

Semi-Annual Report to the Pennsylvania Public Utility Commission

Phase III of Act 129

Program Year 11

(June 1, 2019 – May 31, 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 + PYTD
PSA+CO	PSA savings plus Carryover from Phase II
PY	Program Year: e.g. PY8, from June 1, 2016, to May 31, 2017
PYRTD	Program Year Reported to Date
PYVTD	Program Year Verified to Date
RTD	Phase III to Date Reported Gross Savings
SWE	Statewide Evaluator
TRC	Total Resource Cost
TRM	Technical Reference Manual
VTD	Phase III to Date Verified Gross Savings

Types of Savings

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Table A - P3TD Savings Calculation Example

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

PYRTD (PY10) = 500 MWh/year

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

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

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

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

Section 1 Introduction

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

Implementation of Phase III of the Act 129 programs began on June 1, 2016. This report documents the progress and effectiveness of the Phase III EE&C accomplishments in Program Year 11 (PY11) for Metropolitan Edison Company (“Met-Ed” or “ME”), Pennsylvania Electric Company (“Penelec” or “PN”), Penn Power Company (“Penn Power” or “PP”), and West Penn Power Company (“West Penn Power” or “WPP”) (known collectively as the “FirstEnergy Pennsylvania EDCs” or “FirstEnergy” or “Companies”), as well as the cumulative accomplishments of the Phase III programs since inception. This report additionally documents the energy savings carried over from Phase II. The Phase II carryover savings count towards EDC savings compliance targets for Phase III.

This report details the participation, spending, and reported gross impacts of the energy efficiency programs in PY11. Compliance with Act 129 savings goals is ultimately based on verified gross savings. FirstEnergy has retained ADM Associates as an independent evaluation contractor for Phase III of Act 129. ADM Associates is responsible for the measurement and verification of the savings and calculation of verified gross savings. The verified gross savings for PY11 energy efficiency programs will be reported in the final annual report, to be filed on February 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 6.2 of this report includes the verified gross demand response impacts as well as the cumulative demand response performance of the EE&C program to date for Phase III of Act 129.

