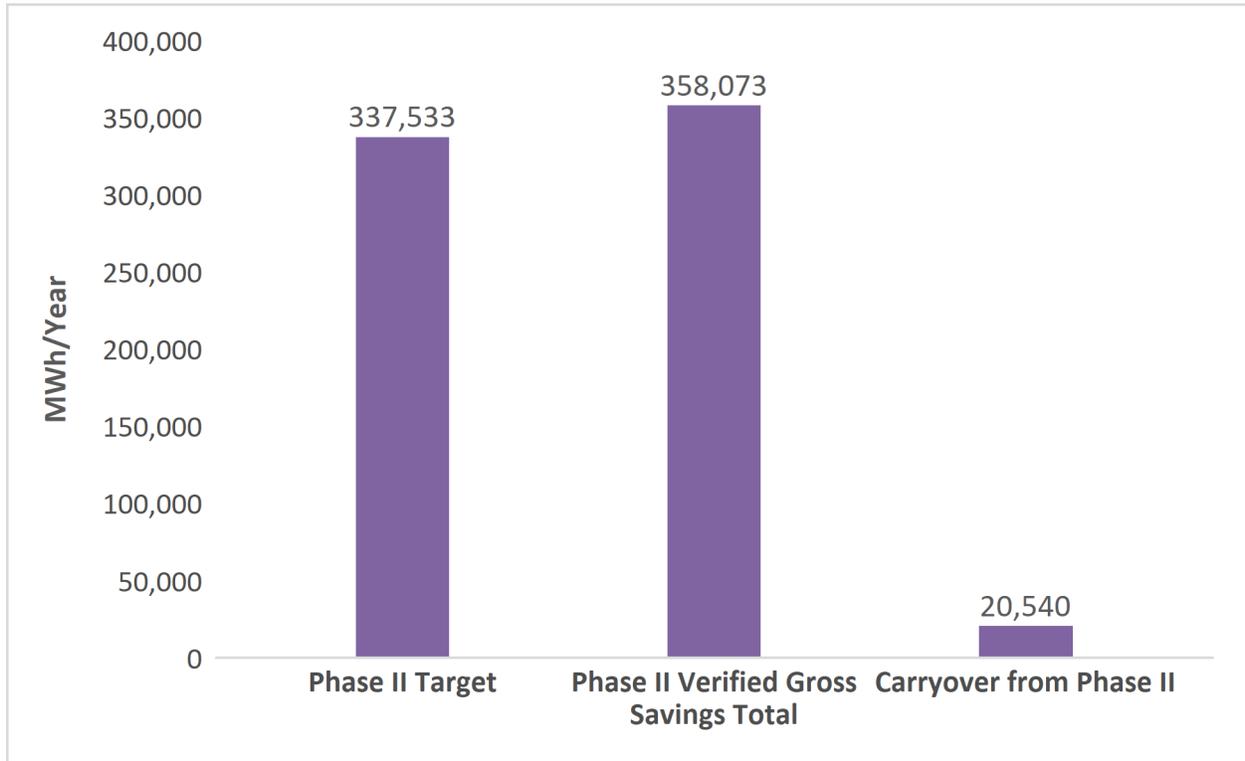


Figure 1D: Carryover Savings from Phase II of Act 129 – West Penn Power

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

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

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

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

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

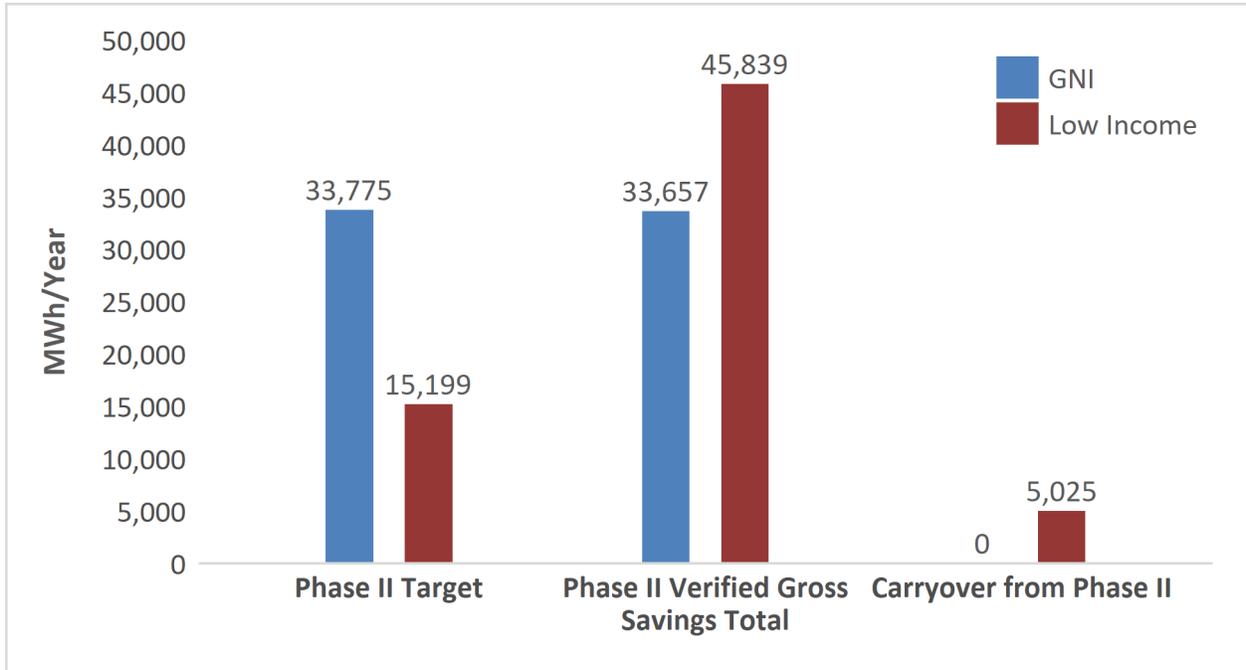


Figure 2B: Customer Segment-Specific Carryover from Phase II – Penelec

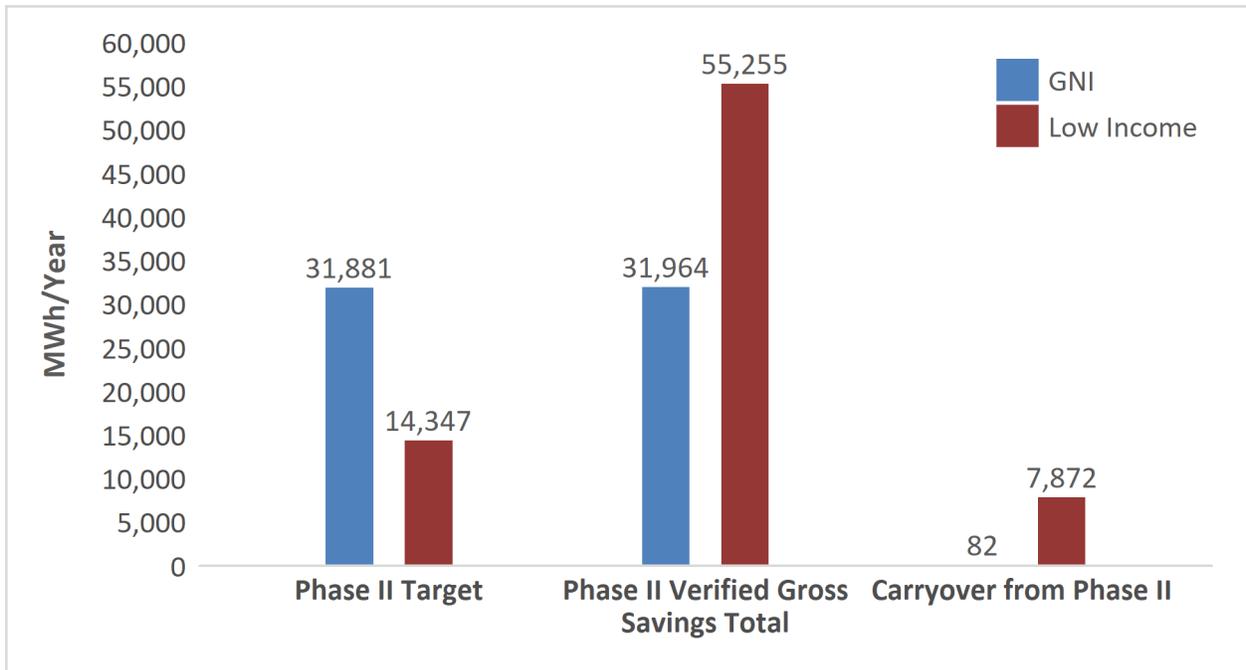


Figure 2C: Customer Segment-Specific Carryover from Phase II – Penn Power

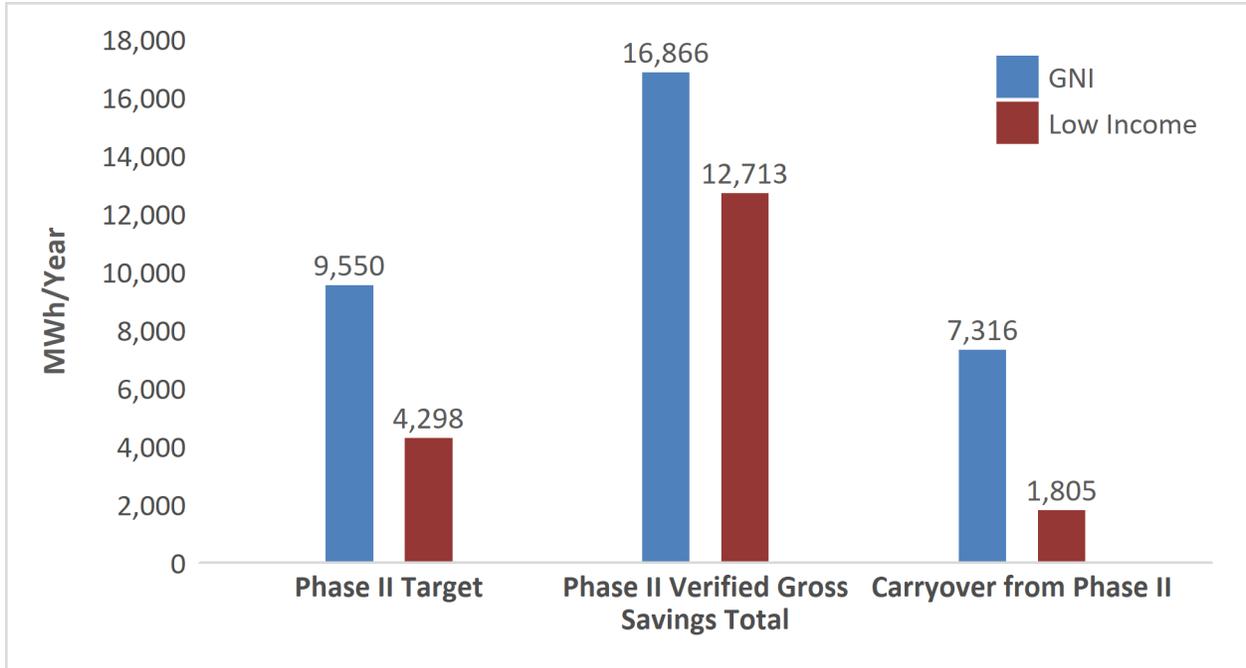
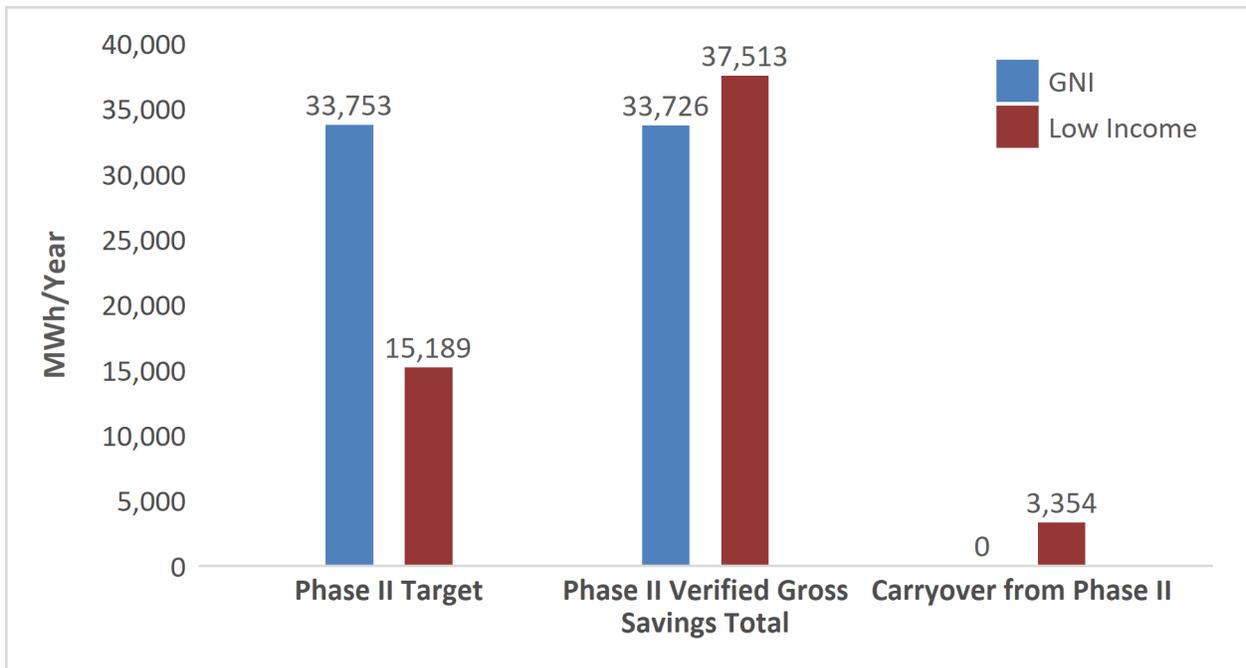


Figure 2D: Customer Segment-Specific Carryover from Phase II – West Penn Power



2.2 PHASE III ENERGY EFFICIENCY ACHIEVEMENTS TO DATE

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

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

EDC	Gross MWh/yr Savings (PYRTD)	Gross Peak Demand MW Savings (PYRTD)
Met-Ed	19,417	5.54
Penelec	15,918	3.43
Penn Power	4,514	1.31
West Penn Power	22,614	6.17

Table 2-3 and Table 2-4 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 2-3: Gross Electric and Demand Savings Since the Beginning of Phase III of Act 129

EDC	Reported Gross Electric Energy Savings MWh/yr Savings (RTD)	Reported Gross Peak Demand MW Savings (RTD)	Gross Electric Energy Savings MWh/yr Savings (PSA)	Gross Peak Demand MW Savings (PSA)
Met-Ed	620,944	87.66	663,115	90.27
Penelec	596,793	76.31	630,487	76.92
Penn Power	190,864	26.62	204,863	27.95
West Penn Power	599,079	85.92	627,089	83.26

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
Met-Ed	663,115	30,482	693,597	116%
Penelec	630,487	49,695	680,182	120%
Penn Power	204,863	13,866	218,729	139%
West Penn Power	627,089	20,540	647,629	120%

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

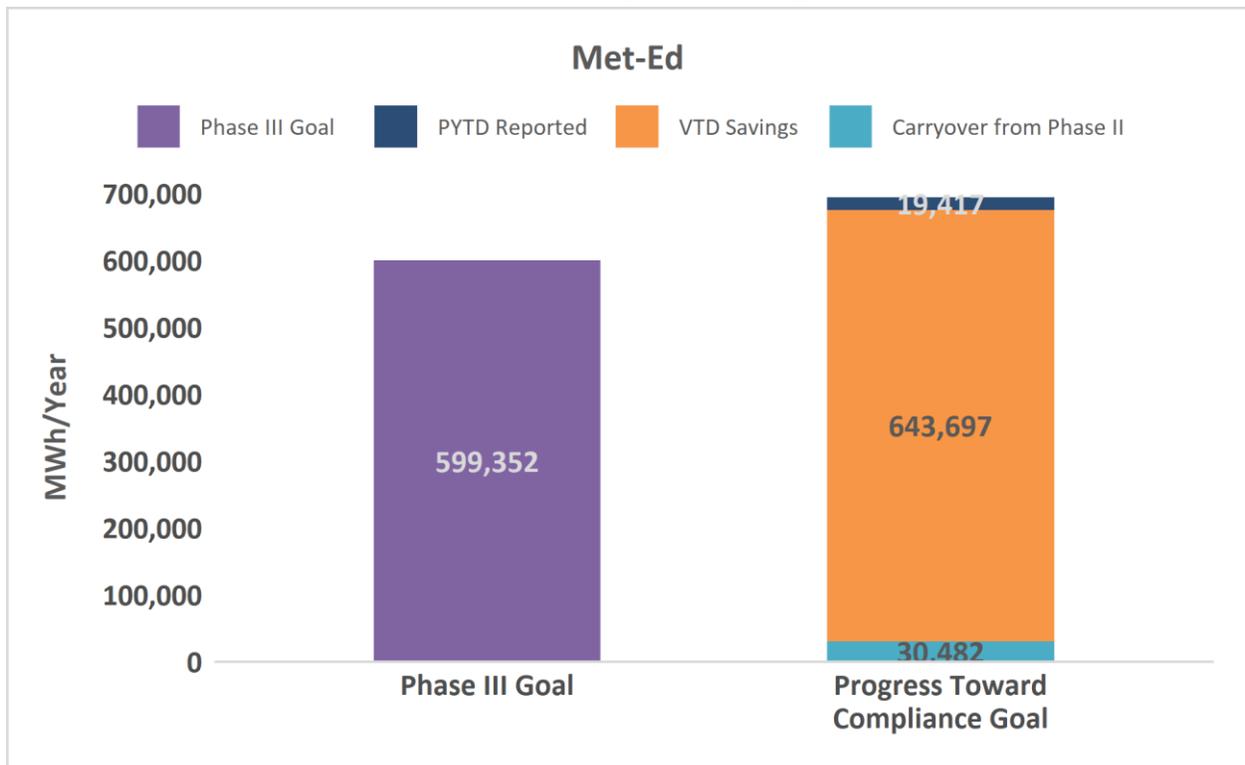


Figure 3B: EE&C Plan Performance toward Phase III Portfolio Compliance Target – Penelec