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

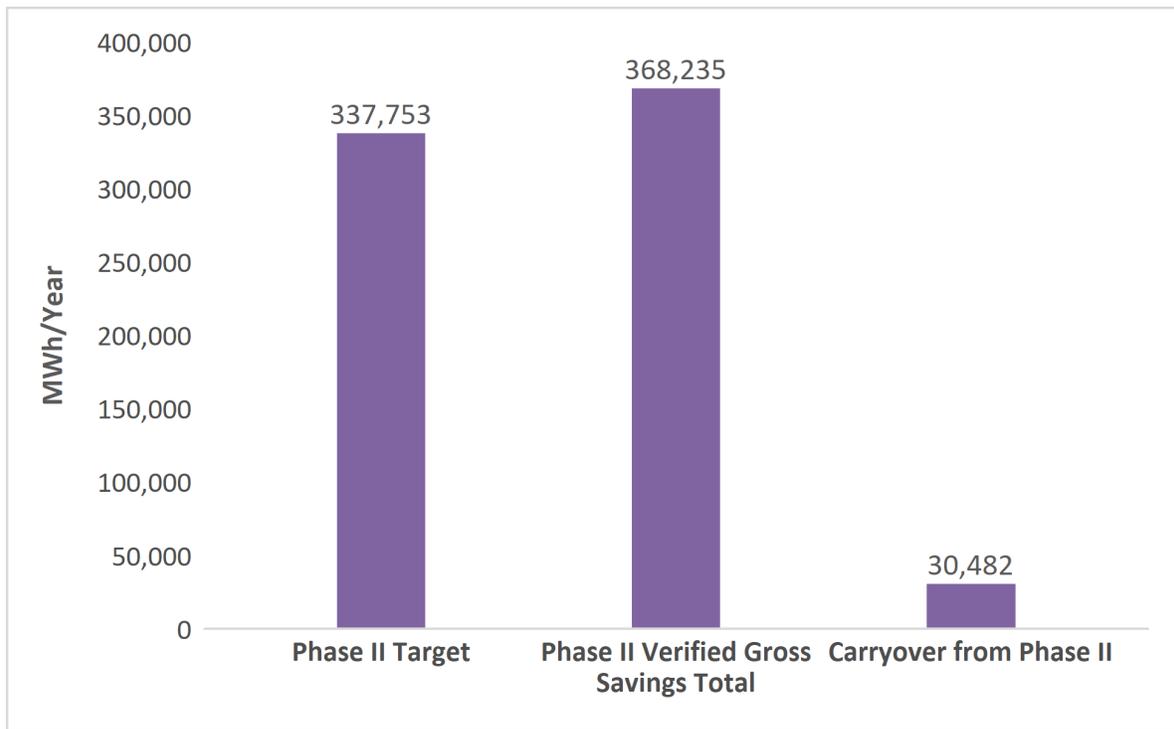


Figure 1B: Carryover Savings from Phase II of Act 129 – Penelec

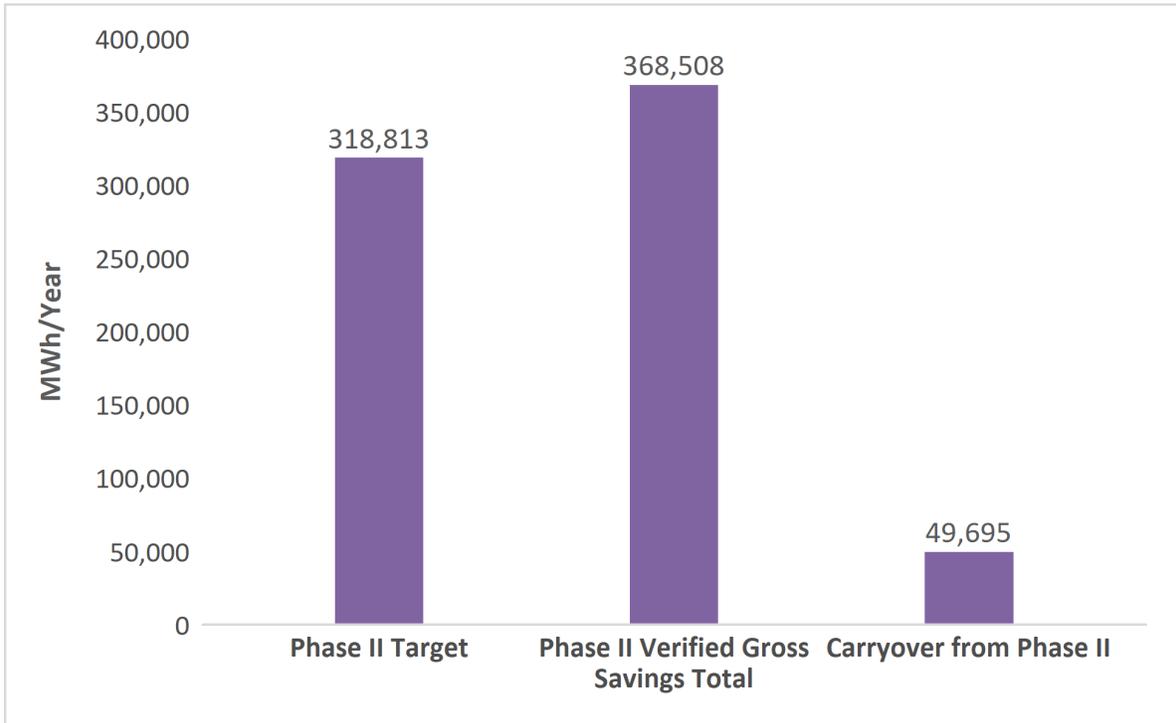


Figure 1C: Carryover Savings from Phase II of Act 129 – Penn Power

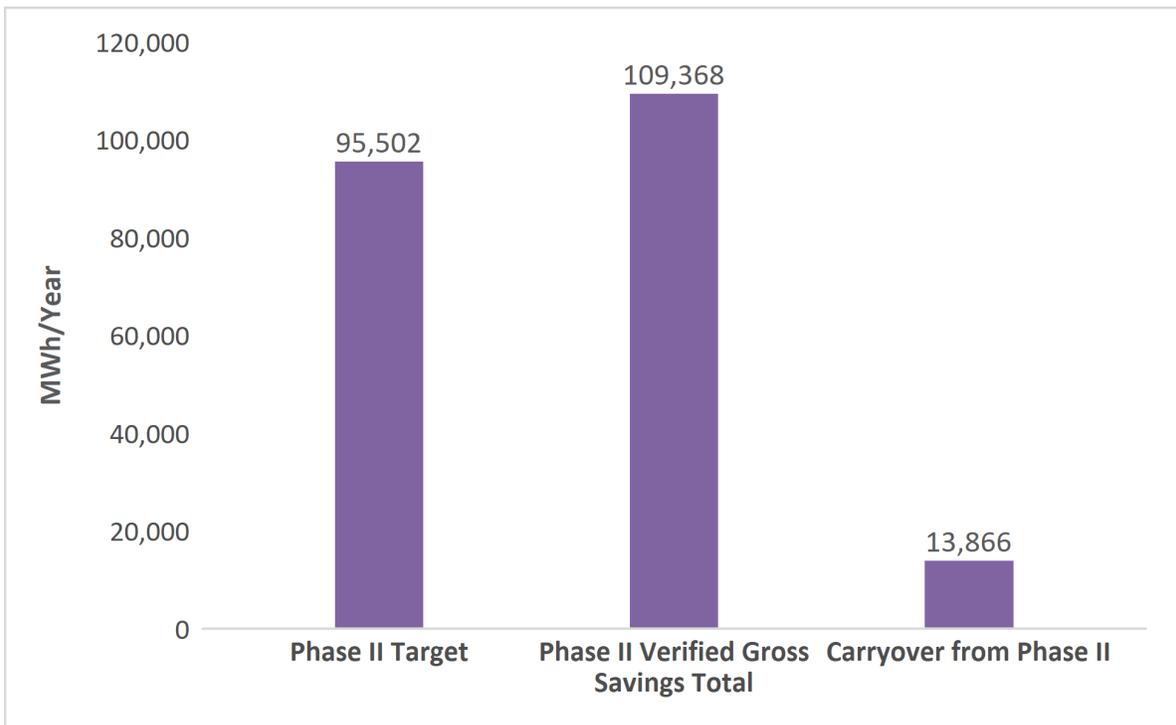
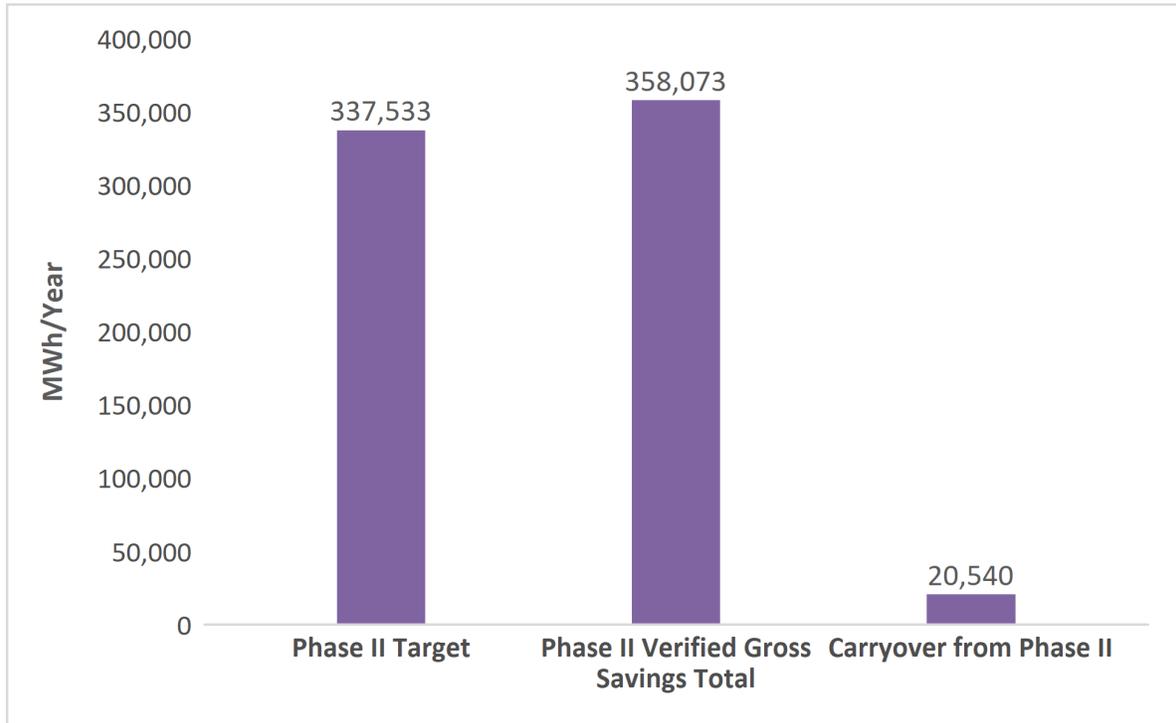


Figure 1D: Carryover Savings from Phase II of Act 129 – West Penn Power

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

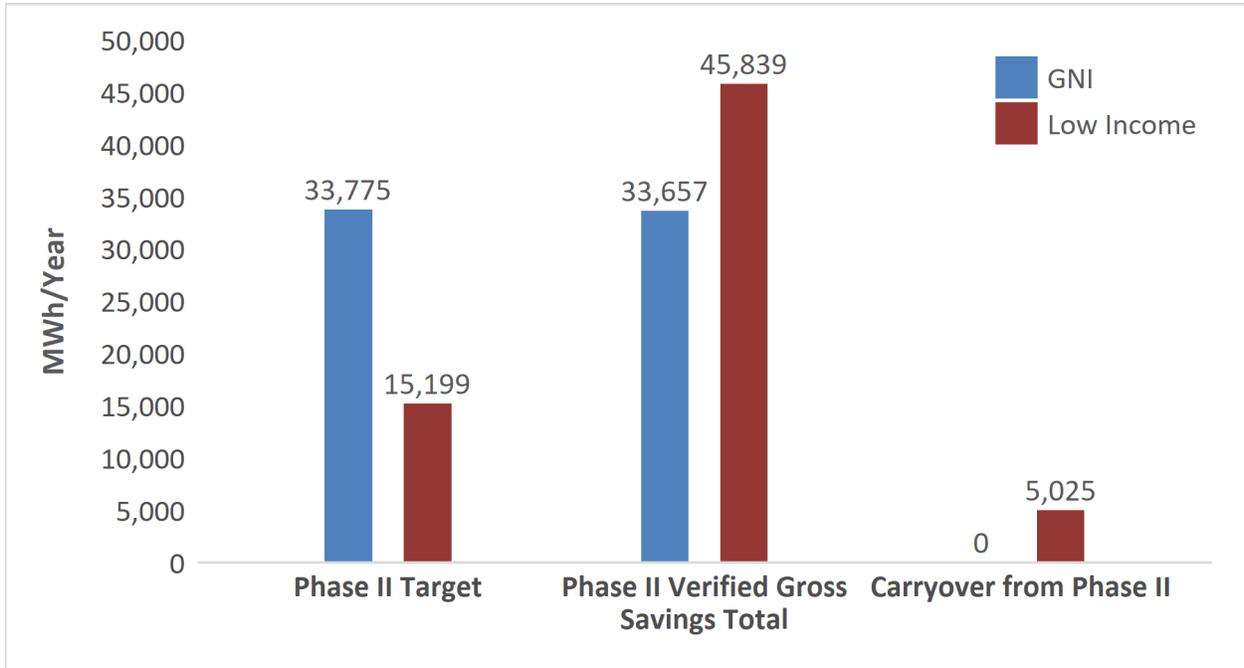


Figure 2B: Customer Segment-Specific Carryover from Phase II – Penelec

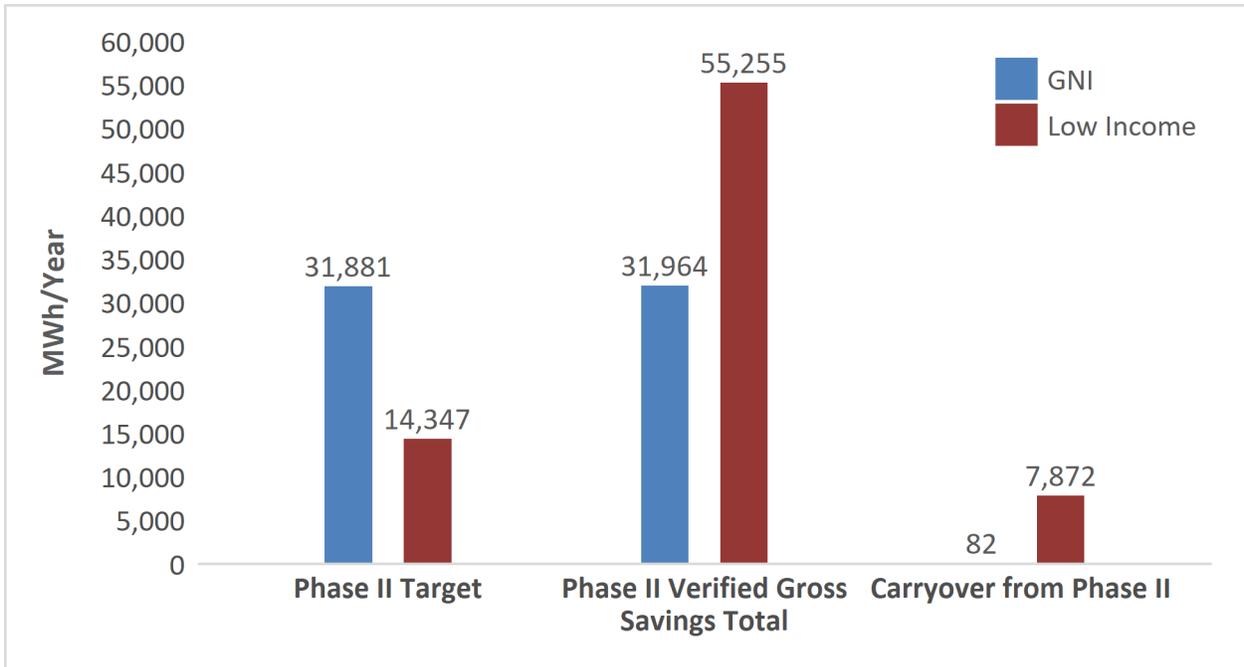


Figure 2C: Customer Segment-Specific Carryover from Phase II – Penn Power

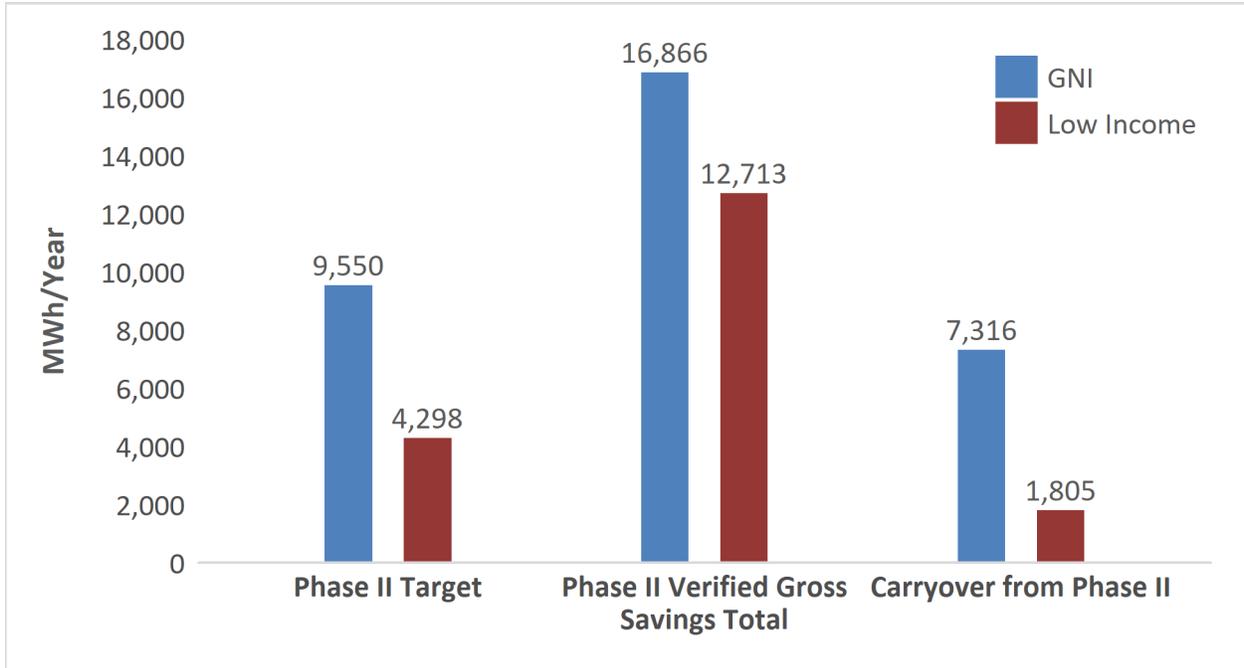
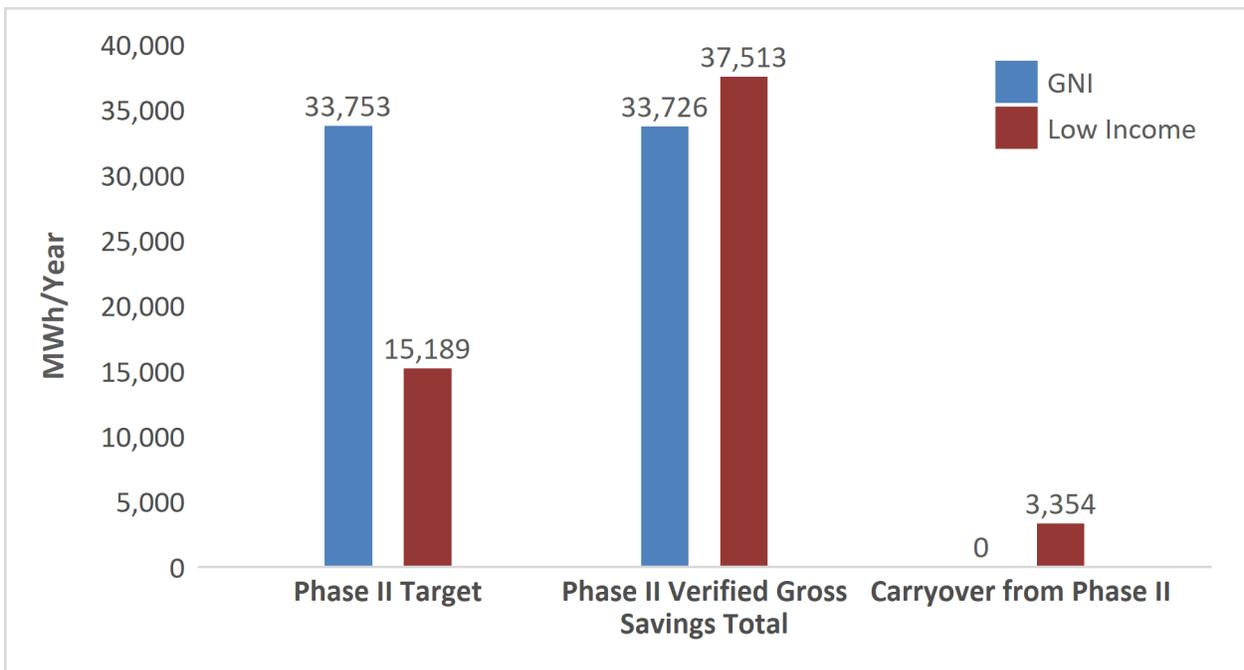


Figure 2D: Customer Segment-Specific Carryover from Phase II – West Penn Power



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 11 on June 1, 2019. **Since the** beginning of Phase III of Act 129 on June 1, 2016, the FirstEnergy EDCs have achieved:

Table 2-3 and **Table 2-4** show achievements to date in Phase III; **Figures 3A-3D**: Plan Performance toward Phase III Portfolio Compliance show results in graphic form.