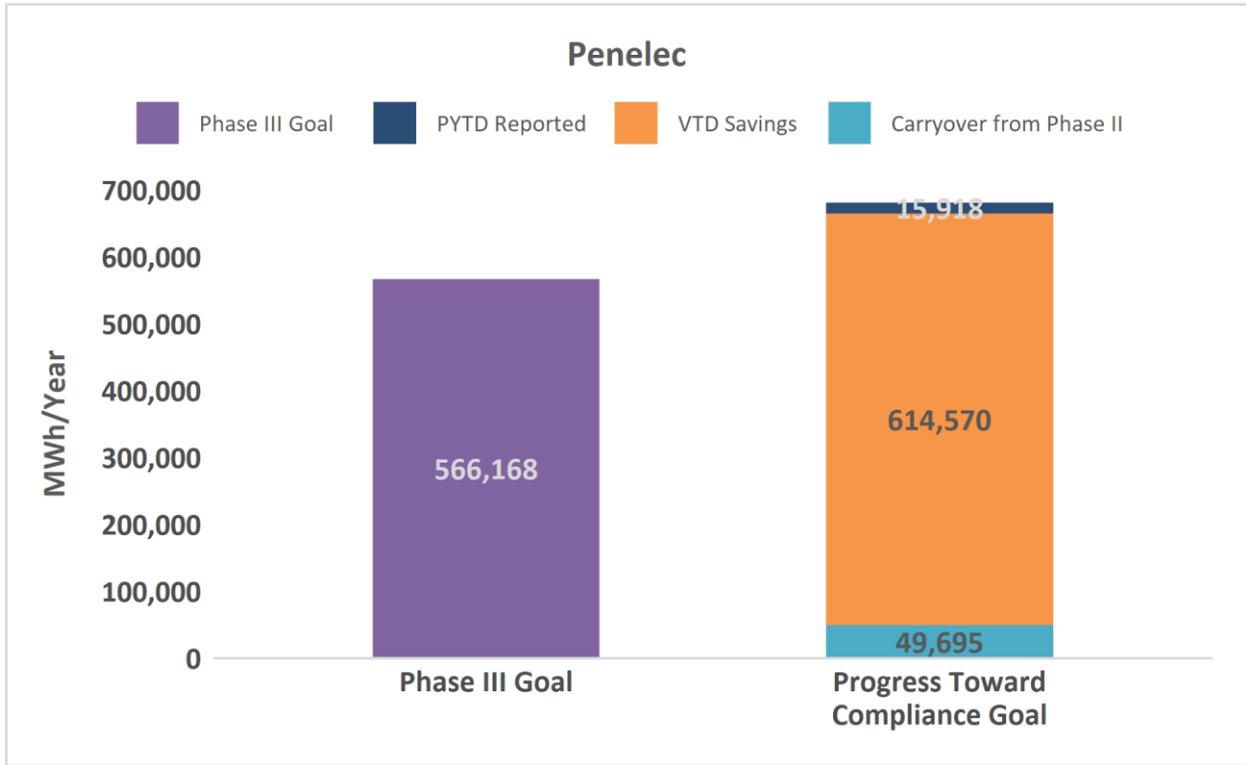


Figure 3C: EE&C Plan Performance toward Phase III Portfolio Compliance Target – Penn Power

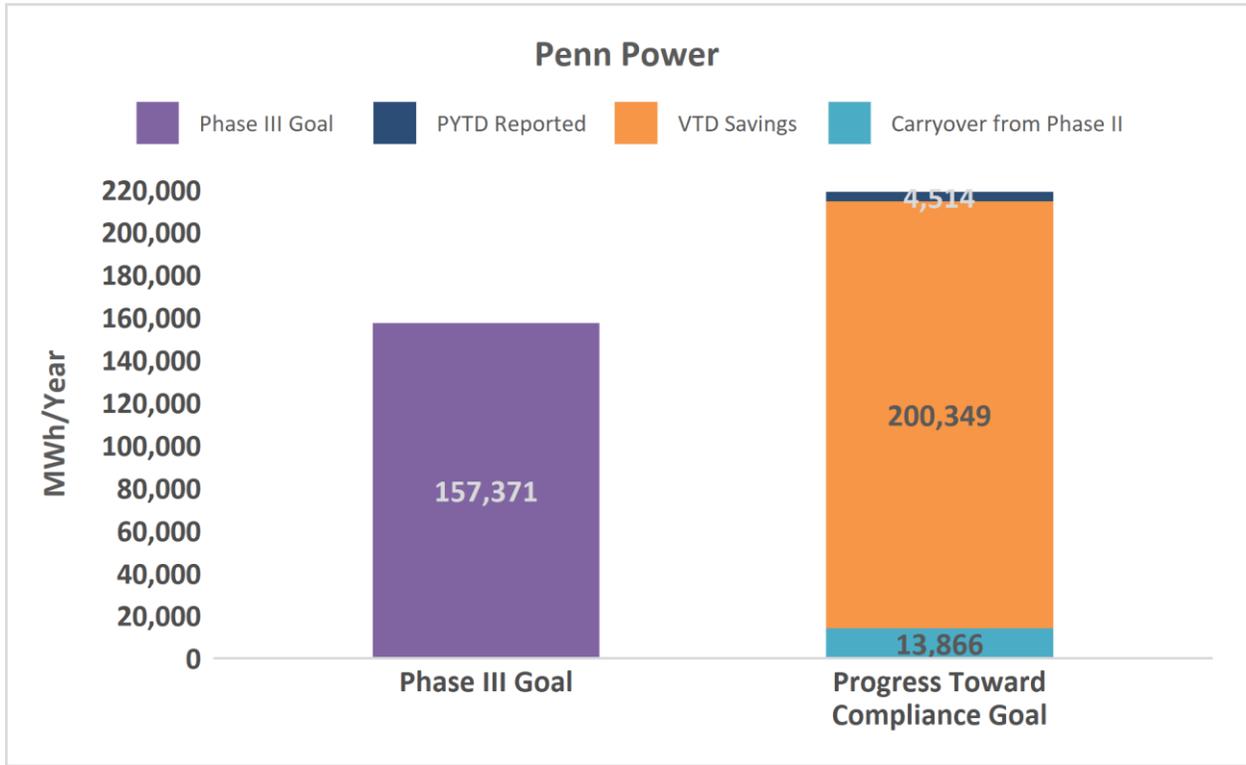
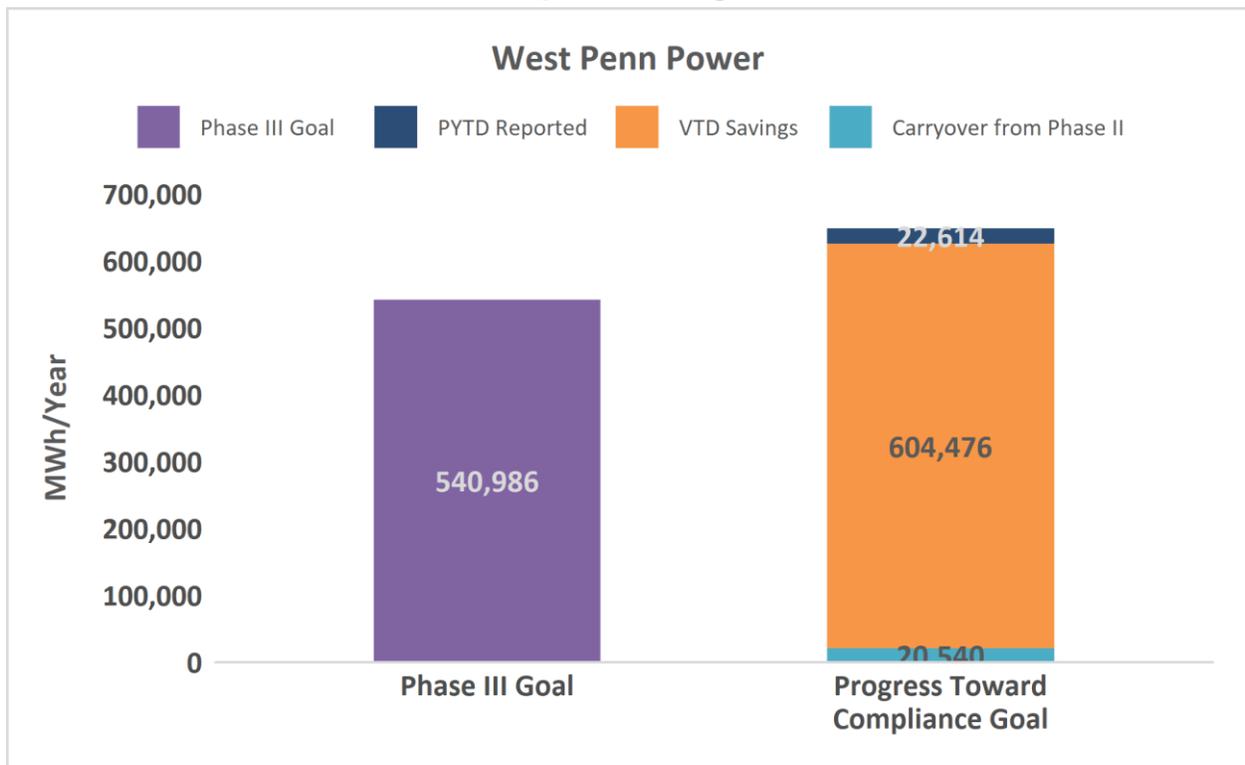


Figure 3D: EE&C Plan Performance toward Phase III Portfolio Compliance Target – West Penn Power



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 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
Met-Ed	32,964	45,507	138%
Penelec	31,139	48,262	155%
Penn Power	8,655	13,492	156%
West Penn Power	29,754	40,469	136%

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

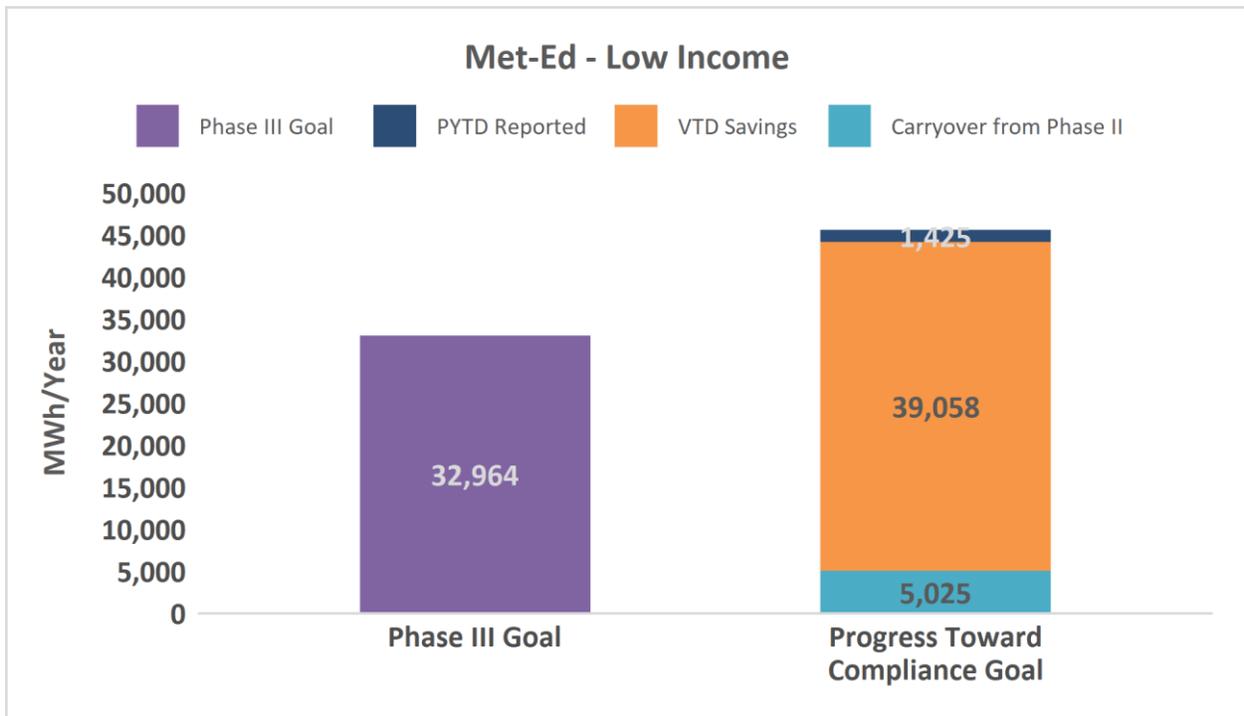


Figure 4B: EE&C Plan Performance toward Phase III Low-Income Compliance Target – Penelec

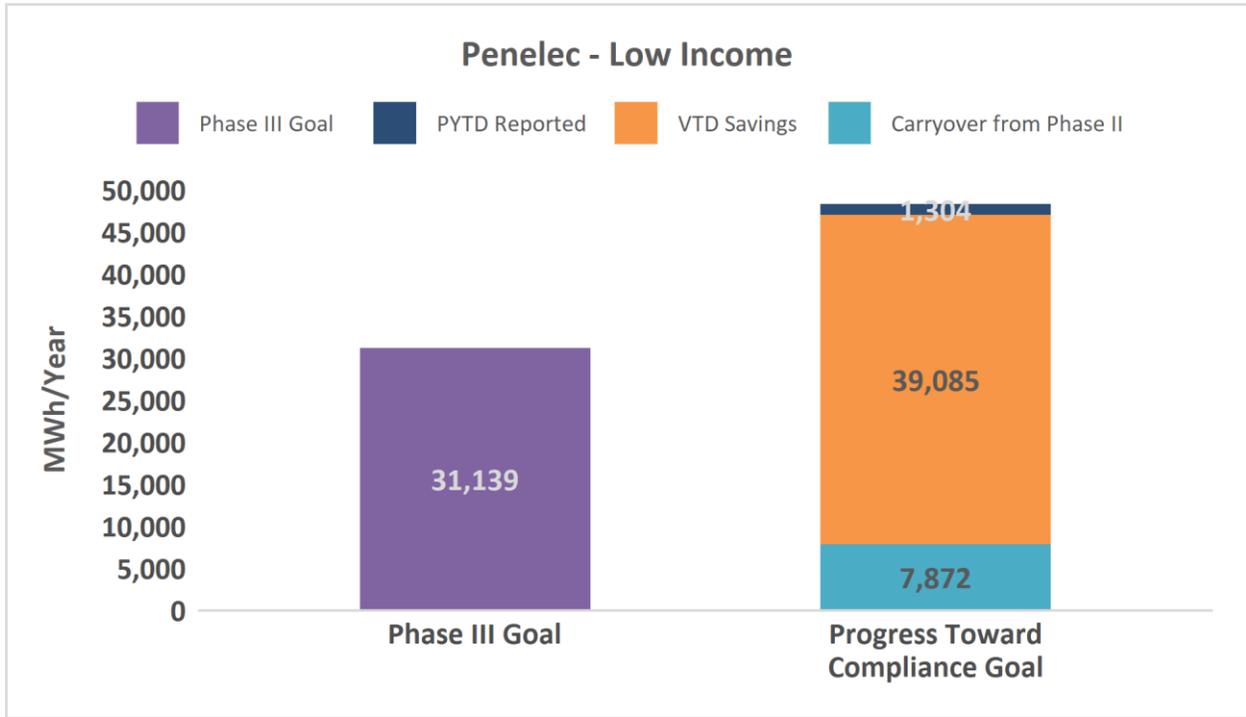


Figure 4C: EE&C Plan Performance toward Phase III Low-Income Compliance Target – Penn Power