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

EDC	Gross MWh/yr Savings (PYRTD)	Gross Peak Demand MW Savings (PYRTD)
Met-Ed	140,179	20.12
Penelec	131,729	16.35
Penn Power	44,446	6.14
West Penn Power	129,325	19.16

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	599,237	81.87	640,799	85.63
Penelec	577,922	72.57	609,410	73.48
Penn Power	185,250	25.18	196,646	26.28
West Penn Power	573,575	79.34	601,691	77.92

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	640,799	30,482	671,281	112%
Penelec	609,410	49,695	659,105	116%
Penn Power	196,646	13,866	210,512	134%
West Penn Power	601,691	20,540	622,231	115%

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

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

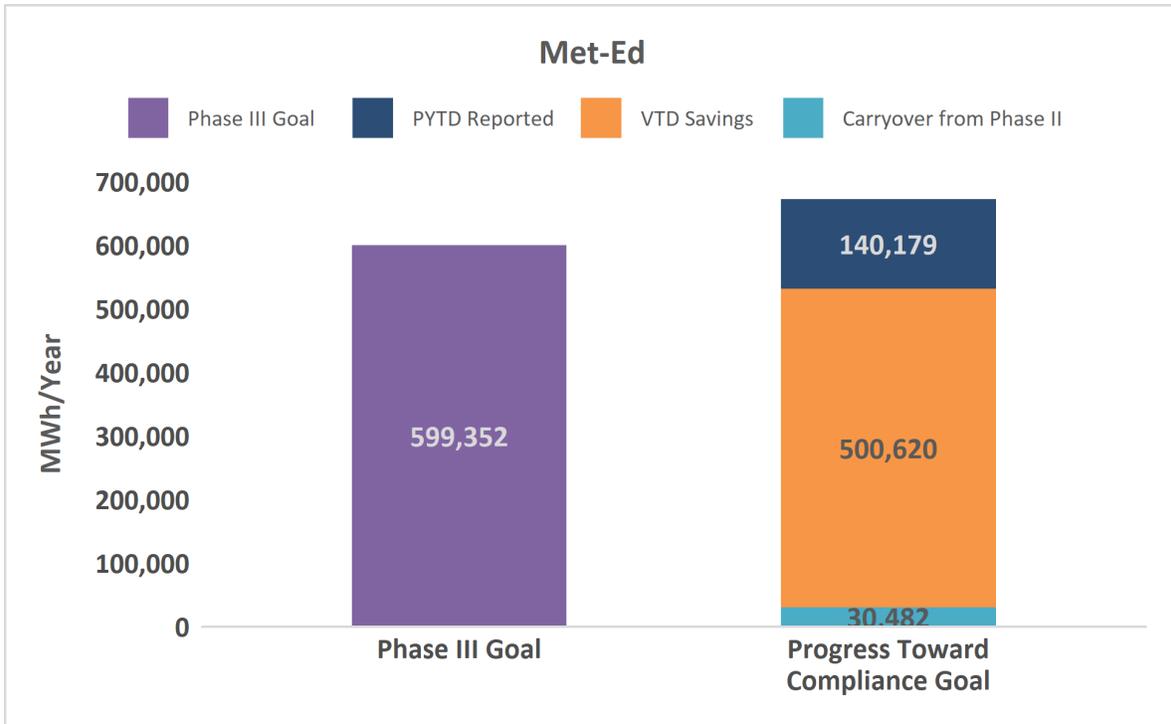


Figure 3B: EE&C Plan Performance toward Phase III Portfolio Compliance Target – Penelec

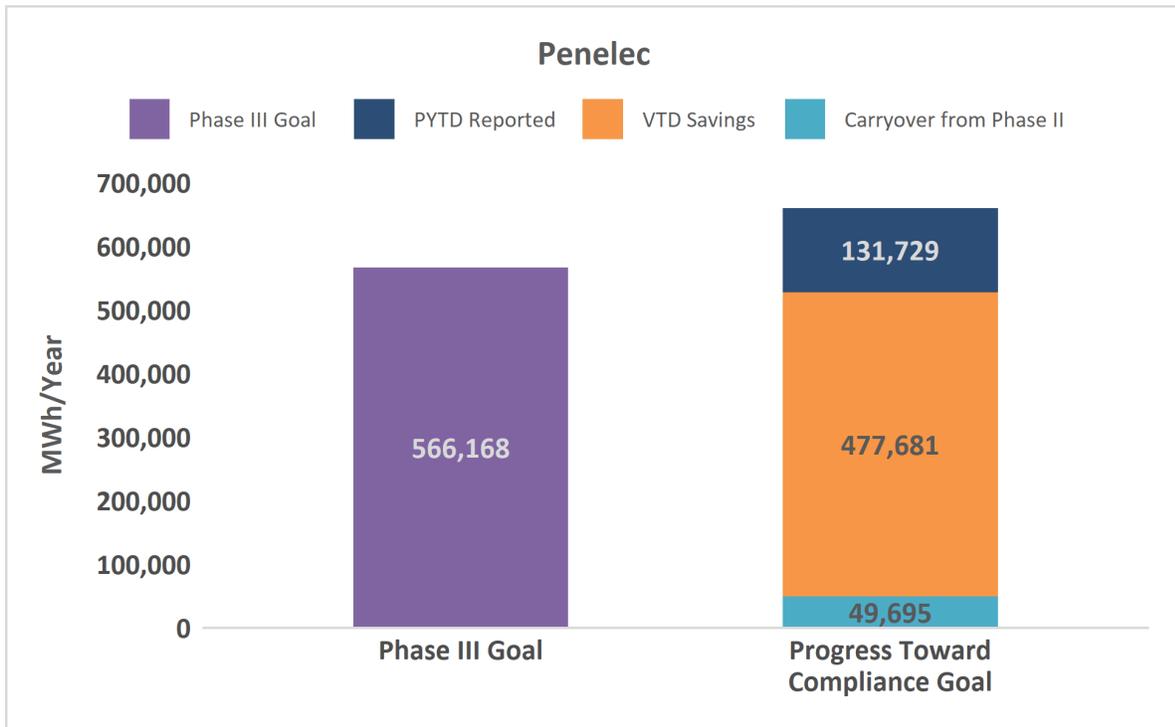


Figure 3C: EE&C Plan Performance toward Phase III Portfolio Compliance Target – Penn Power

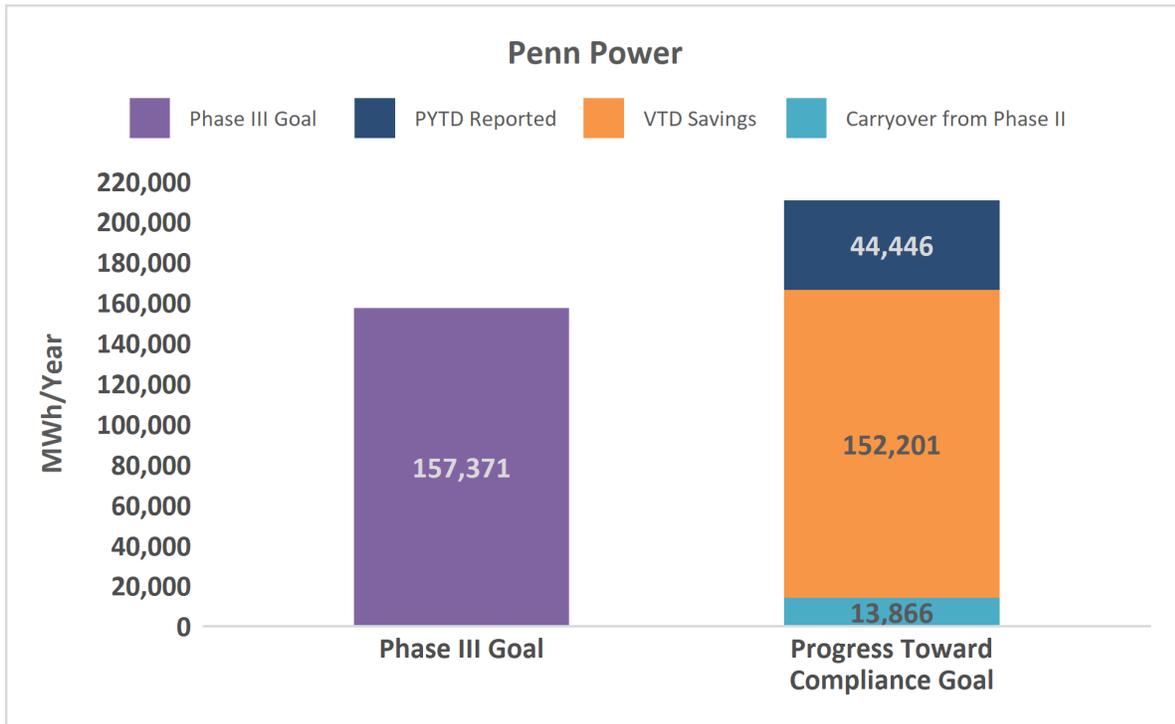
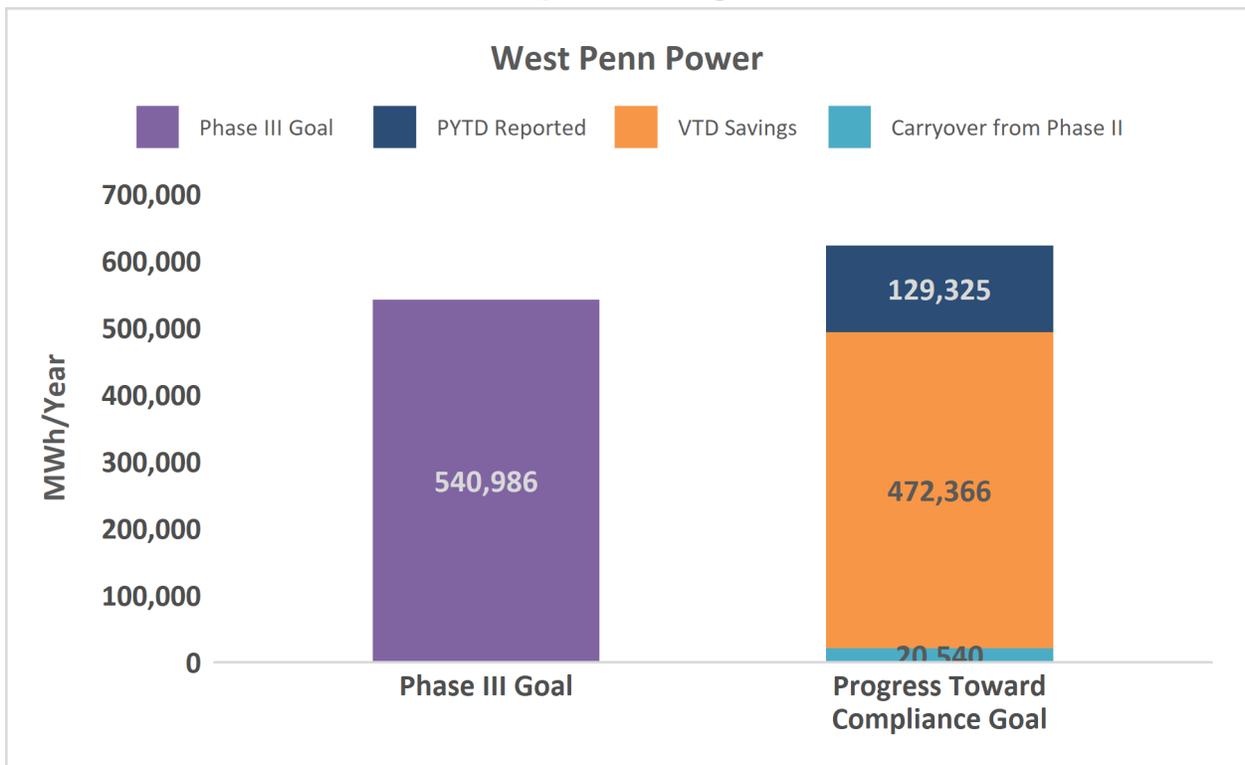


Figure 3D: EE&C Plan Performance toward Phase III Portfolio Compliance Target – West Penn Power



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

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

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

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

EDC	Low-Income Target (MWh/yr)	PSA + CO (MWh/yr)	% of Low-Income Savings Target Achieved
Met-Ed	32,964	43,564	132%
Penelec	31,139	46,545	149%
Penn Power	8,655	13,188	152%
West Penn Power	29,754	38,990	131%

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

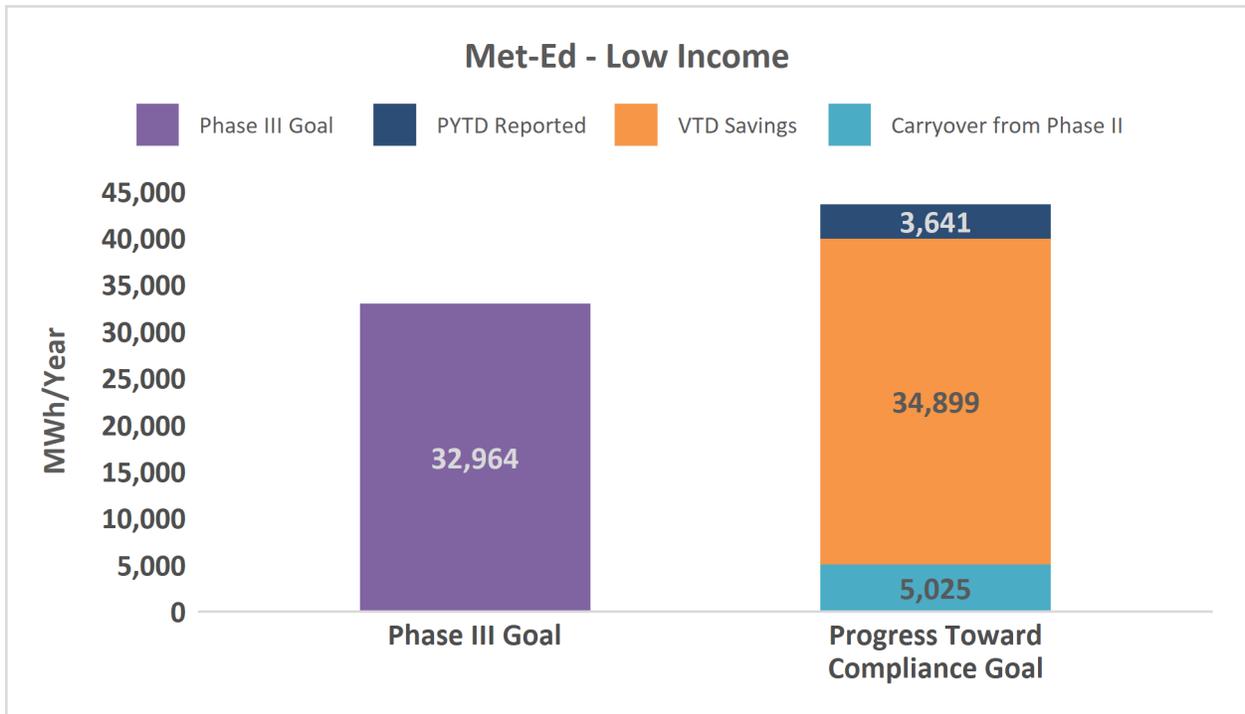


Figure 4B: EE&C Plan Performance toward Phase III Low-Income Compliance Target – Penelec