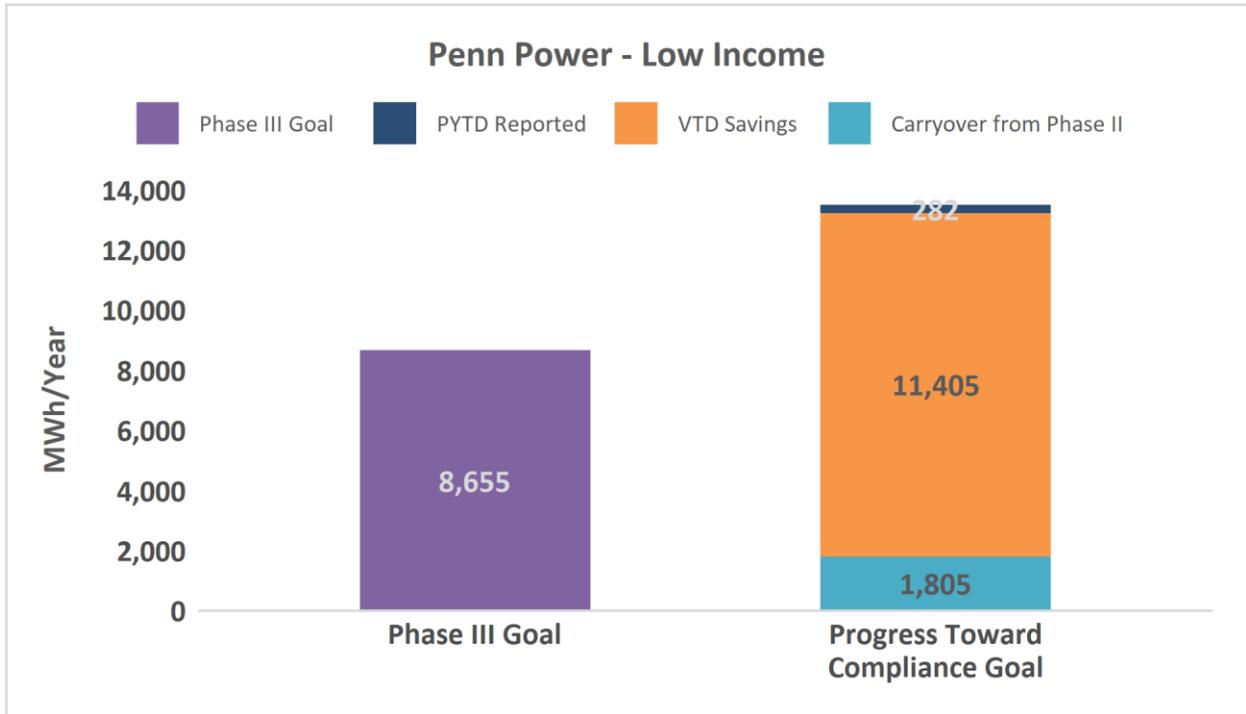
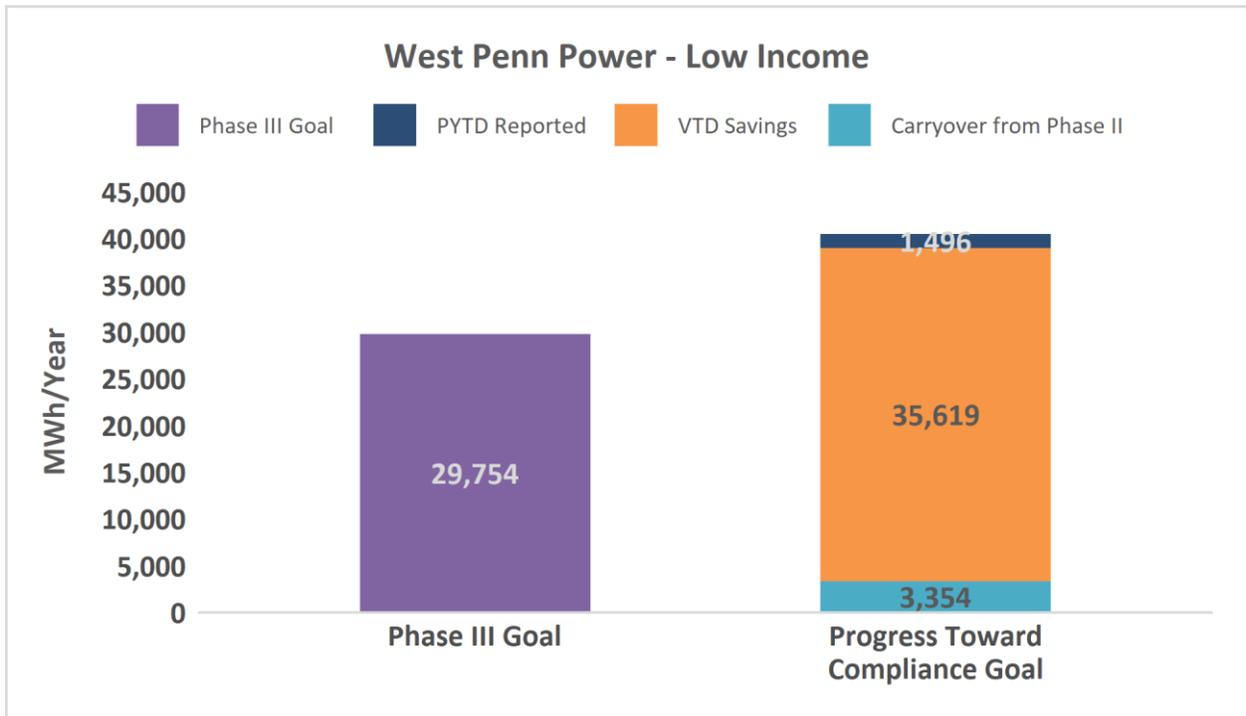


Figure 4D: EE&C Plan Performance toward Phase III Low-Income Compliance Target – West Penn Power



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
Met-Ed	20,977	28,814	137%
Penelec	19,816	53,708	271%
Penn Power	5,508	17,536	318%
West Penn Power	18,935	74,135	392%

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

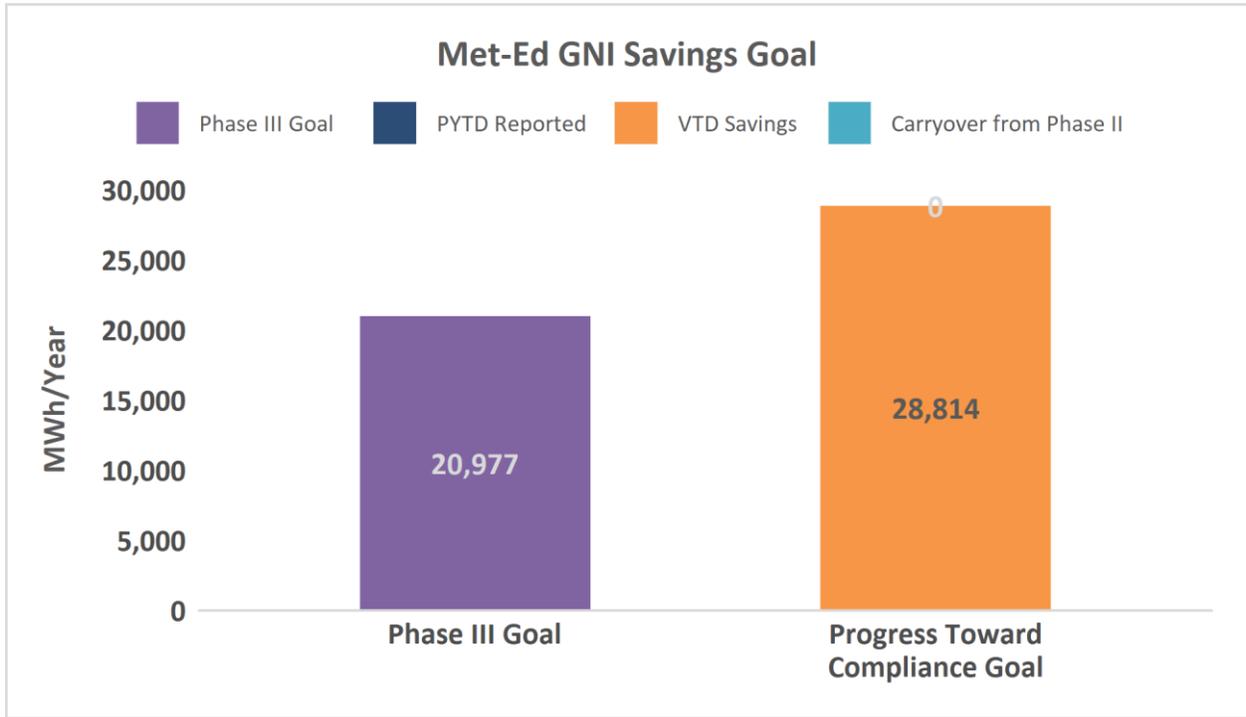


Figure 5B: EE&C Plan Performance against Phase III GNI Compliance Target – Penelec

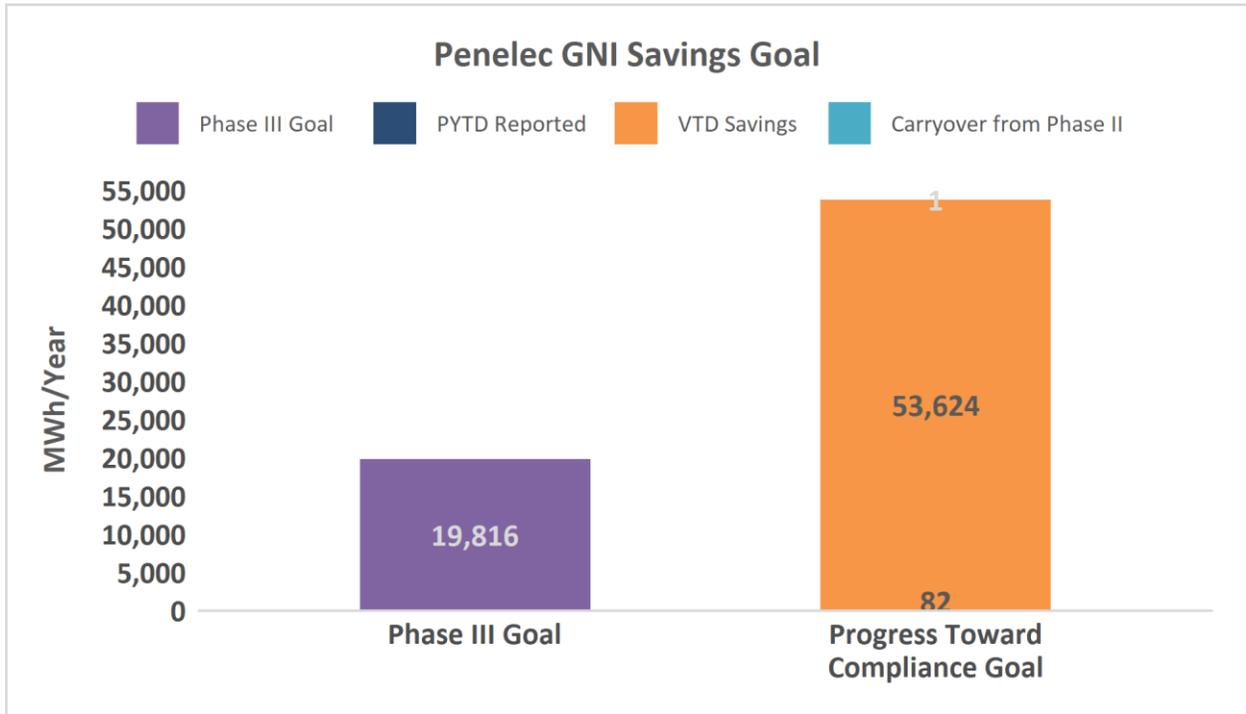


Figure 5C: EE&C Plan Performance against Phase III GNI Compliance Target – Penn Power

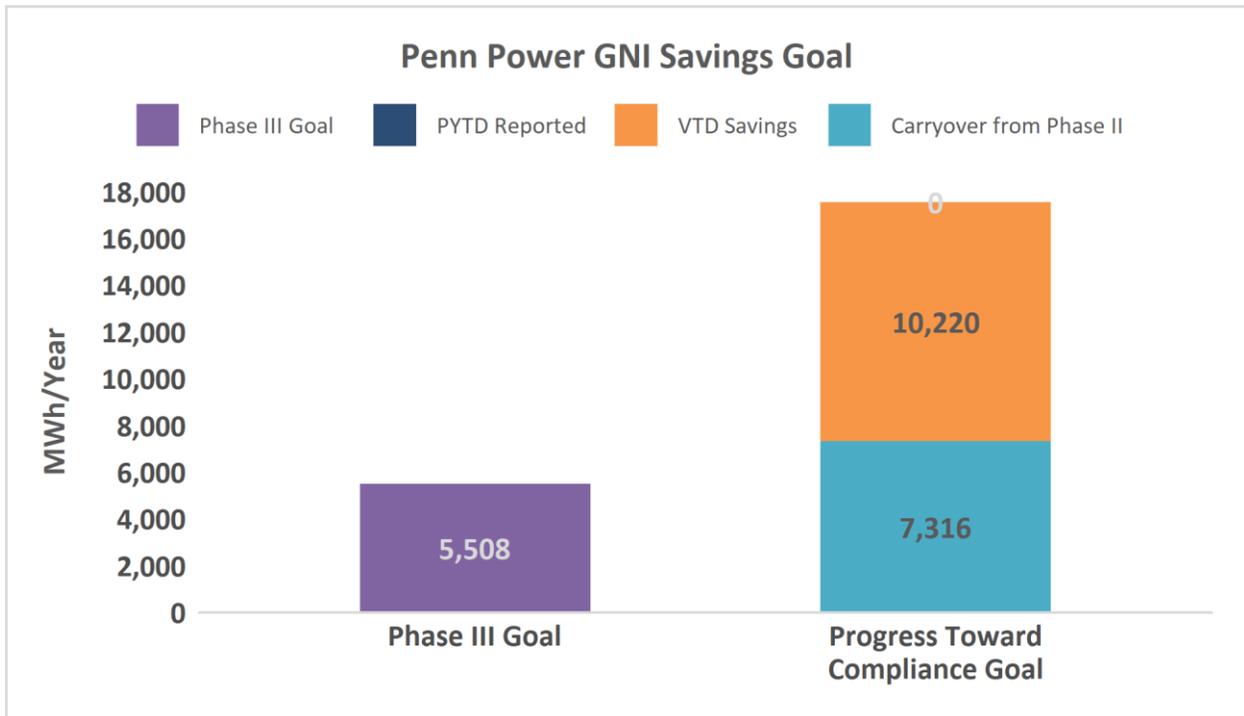
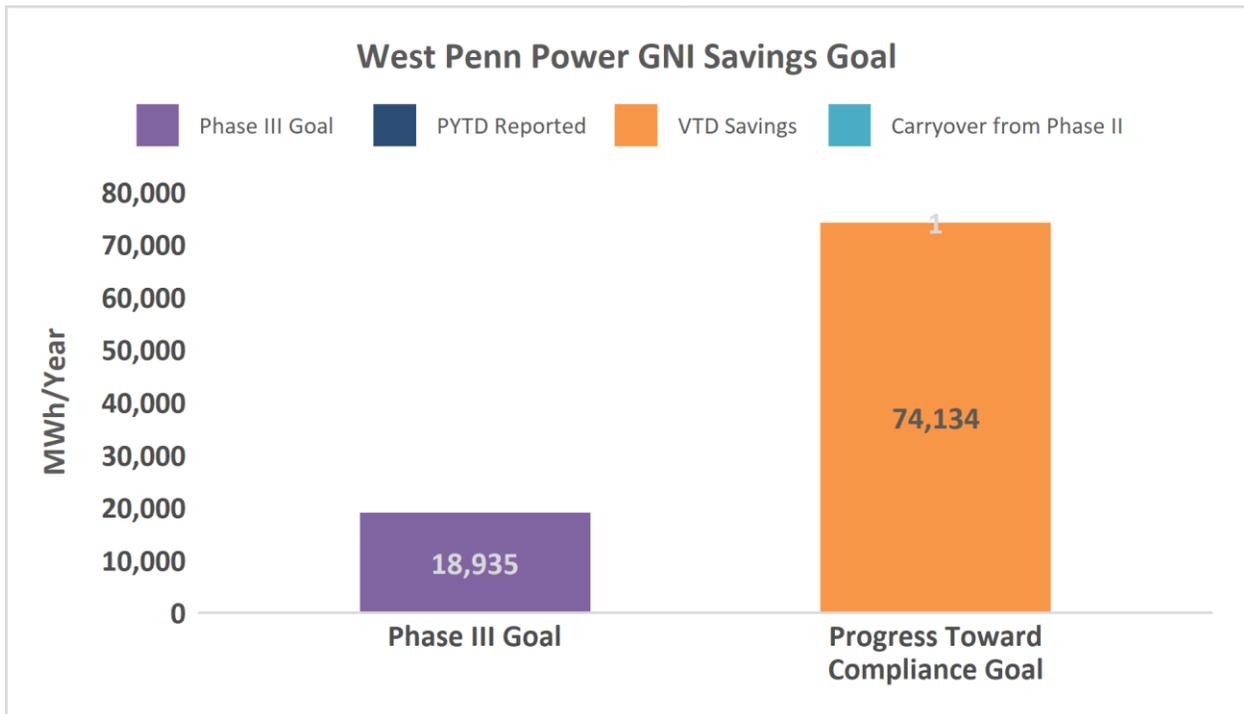


Figure 5D: EE&C Plan Performance against Phase III GNI Compliance Target – West Penn Power



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 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 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 18% above, 145% above, and 102% 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 14% above, 106% above, and 79% 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 54.1 – 57.7 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 28.4 – 41.6 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 100.5 – 129.1 MW confidence interval of the measurement exceeds the 64.0 MW target.