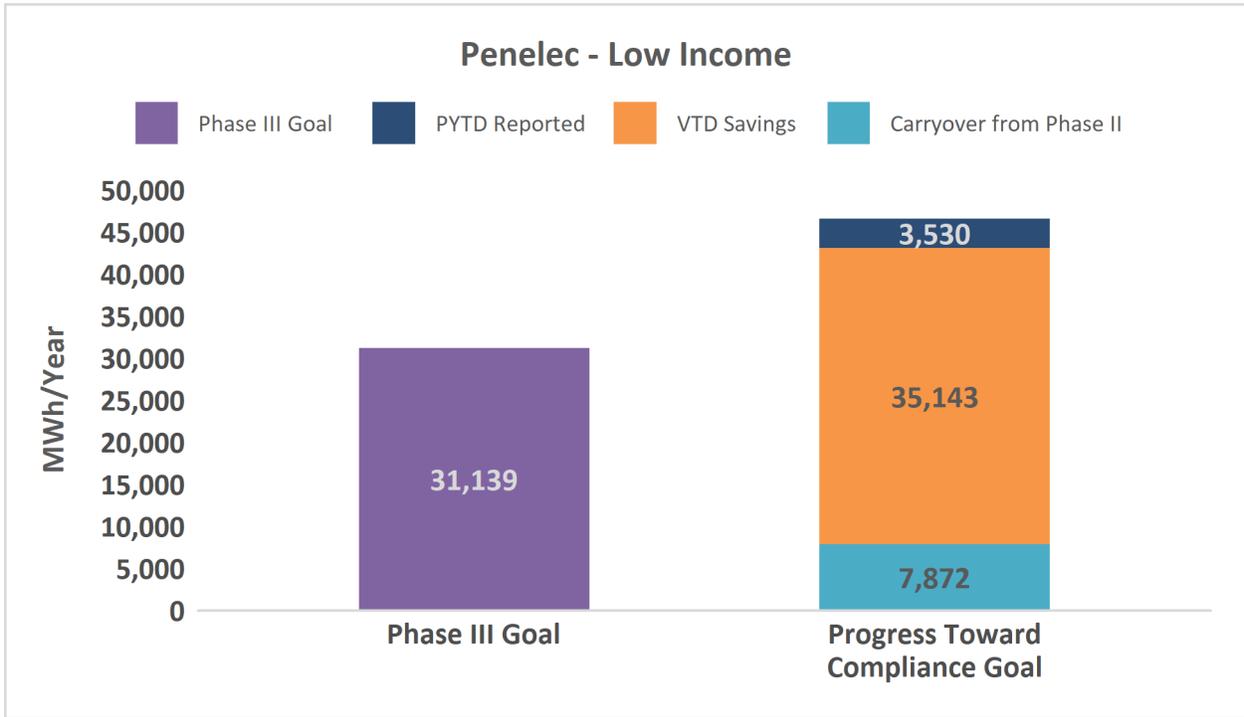


Figure 4C: EE&C Plan Performance toward Phase III Low-Income Compliance Target – Penn Power

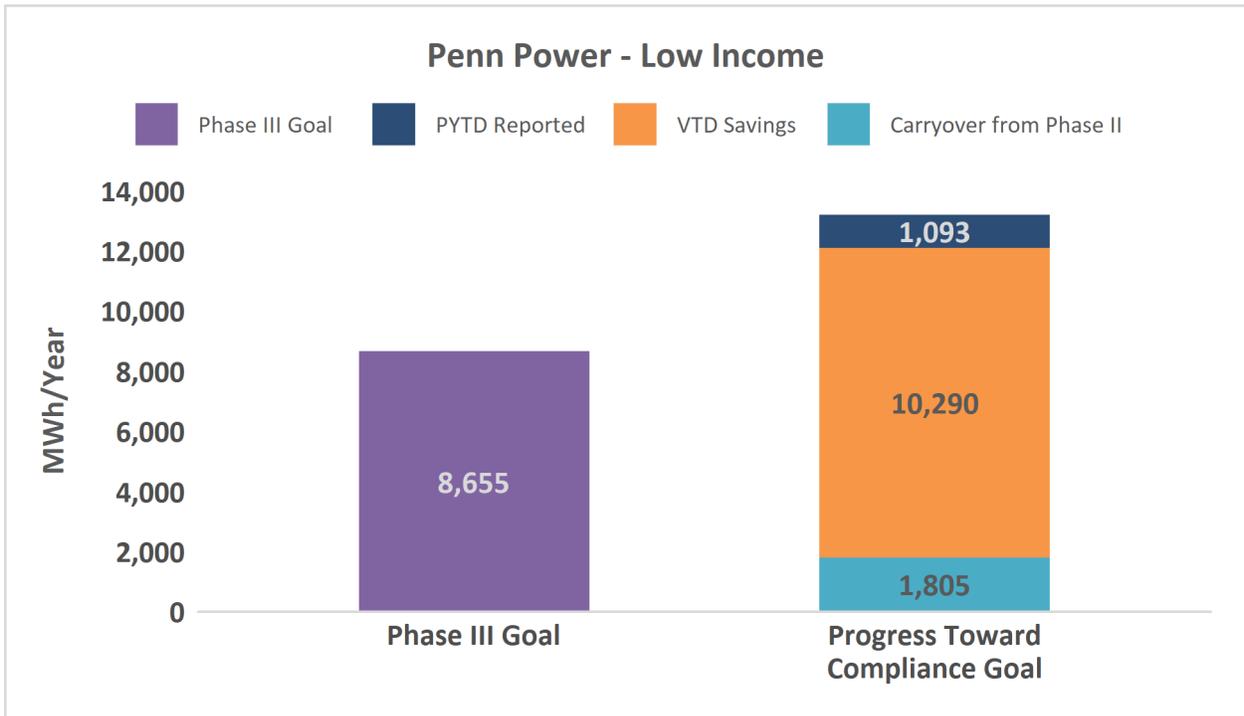
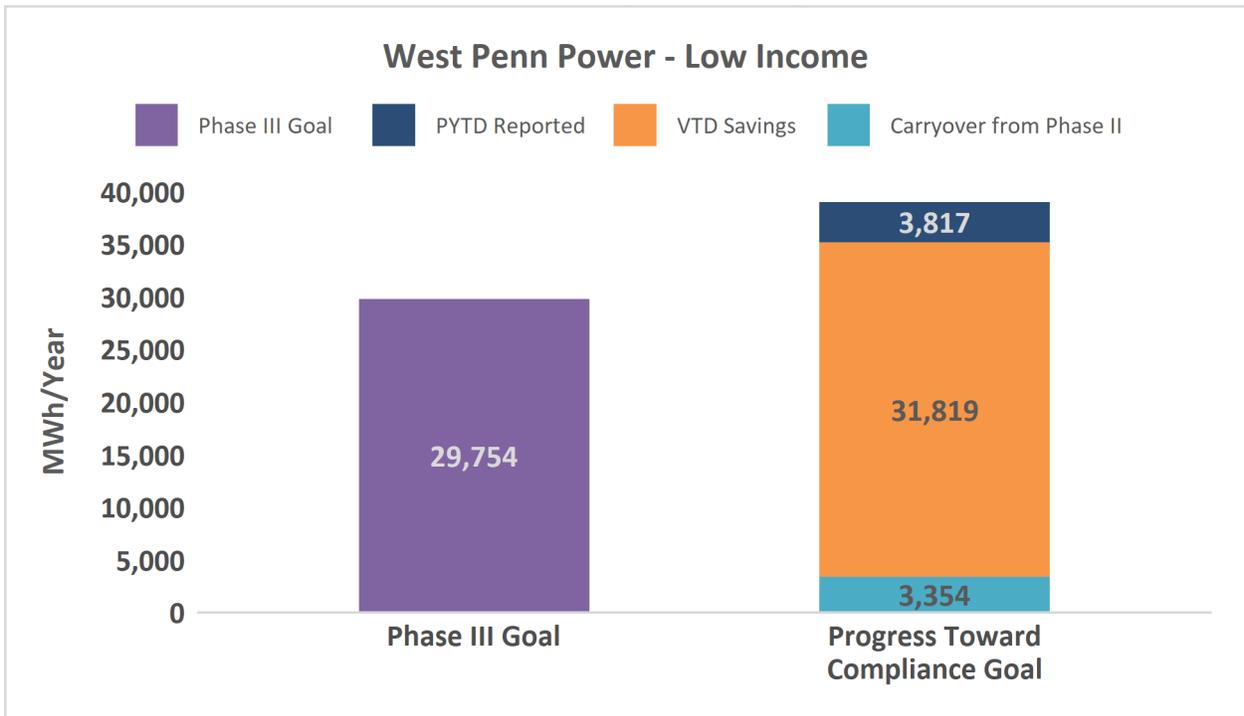