Tables 2-7A-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						55.9 ± 1.8
						54.1 - 57.7

* 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						35 ± 6.6
						28.4 - 41.6

* 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						114.8 ± 14.3
						100.5 - 129.1

* 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*

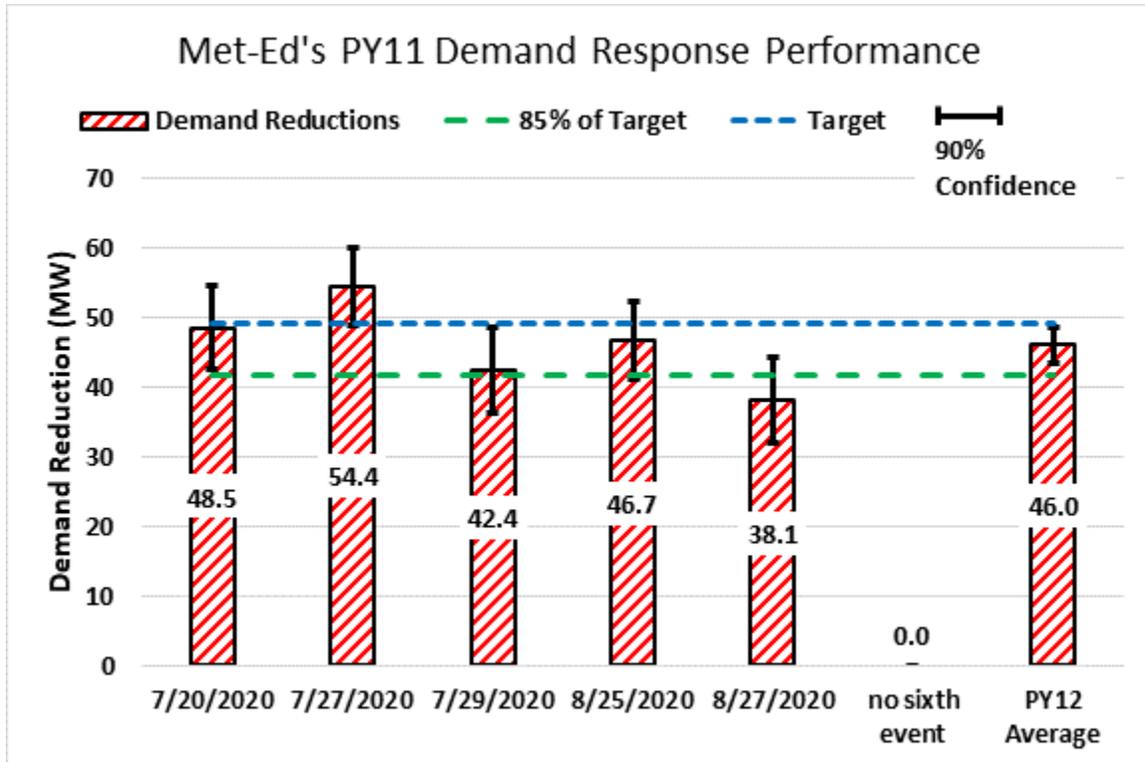
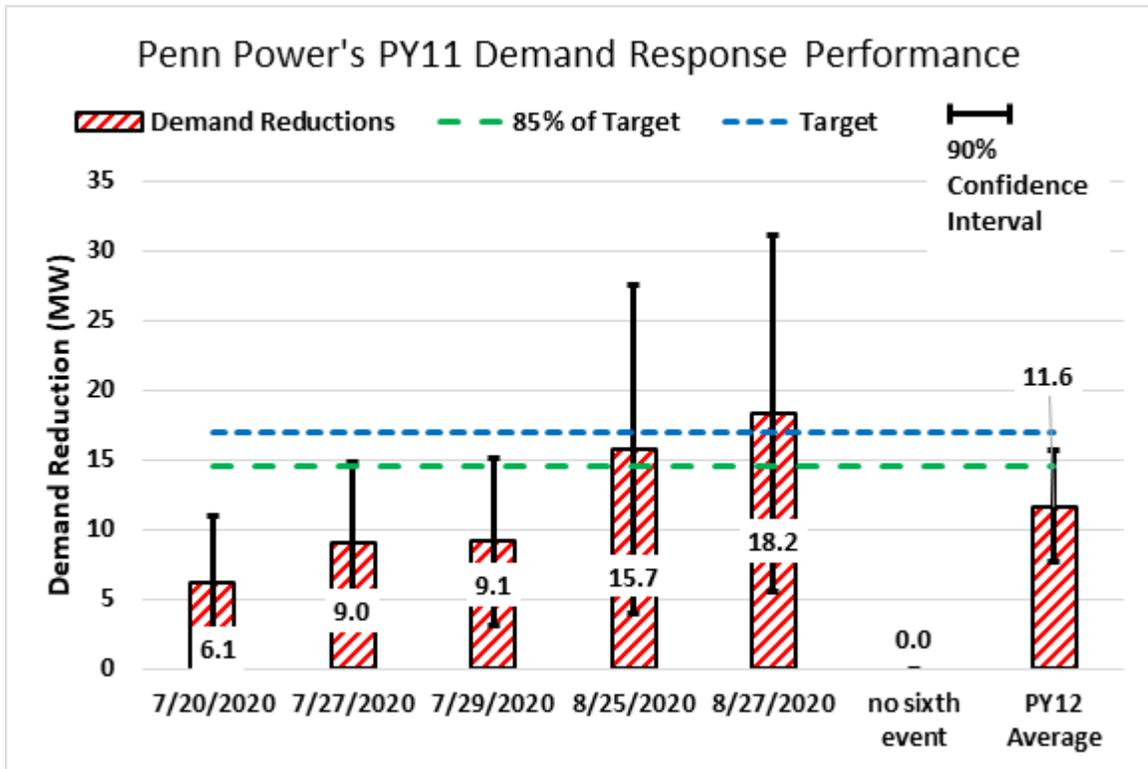
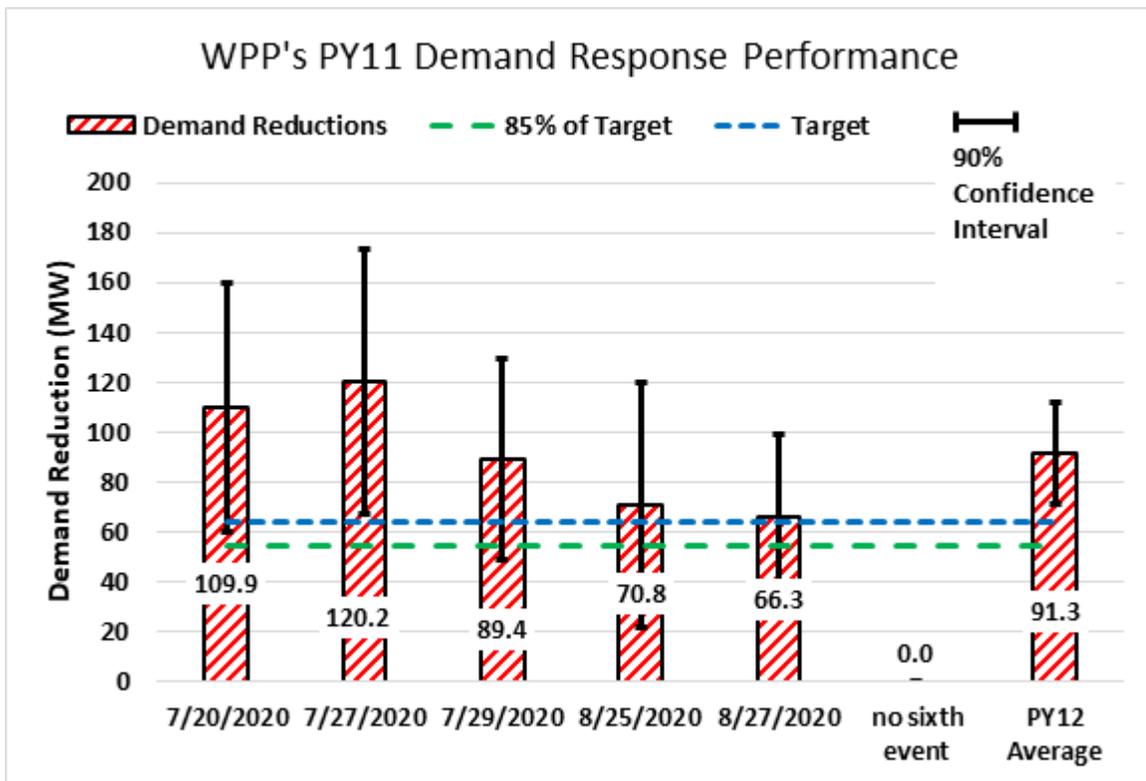


Figure 6B: Event Performance Compared to 85% Per-Event Target Penn Power



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



2.4 PHASE III PERFORMANCE BY CUSTOMER SEGMENT

Table 2-8 below presents the participation, savings, and spending by customer sector for PY12. 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: 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	344,352	15,198	85	76	25
	PYRTD MWh/yr	17,941	1,425	52	0	0
	PYRTD MW/yr (Energy Efficiency)	5.1	0.4	0.0	0.0	0.0
	PYVTD MW (Demand Response)	8.9	0	1.4	32.1	2.2
	Incentives (\$1000)	\$939.61	\$31.02	\$92.18	\$0.00	\$0.00
Penelec	# participants	156,965	16,420	30	0	1
	PYRTD MWh/yr	14,293	1,304	319	0	1
	PYRTD MW/yr (Energy Efficiency)	3.1	0.3	0.0	0.0	0.0
	PYVTD MW (Demand Response)	0	0	0	0	0
	Incentives (\$1000)	\$3,373.10	\$142.88	\$157.82	\$0.00	\$29.78
Penn Power	# participants	61,931	2,899	3	7	2
	PYRTD MWh/yr	4,063	282	169	0	0
	PYRTD MW/yr (Energy Efficiency)	1.2	0.1	0.0	0.0	0.0
	PYVTD MW (Demand Response)	1.5	0	0.0	10.7	-0.1
	Incentives (\$1000)	\$888.86	\$14.75	\$60.85	\$0.00	\$0.00
West Penn Power	# participants	238,286	18,090	25,255	27	4
	PYRTD MWh/yr	20,572	1,496	545	0	1
	PYRTD MW/yr (Energy Efficiency)	5.8	0.3	0.0	0.0	0.0
	PYVTD MW (Demand Response)	2.8	0	0.6	83.1	-0.1
	Incentives (\$1000)	\$2,684.65	\$64.22	\$158.41	\$0.00	\$91.85

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
Met-Ed	# participants	1,807,308	49,293	81,637	773	24,264
	PSA MWh/yr	367,982	40,482	102,992	122,844	28,814
	PSA MW (Energy Efficiency)	48.4	4.9	16.3	16.2	4.5
	Phase III MW (Demand Response)	6.8	0.0	1.3	36.1	6.2
	Incentives (\$1000)	\$21,046.07	\$383.13	\$4,175.45	\$7,170.04	\$1,291.71
Penelec	# participants	1,565,057	55,552	82,335	476	23,863
	PSA MWh/yr	324,835	40,390	98,076	113,561	53,625
	PSA MW (Energy Efficiency)	37.5	4.5	14.9	13.4	6.7
	Phase III MW (Demand Response)	0.0	0.0	0.0	0.0	0.0
	Incentives (\$1000)	\$18,055.83	\$411.24	\$4,679.73	\$5,781.62	\$2,267.39
Penn Power	# participants	429,487	15,760	23,214	142	7,830
	PSA MWh/yr	105,015	11,687	50,933	27,009	10,220
	PSA MW (Energy Efficiency)	14.6	1.4	7.5	3.1	1.3
	Phase III MW (Demand Response)	1.9	0.0	0.0	29.3	0.1
	Incentives (\$1000)	\$5,819.46	\$120.95	\$2,452.37	\$2,176.31	\$481.53
West Penn Power	# participants	1,494,811	44,678	103,896	459	23,234
	PSA MWh/yr	336,316	37,115	107,693	71,830	74,135
	PSA MW (Energy Efficiency)	47.1	4.5	15.8	8.8	7.1
	Phase III MW (Demand Response)	2.5	0.0	1.2	100.7	0.0
	Incentives (\$1000)	\$15,928.85	\$306.08	\$4,934.85	\$6,444.70	\$3,147.05

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-promotes 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 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:** These subprograms are performing well and are expected to remain under budget and continue to accumulate savings across all four PA EDCs.
 - **Lighting:** This subprogram is currently performing above targets 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.

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 are the exception and will remain suspended indefinitely or until such time that public events can be resumed safely.

- **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. In June through the summer peak period, customers who were also enrolled in the residential Behavioral Demand Response program, received a marketing module to remind them of peak day alerts for the summer's hottest days. The June reports also prompted customers to fill out the Home Energy Analyzer audit to help personalize their tips. The reports included

summer themed messaging in July, energy efficiency tips in August, Heat Pump Water Heater promotion in September, Appliance Turn In program marketing in October and promoted the Low-Income WARM program in November.

- **Energy Audits:** This subprogram implemented by GoodCents is performing 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. This program is expected to stay within budget. New safety procedures for auditors and customers have been implemented due to the COVID-19 pandemic. Normal operations resumed in August of 2020.
 - **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 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 tip's 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 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:** 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:** Customers identified as low-income receive an enhanced kit through the Low-Income Energy Efficiency Kits subprogram. 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, 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 two (2) outreach events –
- Scheduled to speak at the Northcentral PA Energy Efficiency Roundtable in August 2020. This event was cancelled due to COVID-19 pandemic;

- Participated as a speaker at the Southwest PA Energy Efficiency Roundtable webinar on October 21, 2020 – an event sponsored by PennTap. FirstEnergy continues to work and partner with other entities – e.g., PennTAP, Southwest PA Energy Efficiency Roundtable, Westmoreland County Economic Development Council, Jefferson County Conservation District and North-central PA Energy Efficiency Roundtable – to plan and prepare for future events. These events help 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.
- West Penn Power concluded a pilot Business Energy Reports program for small commercial customers in Q2 of PY12. The program developed a randomized control trial with a treatment group and a control group of customers, each approximately 25,000 in size, and then distributed eight business energy reports to the treatment group between September 2019 and November 2020. The pilot faced several obstacles related to the COVID-19 pandemic and the temporary suspension of EE programs. The impact evaluation effort for the pilot concluded in February of 2021, and did not yield statistically significant energy savings for the program. As a result, West Penn Power does not report energy savings or demand reductions for the pilot. Costs and participant counts for the pilot are reported as part of the C&I Efficient Solutions for Business – Small program.

ADM's general finding for the Agentis Behavioral Pilot is a lack of statistically significant savings. The size of the treatment and control group was designed to allow for the detection of savings above 0.5% of average energy usage. The R-squared value suggests a well-defined regression model that should, under most circumstances, detect systematic differences between the treatment and control group attributable to program participation. Although a process evaluation was not performed for this Pilot, it seems plausible that the COVID-19 pandemic and associated stay-at-home orders may have had a negative impact on the program's ability to induce continued or stable savings. There are some potential reasons why savings could not be measured for the program:

- It is possible that BERs (Business Energy Reports – Driver for Behavioral Influence), which were sent to location addresses, may have been discarded by recipients. It is also possible that customers that relocated offices to their homes simply did not receive the BERs. A participant survey would be needed to address whether decision-makers involved in facility-level changes such as setting thermostat schedules or maintaining energy management systems were aware of the program. The BERs, which were sent independent of FirstEnergy utility bills, could potentially have been discarded by recipients prior to decision-makers receiving the information.

- It is possible that BERs are only effective for certain business types. This Pilot initially did not consider business-type when developing the target population, aside from removing utilities and telecommunications as best possible by account name. Certain business types may have operational usage as its primary driver for energy consumption, thus the information contained in the BER may be less effective for these customers.
 - It is also possible that BER savings are significantly lower than the 0.5% that the program design is capable of capturing. Given size limitations with the number of SCI customers, however, it may not be feasible to isolate a more homogenous group of customers while simultaneously retaining the group sizes necessary to improve model error to a degree where smaller savings could be measurable.
 - Lastly, it is possible that small businesses in particular, stressed by the pandemic economy, were simply not able to react to the BERs in the same capacity as they otherwise could have.
- **C&I Efficient Solutions for Business - Large:** 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, 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;
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 - FirstEnergy anticipated in participating in the following two (2) outreach events –
 - Scheduled to speak at the Northcentral PA Energy Efficiency Roundtable in August 2020. This event was cancelled due to COVID-19 pandemic;
 - Participated as a speaker at the Southwest PA Energy Efficiency Roundtable webinar on October 21, 2020 – an event sponsored by PennTap. FirstEnergy continues to work and partner with other entities - e.g., PennTAP, Southwest PA Energy Efficiency Roundtable, Westmoreland County Economic Development Council, Jefferson County Conservation District and North-central PA Energy Efficiency Roundtable – to plan and prepare for future events. These events help 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.

- **Government & Institutional Tariff Program:** 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, 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;
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- FirstEnergy anticipated in participating in the following two (2) outreach events –
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- Participated as a speaker at the Southwest PA Energy Efficiency Roundtable webinar on October 21, 2020 – an event sponsored by PennTap. FirstEnergy continues to work and partner with other entities - e.g., PennTAP, Southwest PA Energy Efficiency Roundtable, Westmoreland County Economic Development Council, Jefferson County Conservation District and North-central PA Energy Efficiency Roundtable – to plan and prepare for future events. These events help 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.

- **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.

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 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 is conducting remote inspections for measurement and verification of most sampled projects in response to the COVID-19 pandemic following the Guidance Letter issued by SWE on June 3, 2020.
- **Appliance Turn-In Program:** Participant surveys are conducted on an ongoing basis.
- **Energy Efficient Products Program:** ADM is reviewing invoices and applications to support our desk review process in PY12. Reviews from Q1-Q2 are completed, and Q3 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 ongoing.
- **Low-Income Energy Efficiency Program:** ADM has concluded participant surveys for the Low-Income Appliance Turn-In program. ADM will review documentation from on-site inspections for the direct install program component as it becomes available.
- **C&I Energy Solutions for Business – Small, C&I Energy Solutions for Business – Large, and Governmental & Institutional Tariff programs:** ADM has sampled over 60 distinct projects for the evaluation of these programs. To date, only a small portion of these project evaluations are complete, and the remainder 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 4-1 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 4-1: EE&C Plan Participation by Program⁴

Utility	Program	PYTD Participation	P3TD Participation
Met-Ed	Appliance Turn-in	1,727	18,815
	Energy Efficient Homes	294,667	413,703
	Energy Efficient Products	47,958	1,478,246
	Low Income Energy Efficiency	15,198	49,293
	C&I Energy Solutions for Business - Small	30	1,808
	C&I Demand Response - Small	62	201
	C&I Energy Solutions for Business - Large	0	719
	C&I Demand Response - Large	94	341
	Governmental & Institutional Tariff	0	148
	Portfolio Total	359,727	1,963,265
Penelec	Appliance Turn-in	1,494	16,498
	Energy Efficient Homes	109,829	227,097
	Energy Efficient Products	45,642	1,423,668
	Low Income Energy Efficiency	16,420	55,552
	C&I Energy Solutions for Business - Small	30	3,033
	C&I Demand Response - Small	0	0
	C&I Energy Solutions for Business - Large	0	642
	C&I Demand Response - Large	0	0
	Governmental & Institutional Tariff	1	793
	Portfolio Total	173,416	1,727,283
Penn Power	Appliance Turn-in	0	5,081
	Energy Efficient Homes	49,806	23,520
	Energy Efficient Products	12,125	430,431
	Low Income Energy Efficiency	2,899	15,760
	C&I Energy Solutions for Business - Small	3	1,199
	C&I Demand Response - Small	0	3
	C&I Energy Solutions for Business - Large	0	137
	C&I Demand Response - Large	9	33
	Governmental & Institutional Tariff	0	269
	Portfolio Total	64,840	476,431
West Penn Power	Appliance Turn-in	1,742	21,119
	Energy Efficient Homes	180,298	122,299
	Energy Efficient Products	56,246	1,449,394
	Low Income Energy Efficiency	18,090	44,678
	C&I Energy Solutions for Business - Small	25,226	28,083
	C&I Demand Response - Small	50	98
	C&I Energy Solutions for Business - Large	0	463
	C&I Demand Response - Large	29	108
	Governmental & Institutional Tariff	1	837
	Portfolio Total	256,462	1,641,859

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

Table 5-1 presents a summary of energy impacts by program through the current Reporting Period⁵.

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

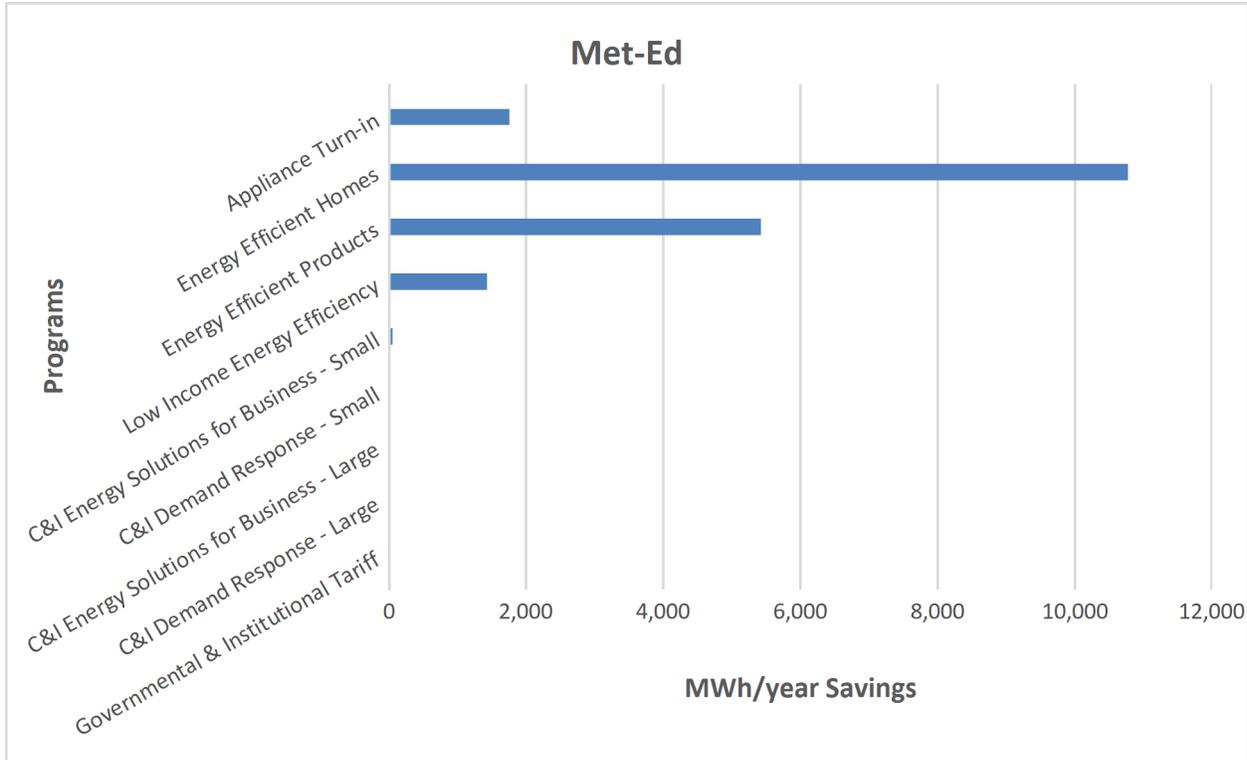
Utility	Program	PYRTD	VTD	PSA	RTD
Met-Ed	Appliance Turn-in	1,750	16,909	18,659	18,958
	Energy Efficient Homes	10,773	209,079	219,853	206,185
	Energy Efficient Products	5,418	142,030	147,448	117,786
	Low Income Energy Efficiency	1,425	38,875	40,299	35,544
	C&I Energy Solutions for Business - Small	52	95,836	95,888	98,183
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	0	138,949	138,949	142,226
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	0	2,020	2,020	2,061
	Portfolio Total	19,417	643,697	663,115	620,944
Penelec	Appliance Turn-in	1,678	15,498	17,176	18,192
	Energy Efficient Homes	7,116	161,292	168,409	157,237
	Energy Efficient Products	5,499	152,388	157,887	130,575
	Low Income Energy Efficiency	1,304	38,730	40,034	36,448
	C&I Energy Solutions for Business - Small	319	102,029	102,348	104,420
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	0	141,341	141,341	146,493
	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	15,918	614,570	630,487	596,793
Penn Power	Appliance Turn-in	0	4,890	4,890	5,635
	Energy Efficient Homes	2,597	47,279	49,876	44,948
	Energy Efficient Products	1,466	55,727	57,193	45,768
	Low Income Energy Efficiency	282	11,199	11,481	11,282
	C&I Energy Solutions for Business - Small	169	51,260	51,429	52,622
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	0	28,046	28,046	28,576
	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	4,514	200,349	204,863	190,864
West Penn Power	Appliance Turn-in	1,865	20,188	22,053	22,602
	Energy Efficient Homes	12,051	154,402	166,452	171,072
	Energy Efficient Products	6,657	160,723	167,380	136,807
	Low Income Energy Efficiency	1,496	35,042	36,538	35,215
	C&I Energy Solutions for Business - Small	545	110,299	110,844	109,293
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	0	102,199	102,199	103,622
	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	22,614	604,476	627,089	599,079

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

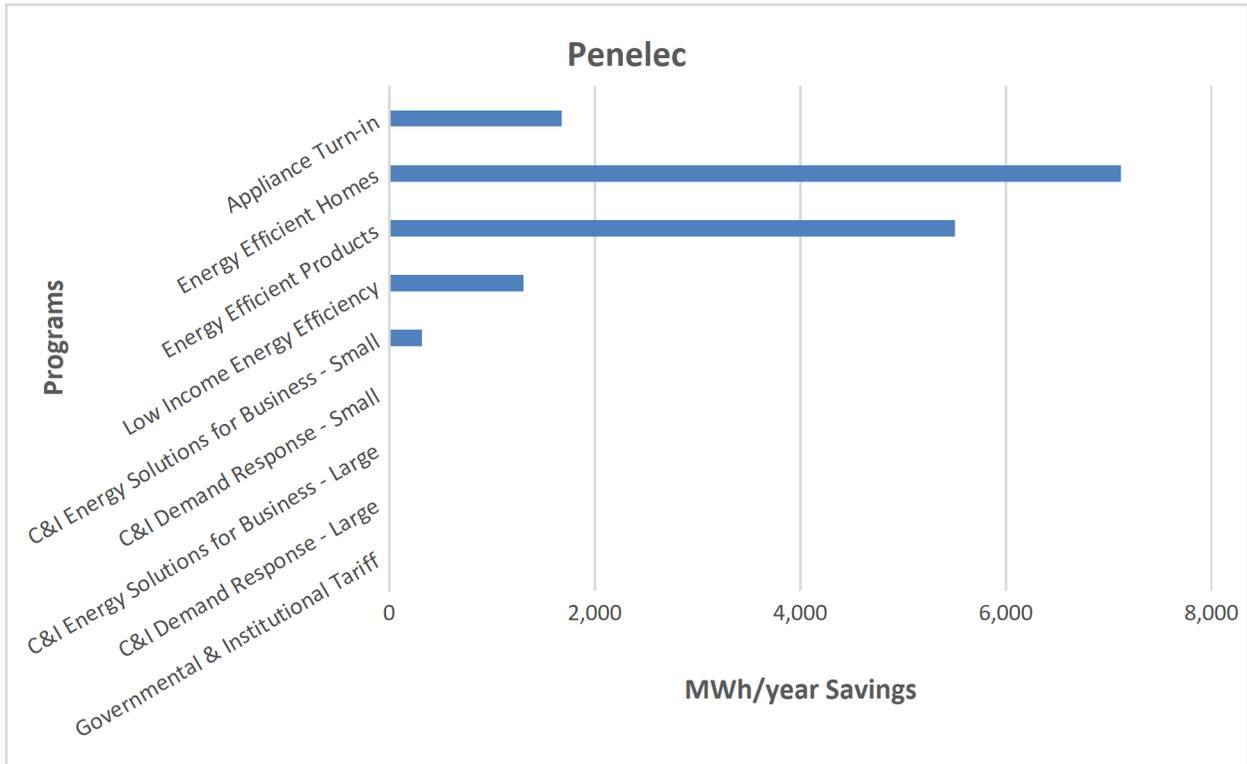


Figure 7C: PYTD Reported Gross Energy Savings by Program - Penn Power

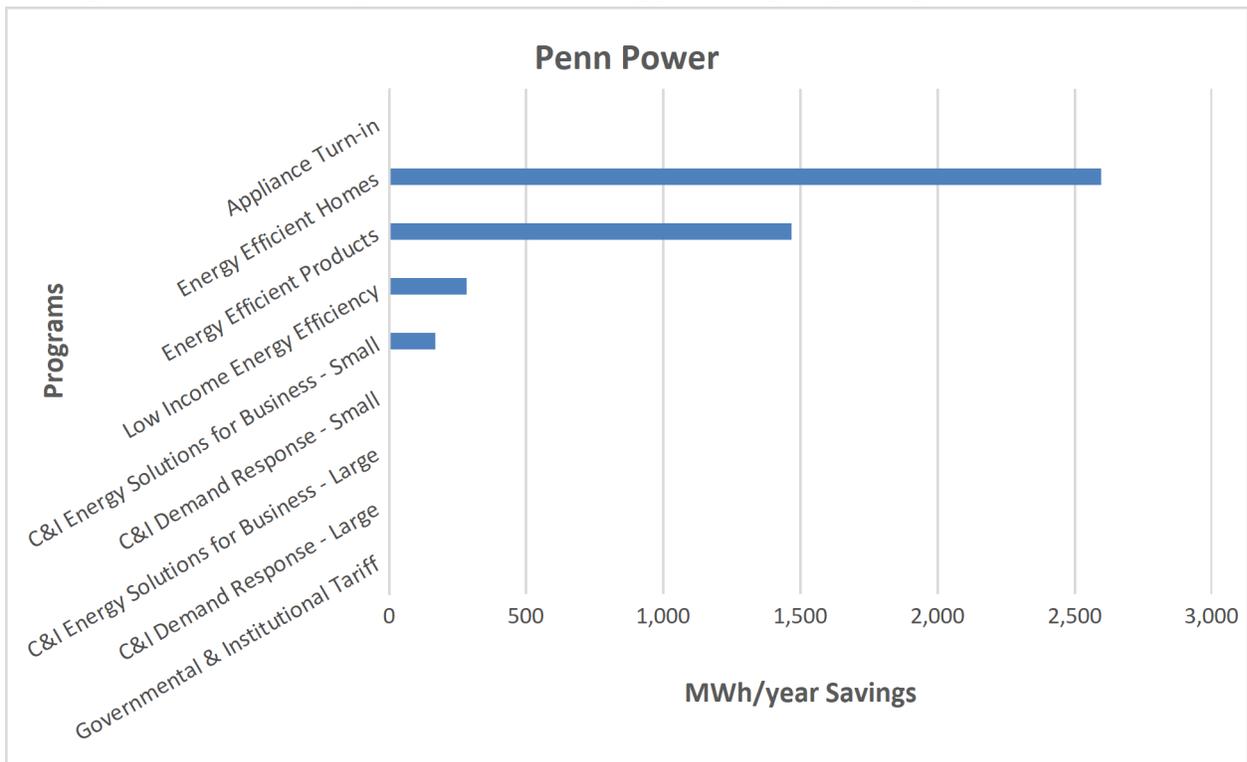
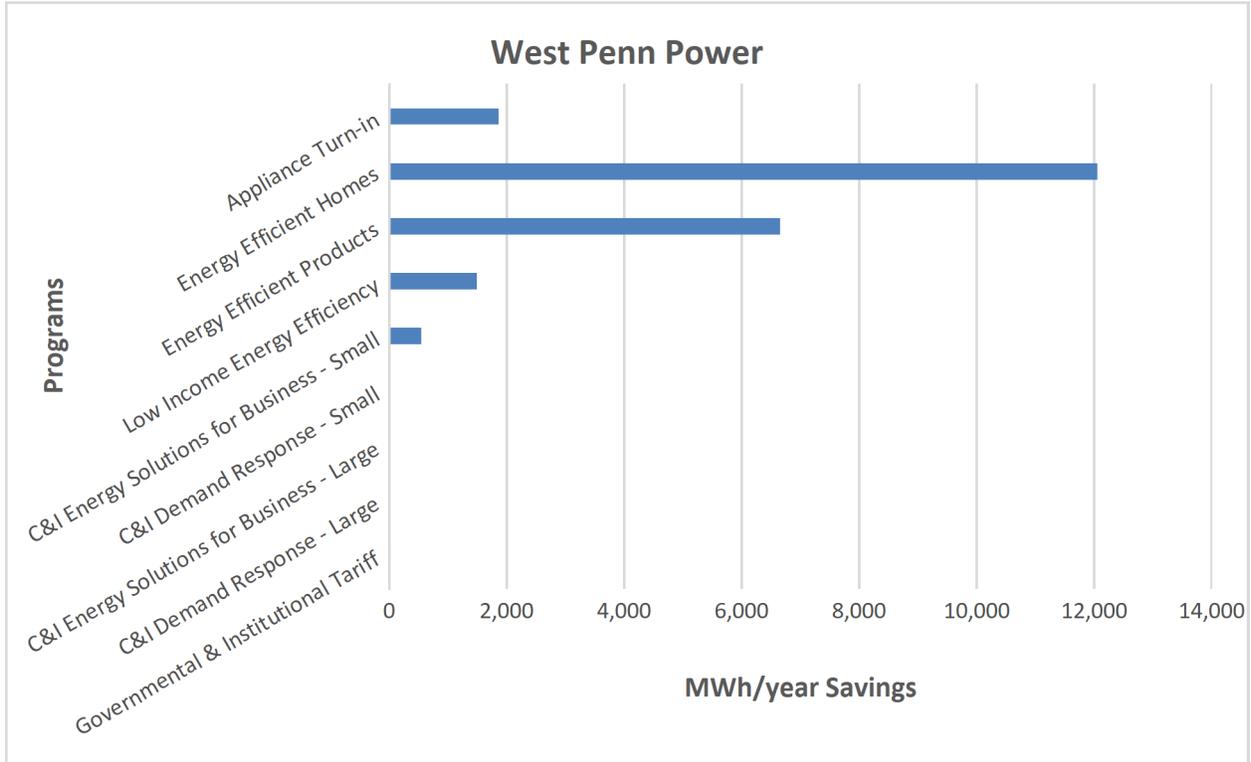