Figure 4D: EE&C Plan Performance toward Phase III Low-Income Compliance Target – West Penn Power



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	27,287	130%
Penelec	19,816	51,805	261%
Penn Power	5,508	16,704	303%
West Penn Power	18,935	72,119	381%

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

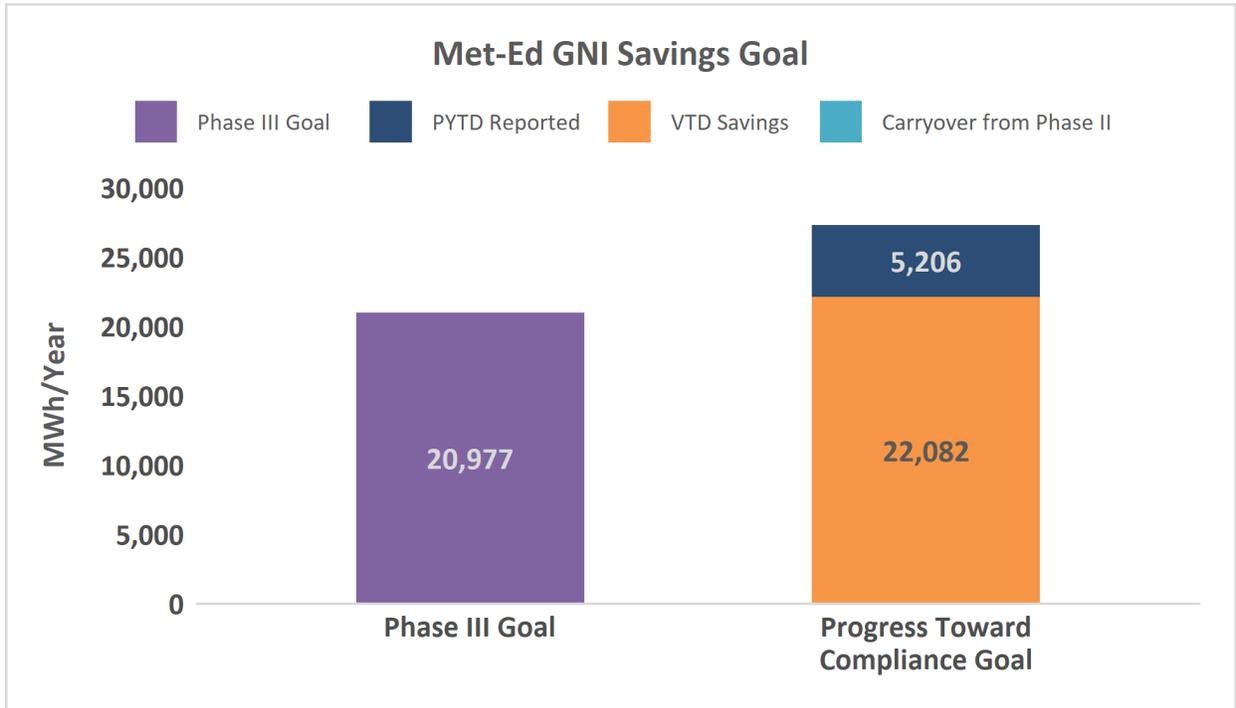


Figure 5B: EE&C Plan Performance against Phase III GNI Compliance Target – Penelec

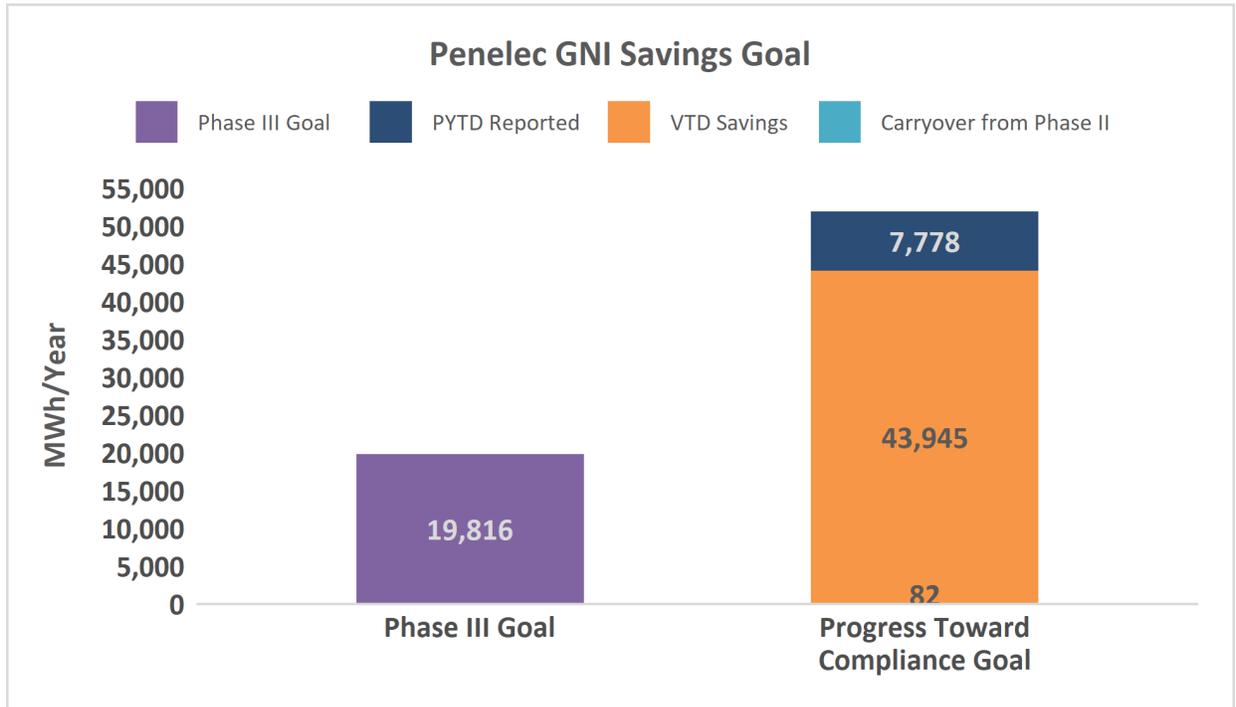


Figure 5C: EE&C Plan Performance against Phase III GNI Compliance Target – Penn Power