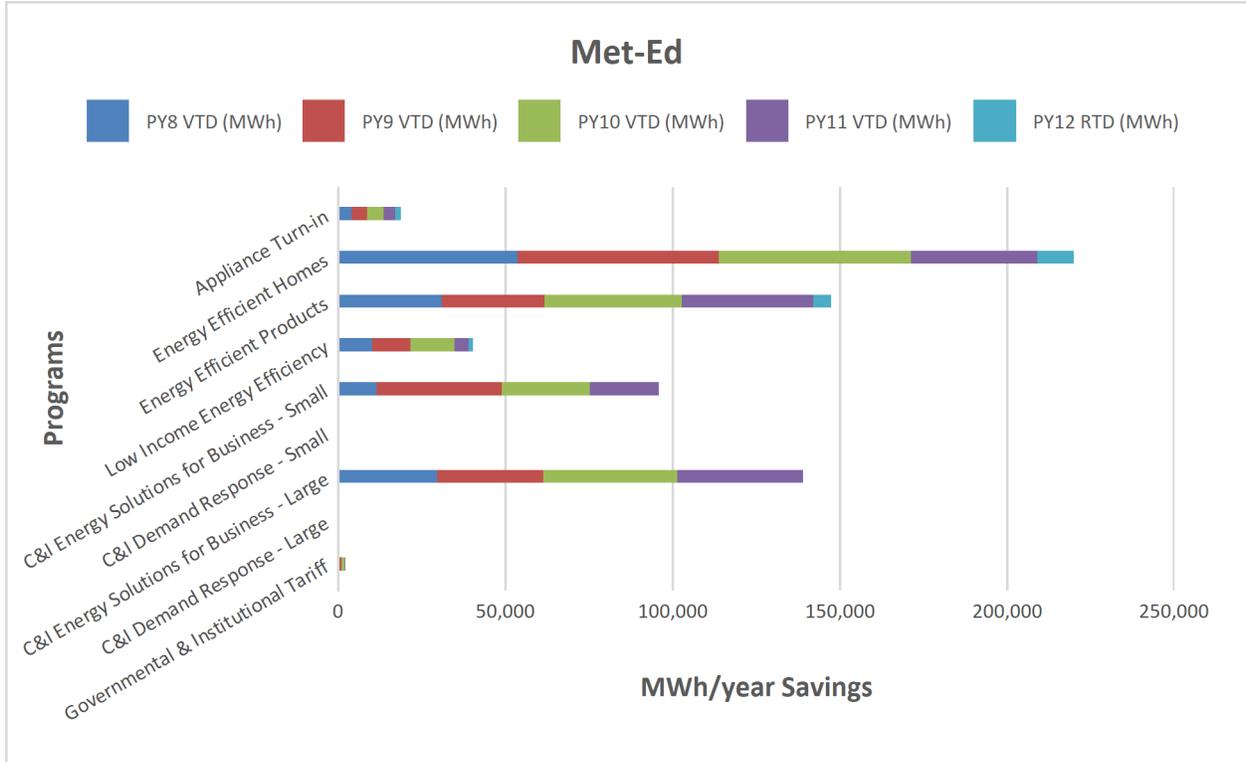
Figure 7D: PYTD Reported Gross Energy Savings by Program - West Penn Power



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

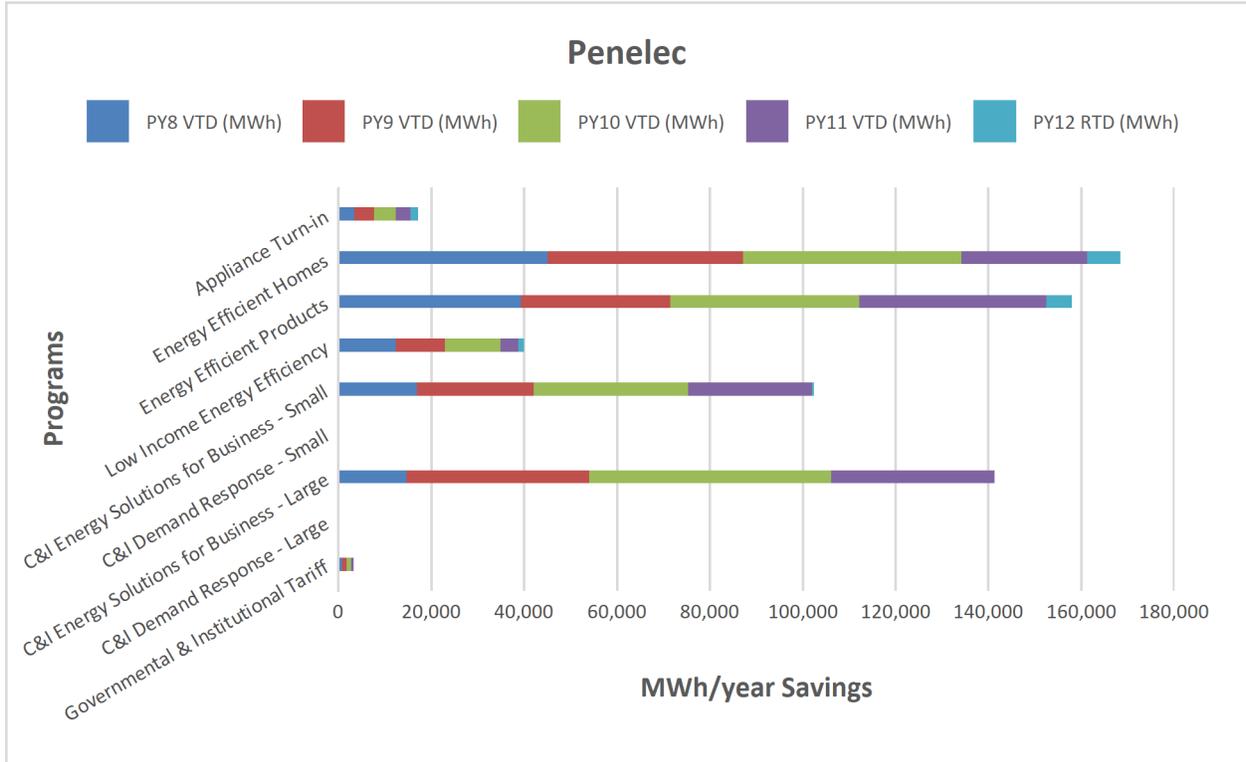


Figure 8C: PSA Energy Savings by Program for Phase III - Penn Power

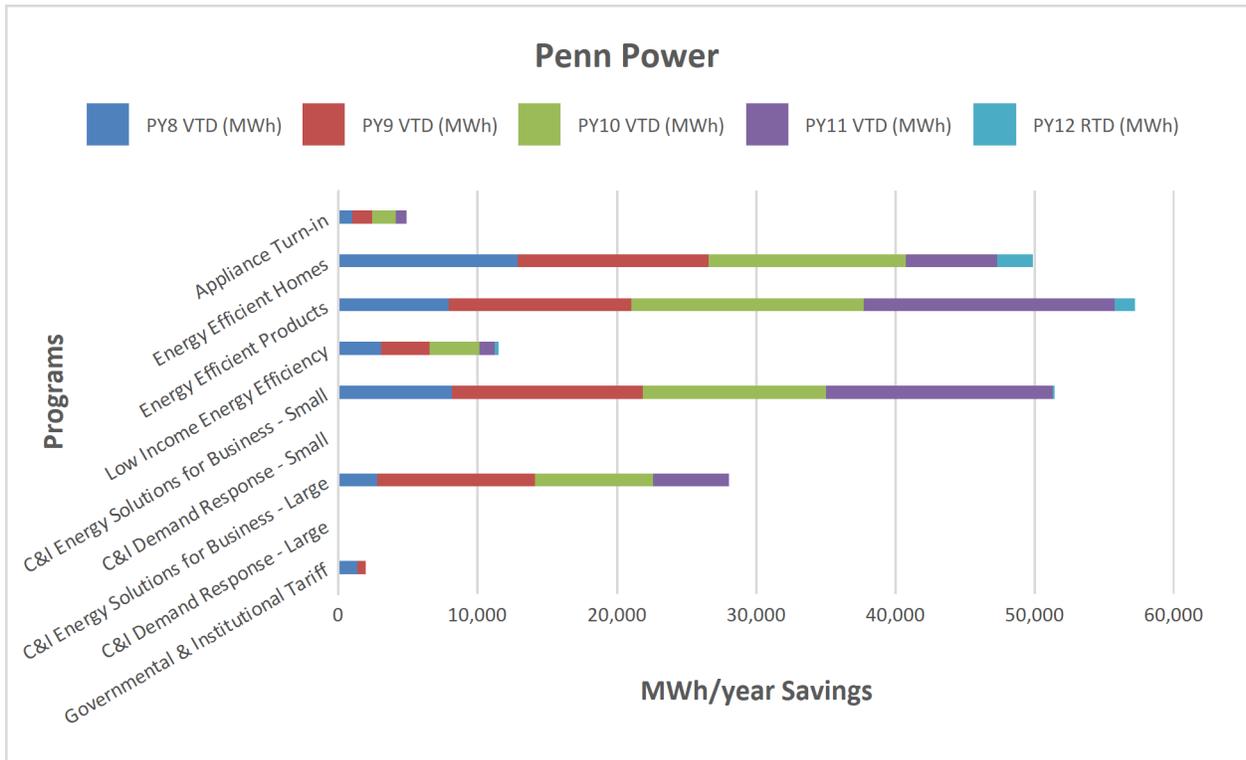
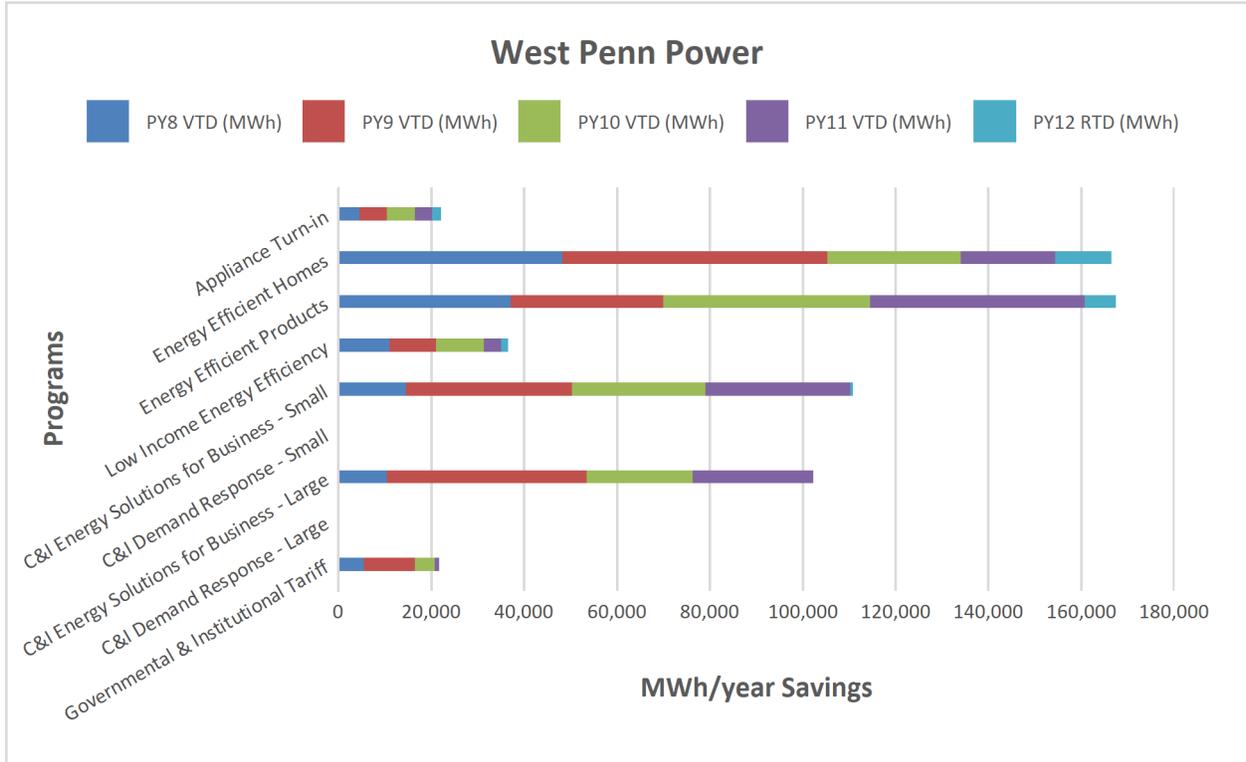


Figure 8D: PSA Energy Savings by Program for Phase III - West Penn Power



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 6-1**:

Table 6-1: Peak Demand Savings by Program (MW/Year)⁸

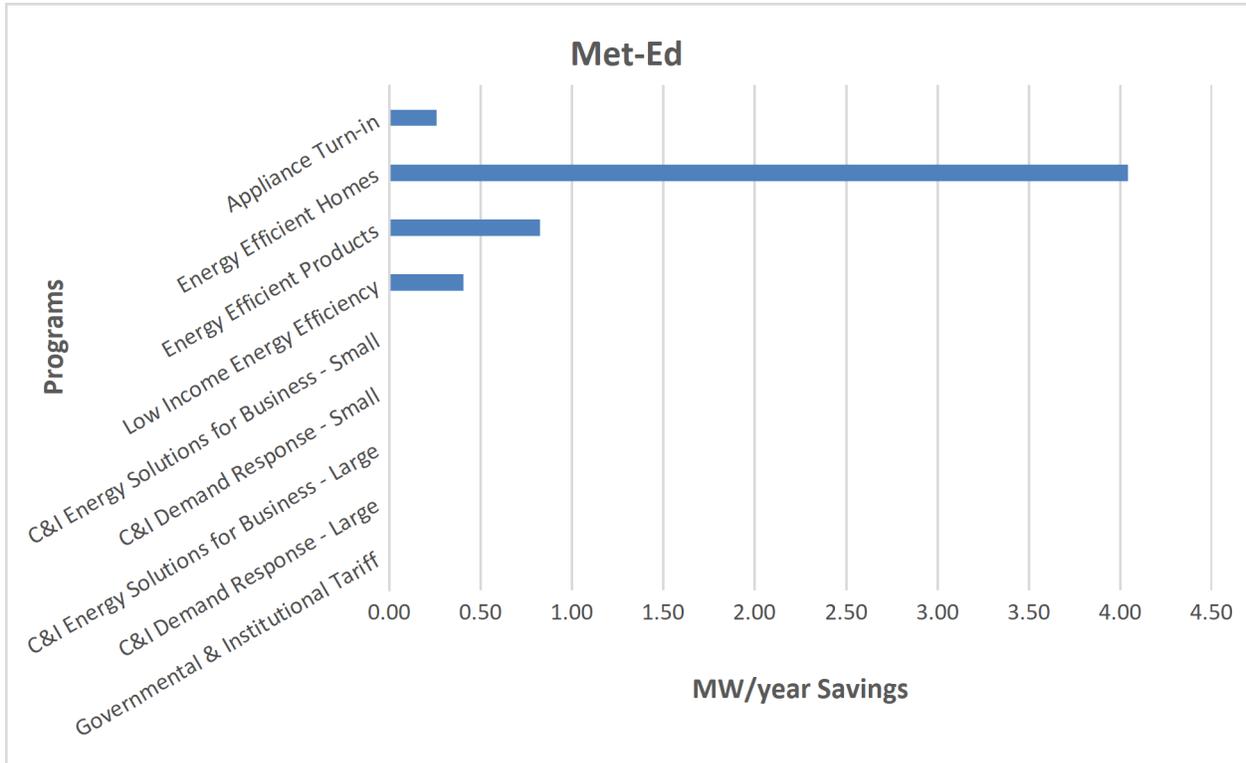
Utility	Program	PYRTD	VTD	PSA	RTD
Met-Ed	Appliance Turn-in	0.26	2.33	2.59	2.70
	Energy Efficient Homes	4.04	25.39	29.43	31.01
	Energy Efficient Products	0.82	19.16	19.98	15.09
	Low Income Energy Efficiency	0.41	4.50	4.90	4.65
	C&I Energy Solutions for Business - Small	0.01	14.39	14.39	14.74
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	0.00	18.93	18.93	19.44
	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	5.54	84.73	90.27	87.66
Penelec	Appliance Turn-in	0.24	2.07	2.31	2.46
	Energy Efficient Homes	2.12	17.56	19.68	20.98
	Energy Efficient Products	0.77	18.47	19.24	14.89
	Low Income Energy Efficiency	0.27	4.15	4.41	4.37
	C&I Energy Solutions for Business - Small	0.03	14.74	14.77	15.64
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	0.00	16.45	16.45	17.92
	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	3.43	73.49	76.92	76.31
Penn Power	Appliance Turn-in	0.00	0.63	0.63	0.72
	Energy Efficient Homes	0.98	6.75	7.73	7.82
	Energy Efficient Products	0.22	7.45	7.67	5.71
	Low Income Energy Efficiency	0.09	1.31	1.40	1.48
	C&I Energy Solutions for Business - Small	0.01	7.32	7.33	7.53
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	0.00	3.13	3.13	3.31
	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	1.31	26.65	27.95	26.62
West Penn Power	Appliance Turn-in	0.25	2.62	2.87	2.94
	Energy Efficient Homes	4.46	19.96	24.42	30.64
	Energy Efficient Products	1.09	22.61	23.70	18.86
	Low Income Energy Efficiency	0.33	4.12	4.45	4.86
	C&I Energy Solutions for Business - Small	0.03	15.46	15.49	15.68
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	0.00	12.13	12.13	12.74
	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	6.17	77.10	83.26	85.92

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.

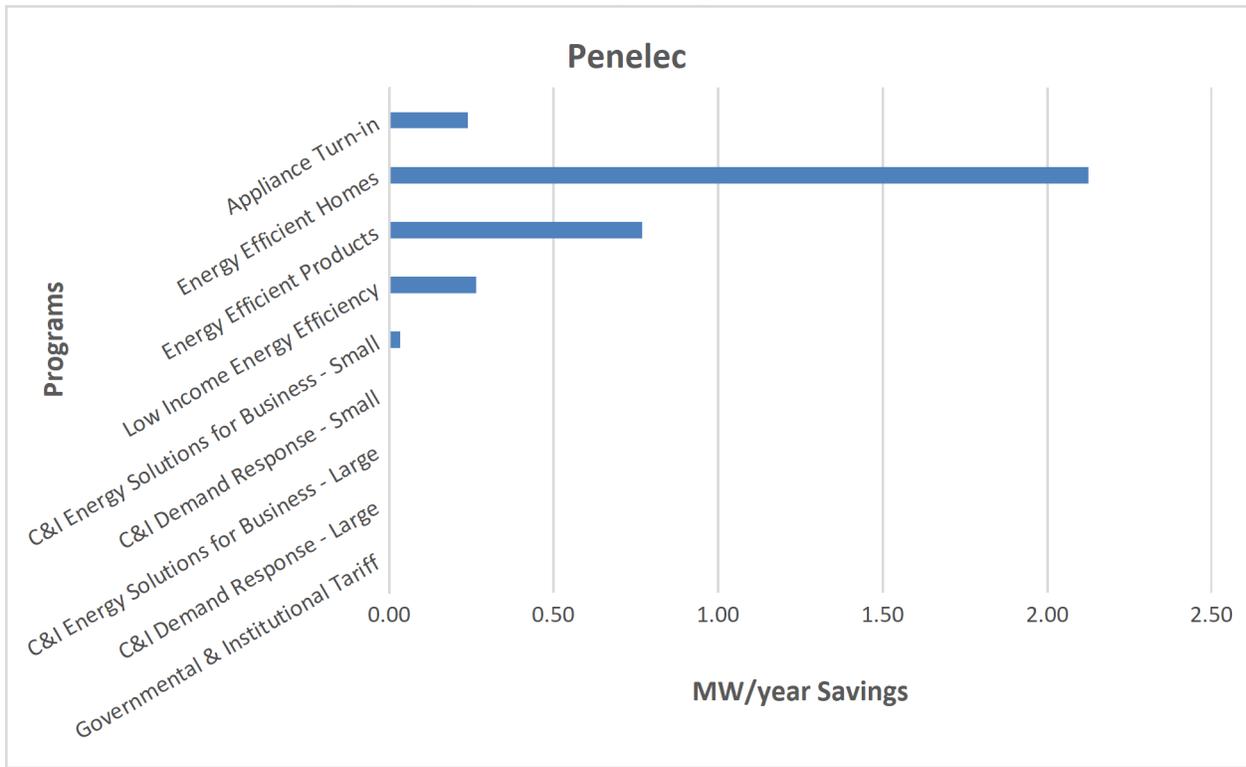
Figures 9A-9D: PYRTD Gross Demand Savings by Energy Efficiency Program⁹

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**

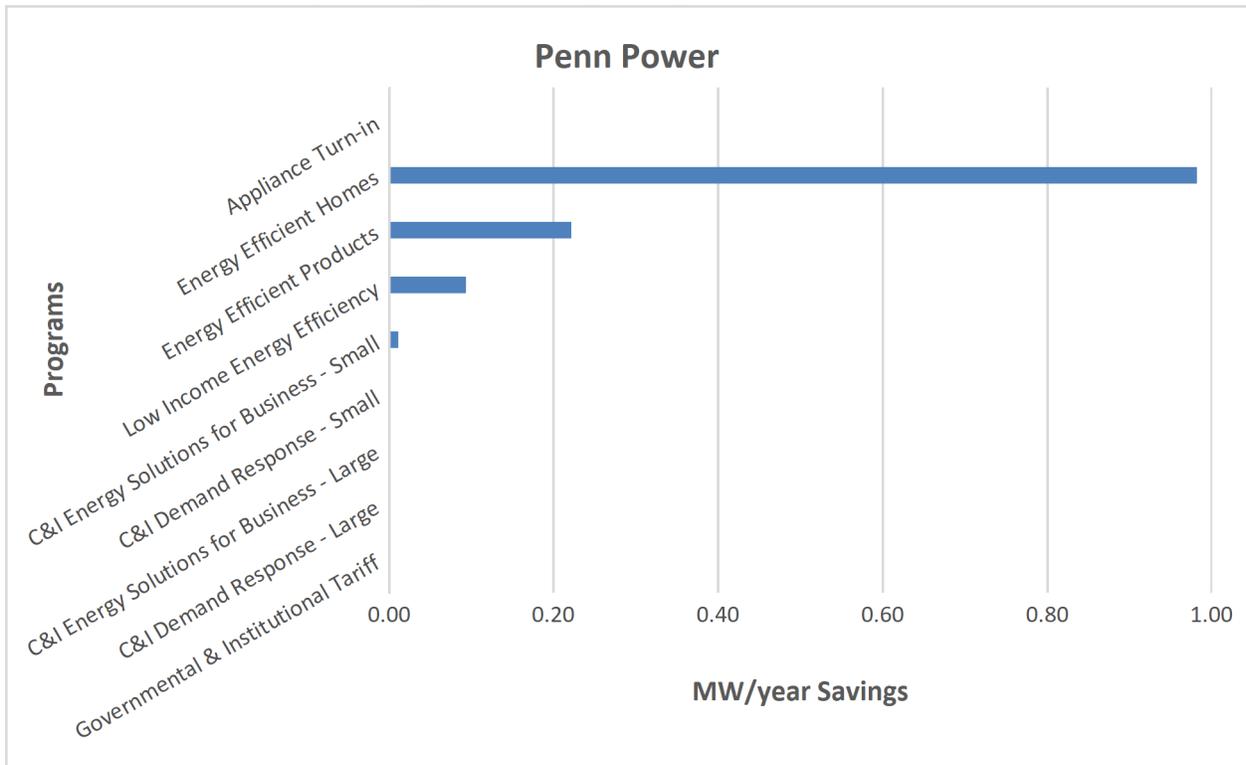
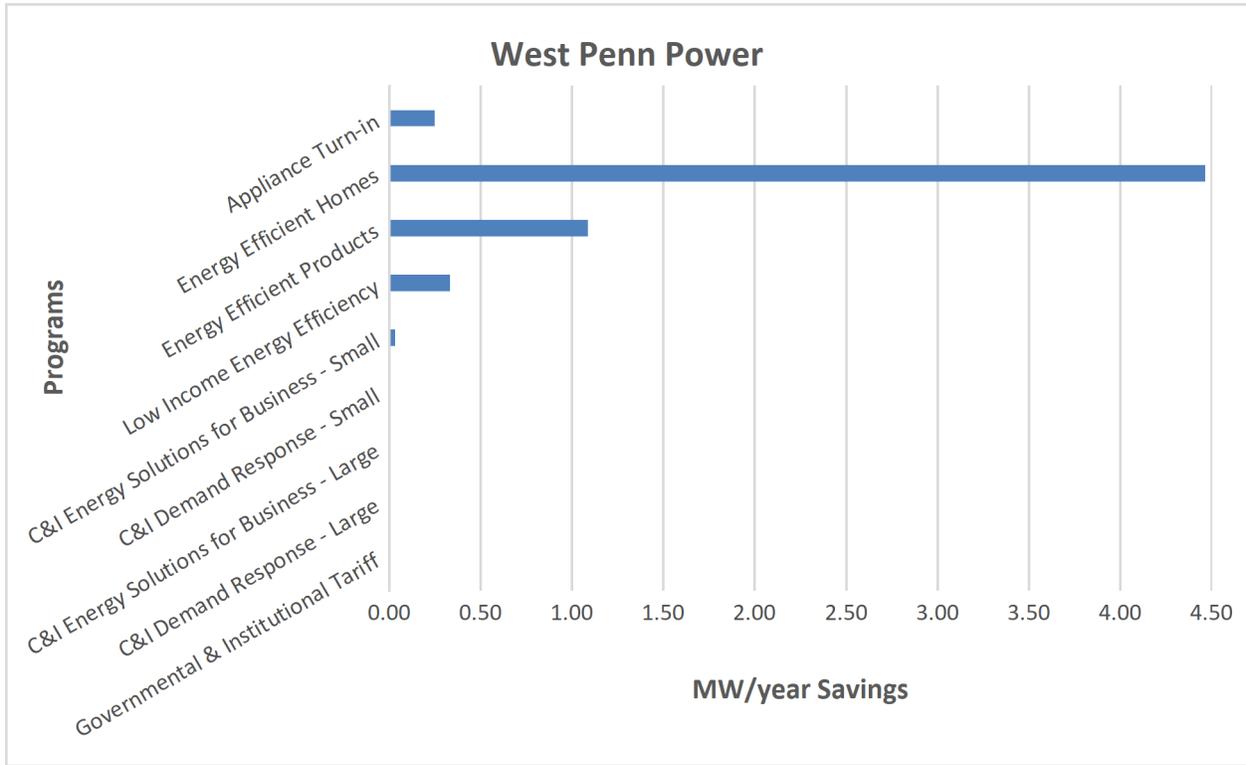


Figure 9D: PYRTD Gross Demand Savings by Energy Efficiency Program - West Penn Power

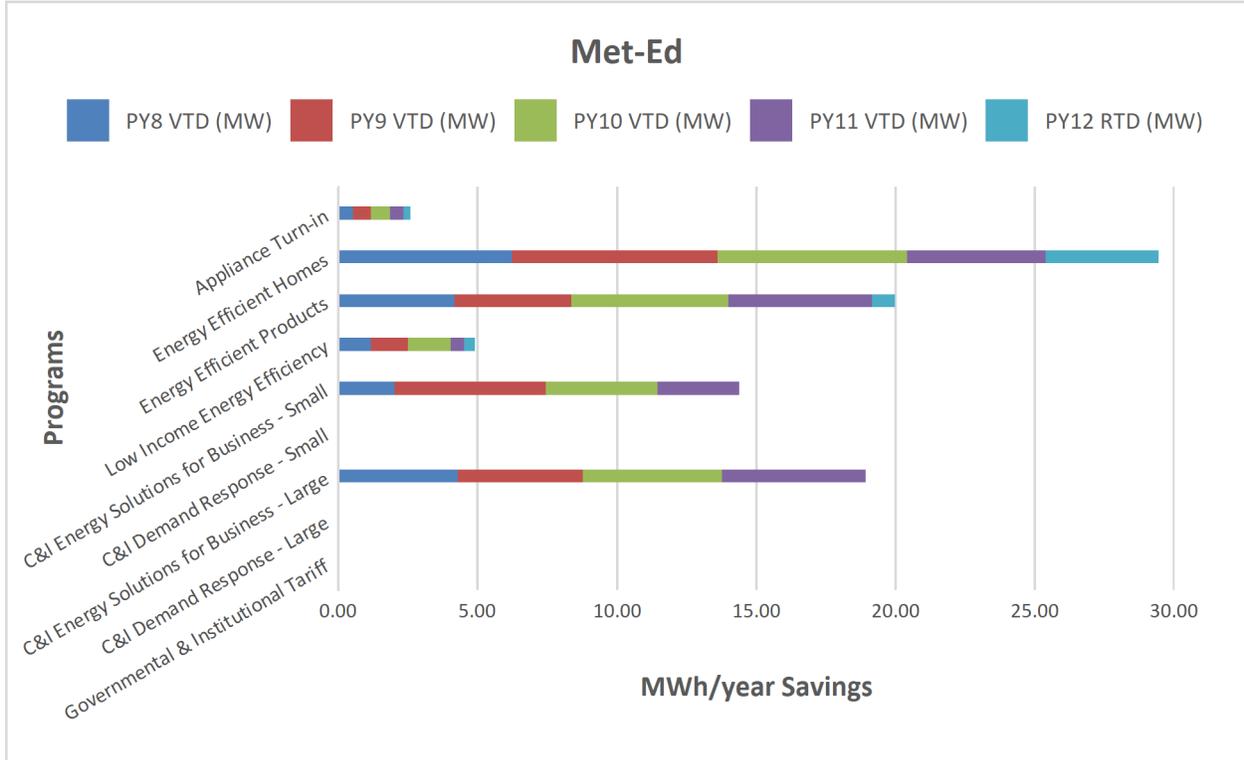


Figures 10A-10D: PSA Demand Savings by Energy Efficiency Program for Phase III present a summary of the PSA gross demand savings by energy efficiency program for Phase III of Act 129.¹⁰

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

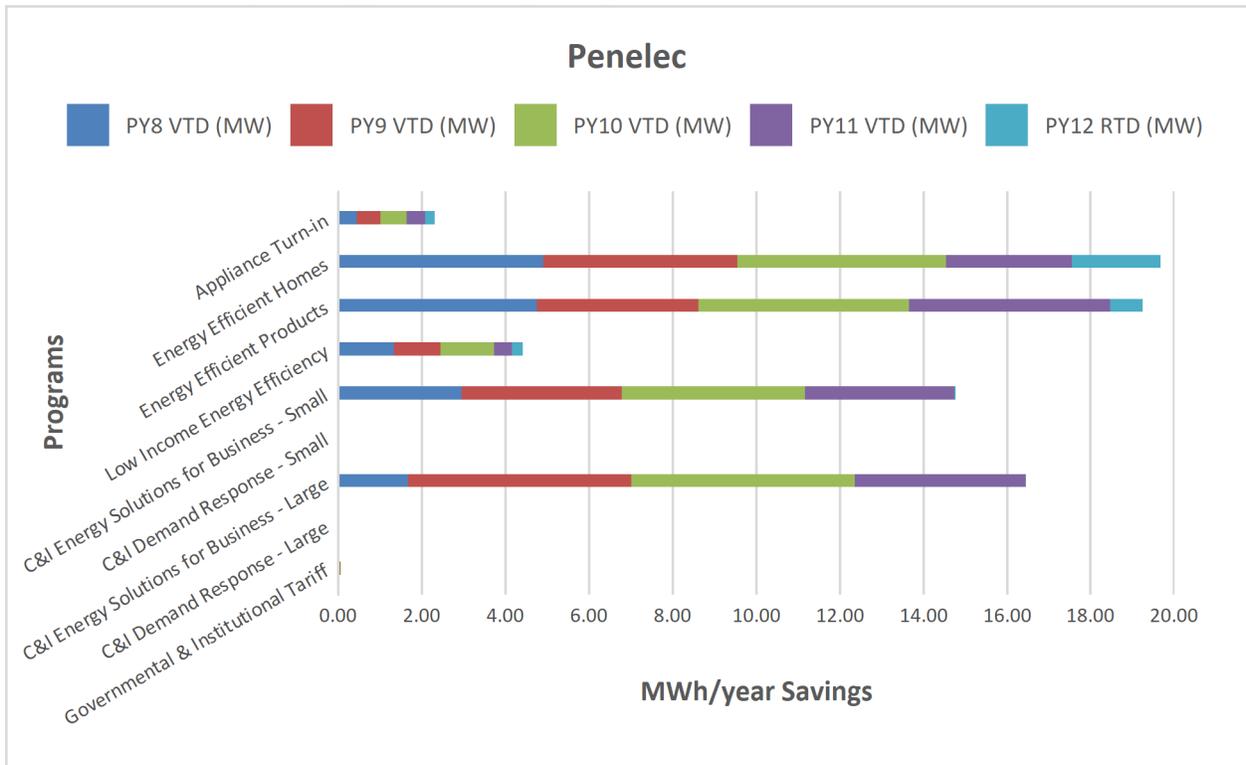
Figures 10A-10D: PSA Demand Savings by Energy Efficiency Program for Phase III¹¹

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

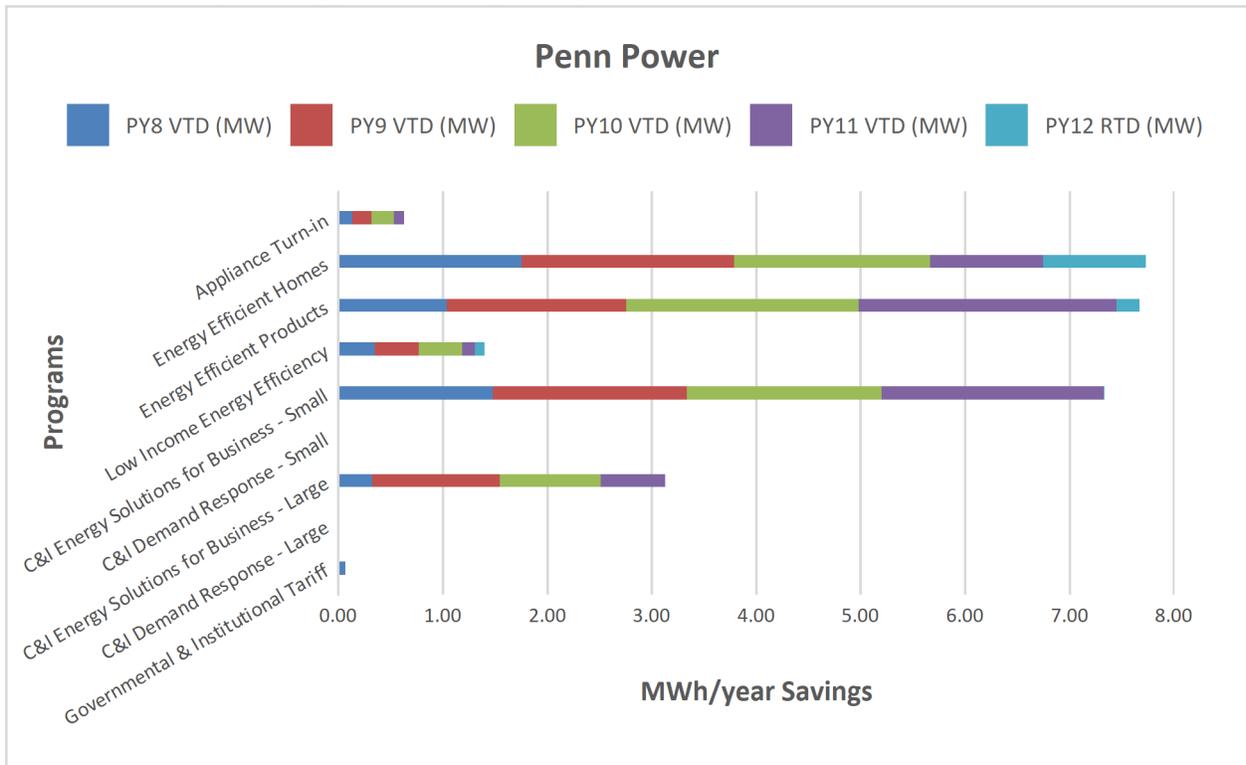


¹¹ Results for the Small & Large Energy Solutions for Business programs include GNI customers who participated in these programs.

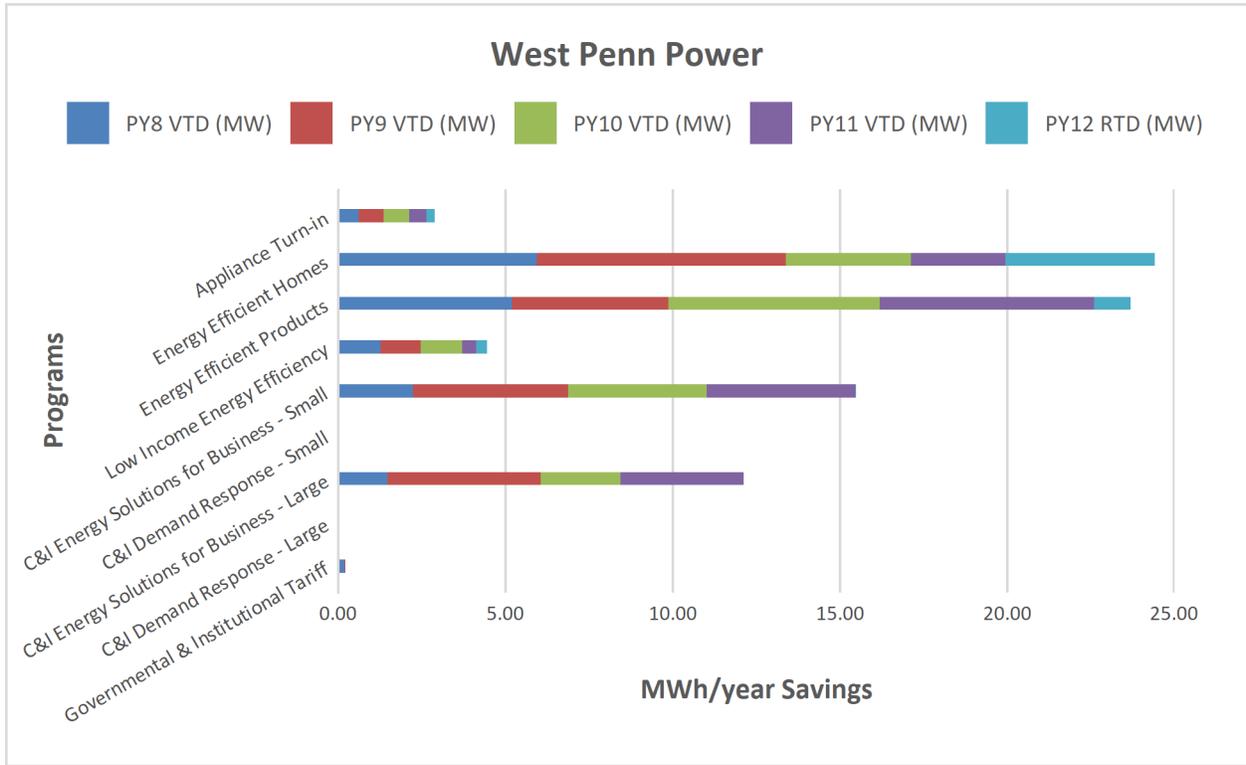
**Figure 10B: PSA Demand Savings
by Energy Efficiency Program for Phase III – Penelec**



**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 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	8.9	30.9%	7.5	12.1%
	C&I Demand Response - Small	1.8	12.8%	3.1	6.1%
	C&I Demand Response - Large	35.3	10.8%	45.4	3.5%
	Portfolio Total	46.0	5.7%	55.9	3.3%
	Portfolio Total (Confidence Interval)	43.4 - 48.6		54.1 - 57.7	
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	1.5	46.9%	2.0	12.4%
	C&I Demand Response - Small	0.0	0.0%	0.0	58.1%
	C&I Demand Response - Large	10.1	64.5%	32.9	20.0%
	Portfolio Total	11.6	34.4%	35.0	18.9%
	Portfolio Total (Confidence Interval)	7.6 - 15.6		28.4 - 41.6	
West Penn Power	Energy Efficient Homes	2.8	47.3%	2.8	16.0%
	C&I Demand Response - Small	1.2	20.3%	1.4	13.1%
	C&I Demand Response - Large	87.3	38.2%	110.6	12.9%
	Portfolio Total	91.3	22.2%	114.8	12.4%
	Portfolio Total (Confidence Interval)	71 - 111.6		100.5 - 129.1	

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 PY12 are shown in **Table 7-1A 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 7-1A to 7-1D: Program Year to Date Financials¹⁴

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>	\$101,650	\$35,195	\$257,006	\$4,890	\$398,741
<i>Energy Efficient Homes</i>	\$293,573	\$109,525	\$602,566	\$56,071	\$1,061,735
<i>Energy Efficient Products</i>	\$544,390	\$52,753	\$298,852	\$40,321	\$936,317
<i>Low Income Energy Efficiency</i>	\$31,015	\$94,554	\$491,167	\$30,977	\$647,713
<i>C&I Energy Solutions for Business - Small</i>	\$113,028	\$102,043	\$145,025	\$35,224	\$395,320
<i>C&I Demand Response - Small</i>	\$0	\$6,025	\$13,411	\$1,514	\$20,950
<i>C&I Energy Solutions for Business - Large</i>	\$638,384	\$75,637	\$297,214	\$43,336	\$1,054,570
<i>C&I Demand Response - Large</i>	\$0	\$53,984	\$398,296	\$13,573	\$465,854
<i>Governmental & Institutional Tariff</i>	\$3,359	\$6,014	\$8,118	\$2,769	\$20,260
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$1,725,399	\$535,730	\$2,511,655	\$228,677	\$5,001,460
<i>SWE Costs⁵</i>	\$0	\$0	\$0	\$0	\$128,000
<i>Total</i>	\$1,725,399	\$535,730	\$2,511,655	\$228,677	\$5,129,460

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>	\$88,750	\$37,620	\$231,336	\$5,517	\$363,222
<i>Energy Efficient Homes</i>	\$71,259	\$102,795	\$191,970	\$48,943	\$414,967
<i>Energy Efficient Products</i>	\$433,451	\$55,712	\$279,699	\$37,484	\$806,346
<i>Low Income Energy Efficiency</i>	\$40,760	\$113,487	\$420,820	\$34,976	\$610,043
<i>C&I Energy Solutions for Business - Small</i>	\$181,486	\$99,770	\$316,201	\$37,238	\$634,696
<i>C&I Demand Response - Small</i>	\$0	\$0	\$0	\$0	\$0
<i>C&I Energy Solutions for Business - Large</i>	\$187,318	\$62,050	\$73,664	\$38,037	\$361,070
<i>C&I Demand Response - Large</i>	\$0	\$0	\$0	\$0	\$0
<i>Governmental & Institutional Tariff</i>	\$50	\$7,948	\$8,930	\$3,952	\$20,880
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$1,003,074	\$479,383	\$1,522,620	\$206,147	\$3,211,224
<i>SWE Costs⁵</i>	\$0	\$0	\$0	\$0	\$116,000
<i>Total</i>	\$1,003,074	\$479,383	\$1,522,620	\$206,147	\$3,327,224

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	\$3,449	\$0	\$237	\$3,686
<i>Energy Efficient Homes</i>	\$115,296	\$40,303	\$142,714	\$16,228	\$314,540
<i>Energy Efficient Products</i>	\$156,507	\$14,517	\$62,196	\$7,477	\$240,696
<i>Low Income Energy Efficiency</i>	\$2,500	\$45,982	\$76,604	\$9,245	\$134,331
<i>C&I Energy Solutions for Business - Small</i>	\$60,915	\$36,636	\$138,023	\$8,970	\$244,544
<i>C&I Demand Response - Small</i>	\$0	\$2,243	\$0	\$540	\$2,783
<i>C&I Energy Solutions for Business - Large</i>	\$54,010	\$21,309	\$45,338	\$8,306	\$128,962
<i>C&I Demand Response - Large</i>	\$0	\$20,131	\$114,800	\$4,851	\$139,781
<i>Governmental & Institutional Tariff</i>	\$0	\$3,065	\$4,840	\$963	\$8,867
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$389,228	\$187,633	\$584,514	\$56,816	\$1,218,191
<i>SWE Costs⁵</i>	\$0	\$0	\$0	\$0	\$36,000
<i>Total</i>	\$389,228	\$187,633	\$584,514	\$56,816	\$1,254,191

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>	\$99,575	\$34,924	\$256,000	\$4,793	\$395,292
<i>Energy Efficient Homes</i>	\$344,897	\$117,762	\$417,504	\$61,663	\$941,825
<i>Energy Efficient Products</i>	\$619,152	\$59,756	\$387,025	\$45,684	\$1,111,617
<i>Low Income Energy Efficiency</i>	\$27,915	\$98,033	\$469,108	\$31,818	\$626,874
<i>C&I Energy Solutions for Business - Small</i>	\$215,696	\$103,408	\$472,503	\$41,459	\$833,067
<i>C&I Demand Response - Small</i>	\$0	\$7,514	\$4,869	\$1,882	\$14,266
<i>C&I Energy Solutions for Business - Large</i>	\$227,367	\$52,352	\$128,782	\$34,755	\$443,257
<i>C&I Demand Response - Large</i>	\$0	\$67,690	\$349,754	\$16,957	\$434,400
<i>Governmental & Institutional Tariff</i>	\$50	\$6,513	\$7,513	\$3,472	\$17,547
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$1,534,652	\$547,952	\$2,493,057	\$242,483	\$4,818,144
<i>SWE Costs⁵</i>	\$0	\$0	\$0	\$0	\$120,000
<i>Total</i>	\$1,534,652	\$547,952	\$2,493,057	\$242,483	\$4,938,144

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 Financials¹⁵

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

Program	Incentives to Participants and Trade Allies	EDC Materials, Labor, and Administration	ICSP Materials, Labor, and Administration	EM&V	Total EDC Cost
<i>Appliance Turn-in</i>	\$1,083,950	\$243,863	\$2,690,600	\$116,832	\$4,135,246
<i>Energy Efficient Homes</i>	\$12,396,765	\$924,567	\$9,809,914	\$670,969	\$23,802,215
<i>Energy Efficient Products</i>	\$7,565,355	\$286,992	\$3,620,340	\$517,577	\$11,990,263
<i>Low Income Energy Efficiency</i>	\$383,131	\$1,137,900	\$10,641,015	\$462,874	\$12,624,921
<i>C&I Energy Solutions for Business - Small</i>	\$4,496,769	\$776,387	\$3,278,878	\$774,339	\$9,326,374
<i>C&I Demand Response - Small</i>	\$68,319	\$51,853	\$198,185	\$24,895	\$343,251
<i>C&I Energy Solutions for Business - Large</i>	\$7,099,850	\$527,525	\$3,961,619	\$855,297	\$12,444,291
<i>C&I Demand Response - Large</i>	\$882,376	\$463,993	\$2,921,929	\$223,394	\$4,491,692
<i>Governmental & Institutional Tariff</i>	\$108,386	\$31,676	\$140,002	\$52,924	\$332,989
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$34,084,901	\$4,444,756	\$37,262,483	\$3,699,102	\$79,491,241
<i>SWE Costs⁵</i>	\$0	\$0	\$0	\$0	\$1,343,987
<i>Total</i>	\$34,084,901	\$4,444,756	\$37,262,483	\$3,699,102	\$80,835,229

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>	\$941,625	\$267,899	\$2,452,497	\$126,437	\$3,788,457
<i>Energy Efficient Homes</i>	\$11,179,165	\$861,426	\$7,858,273	\$552,598	\$20,451,462
<i>Energy Efficient Products</i>	\$6,528,499	\$303,747	\$3,593,249	\$496,782	\$10,922,277
<i>Low Income Energy Efficiency</i>	\$452,004	\$1,318,570	\$10,441,721	\$495,355	\$12,707,650
<i>C&I Energy Solutions for Business - Small</i>	\$5,687,968	\$792,508	\$3,598,649	\$811,677	\$10,890,801
<i>C&I Demand Response - Small</i>	\$0	\$0	\$0	\$0	\$0
<i>C&I Energy Solutions for Business - Large</i>	\$6,887,884	\$468,031	\$3,562,224	\$751,314	\$11,669,453
<i>C&I Demand Response - Large</i>	\$0	\$0	\$0	\$0	\$0
<i>Governmental & Institutional Tariff</i>	\$171,561	\$56,481	\$265,728	\$78,911	\$572,682
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$31,848,705	\$4,068,662	\$31,772,341	\$3,313,074	\$71,002,782
<i>SWE Costs⁵</i>	\$0	\$0	\$0	\$0	\$1,218,000
<i>Total</i>	\$31,848,705	\$4,068,662	\$31,772,341	\$3,313,074	\$72,220,782

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	\$53,256	\$820,089	\$27,355	\$1,183,200
<i>Energy Efficient Homes</i>	\$3,494,841	\$343,644	\$2,591,471	\$218,625	\$6,648,581
<i>Energy Efficient Products</i>	\$2,313,927	\$41,681	\$960,134	\$106,016	\$3,421,758
<i>Low Income Energy Efficiency</i>	\$123,445	\$474,467	\$2,992,142	\$159,468	\$3,749,523
<i>C&I Energy Solutions for Business - Small</i>	\$2,769,198	\$287,885	\$1,455,612	\$194,112	\$4,706,807
<i>C&I Demand Response - Small</i>	\$0	\$18,252	\$4,547	\$8,573	\$31,372
<i>C&I Energy Solutions for Business - Large</i>	\$1,374,706	\$171,432	\$721,724	\$162,693	\$2,430,556
<i>C&I Demand Response - Large</i>	\$859,568	\$163,523	\$844,445	\$76,875	\$1,944,411
<i>Governmental & Institutional Tariff</i>	\$109,860	\$19,917	\$95,996	\$18,349	\$244,121
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$11,328,045	\$1,574,057	\$10,486,161	\$972,066	\$24,360,329
<i>SWE Costs⁵</i>	\$0	\$0	\$0	\$0	\$378,000
<i>Total</i>	\$11,328,045	\$1,574,057	\$10,486,161	\$972,066	\$24,738,329

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>	\$1,185,175	\$250,105	\$2,974,544	\$116,412	\$4,526,237
<i>Energy Efficient Homes</i>	\$7,708,903	\$1,013,255	\$9,142,284	\$635,105	\$18,499,547
<i>Energy Efficient Products</i>	\$8,098,394	\$406,979	\$4,468,206	\$563,229	\$13,536,810
<i>Low Income Energy Efficiency</i>	\$333,991	\$1,167,201	\$12,024,215	\$489,485	\$14,014,891
<i>C&I Energy Solutions for Business - Small</i>	\$5,865,123	\$857,987	\$4,950,507	\$878,916	\$12,552,533
<i>C&I Demand Response - Small</i>	\$17,957	\$65,158	\$74,080	\$31,288	\$188,484
<i>C&I Energy Solutions for Business - Large</i>	\$4,999,708	\$421,007	\$2,991,431	\$690,042	\$9,102,188
<i>C&I Demand Response - Large</i>	\$2,728,963	\$586,270	\$3,186,073	\$281,707	\$6,783,012
<i>Governmental & Institutional Tariff</i>	\$934,528	\$49,785	\$544,563	\$67,917	\$1,596,793
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$31,872,743	\$4,817,747	\$40,355,902	\$3,754,103	\$80,800,495
<i>SWE Costs⁵</i>	\$0	\$0	\$0	\$0	\$1,260,000
<i>Total</i>	\$31,872,743	\$4,817,747	\$40,355,902	\$3,754,103	\$82,060,495

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 7-3A to 7-3D: EE&C Plan Expenditures by Cost-Recovery Category¹⁶

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	\$3,123	\$53,422
	Small C&I	Rate GS-Small, Rate GS-Medium, and Outdoor Lighting Service	\$437	\$9,872
	Large C&I	Rate GS-Large, Rate GP and Rate TP	\$1,373	\$17,198
	Street Lighting	Street Lighting Service, LED Street Lighting Service and Ornamental Street Lighting Service	\$2	\$146
	Government & Non-Profit Tariff	Rate GS - Volunteer Fire Company, and Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate and Rate MS	\$19	\$198
Portfolio Total			\$4,955	\$80,835

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	\$2,274	\$48,745
	Small C&I	Rate GS-Small, Rate GS-Medium, and Outdoor Lighting Service	\$574	\$11,092
	Large C&I	Rate GS-Large, Rate GP, and Rate LP	\$363	\$11,795
	Street Lighting	Street Lighting Service, LED Street Lighting Service, and Ornamental Street Lighting Service	\$1	\$193
	Government & Non-Profit Tariff	Rate GS – Volunteer Fire Company, and Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate and Rate H	\$21	\$396
Portfolio Total			\$3,233	\$72,221

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	\$714	\$15,246
	Small C&I	Rate GS, GS Special Rider GSDS, Rate GM, Rate GS-Large and POL	\$222	\$4,795
	Large C&I	Rate GP, and Rate GT	\$277	\$4,449
	Street Lighting	Rate Schedules SV, SVD, SM and LED	\$1	\$168
	Government & Non-Profit Tariff	Rate GS – Volunteer Fire Company, and Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate and Rate PNP	\$9	\$80
Portfolio Total			\$1,223	\$24,738

**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	\$3,149	\$51,377
	Small C&I	Rate GS 20, Rate GS 30	\$816	\$12,946
	Large C&I	Rate GS 35, 40, 44, 46, and Tariff No. 38	\$846	\$16,128
	Street Lighting	Rate Schedules 51 through 58, 71, 72	\$1	\$1,316
	Government & Non-Profit Tariff	Rate GS 20 – Volunteer Fire Company, and Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate	\$18	\$293
Portfolio Total			\$4,829	\$82,060

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