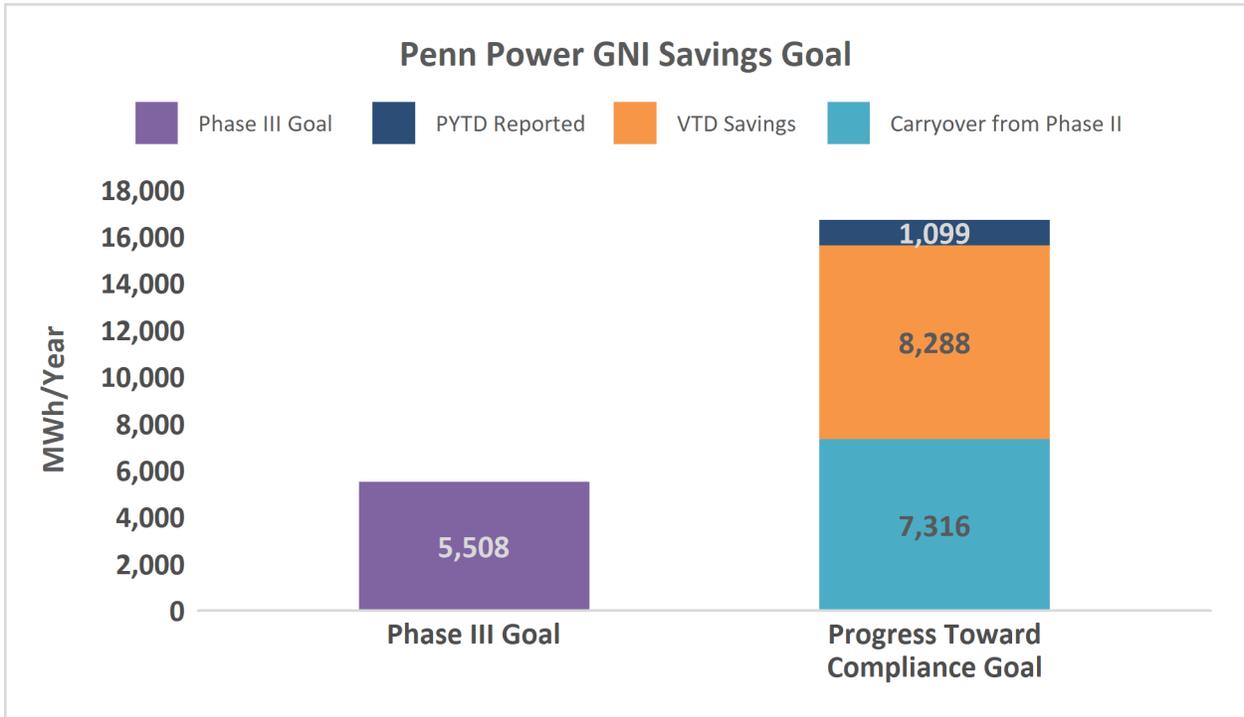
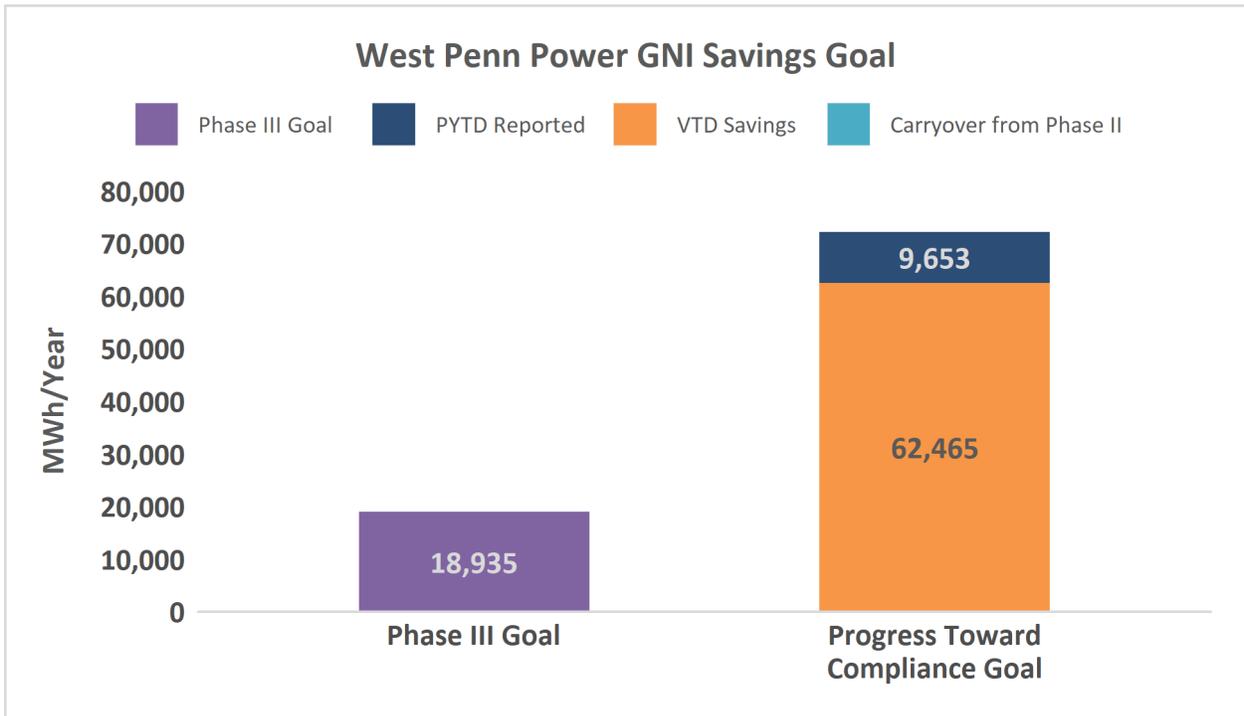


Figure 5D: EE&C Plan Performance against Phase III GNI Compliance Target – West Penn Power



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. 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 PY11, four (4) Act 129 DR events were called. **Tables 2-7A-C** list the days that DR events were called along with the verified gross demand reductions achieved by each program. **Tables 2-7A-C** also list the average DR performance for PY11 and for Phase III to date. The DR performance to date, with consideration of the measurement confidence intervals reflecting the uncertainty of average values³, is 12% above, 186% above, and 99% above the Phase III compliance reduction targets for Met-Ed, Penn Power and West Penn Power respectively. Without consideration of measurement confidence intervals around the average values, the average DR performance is 8% above, 135% above, and 76% above the Phase III compliance reduction target for Met-Ed, Penn Power and West Penn Power respectively.

Met-Ed's demand response achievement to date demonstrates compliance with Act 129 target, as the confidence interval associated with measurements exceeds the Act 129 target value. The 51.2 – 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 Act 129 target, as the confidence interval associated with measurements exceeds the Act 129 target value. The 97.4 – 127.4 MW confidence interval of the measurement exceeds the 64.0 MW target.

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 near enough in time to share candidate baseline days.

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

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

Event Date	Start Hour*	End Hour*	C&I Demand Response - Small	C&I Demand Response - Large	Residential Energy Efficient Homes	Average Portfolio MW Impact
Jul 17	15	18	1.5 ± 0.2	50.0 ± 3.0	12.6 ± 1.9	64.1 ± 3.6
Jul 18	16	19	1.7 ± 0.2	40.1 ± 3	7.2 ± 1.9	49 ± 3.6
Jul 19	15	18	1.4 ± 0.2	44.2 ± 2.9	11.0 ± 2.0	56.5 ± 3.6
Aug 19	15	18	1.4 ± 0.2	48.8 ± 2.9	7.7 ± 1.9	58.0 ± 3.5
PYVTD - Average PYX DR Event Performance						56.9 ± 1.8
						55.1 - 58.7
VTD - Average Phase III DR Event Performance						53 ± 1.8
						51.2 - 54.8

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

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

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

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

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

Event Date	Start Hour*	End Hour*	C&I Demand Response - Small	C&I Demand Response - Large	Residential Energy Efficient Homes	Average Portfolio MW Impact
Jul 17	15	18	0.7 ± 0.1	88.2 ± 38.1	3.4 ± 0.9	92.3 ± 38.1
Jul 18	16	19	1 ± 0.1	124.4 ± 40.3	3.0 ± 0.9	128.4 ± 40.3
Jul 19	15	18	1 ± 0.1	93.5 ± 35.3	3.6 ± 1	98.0 ± 35.3
Aug 19	15	18	0.8 ± 0.1	62.2 ± 20.5	2.7 ± 1	65.7 ± 20.5
PYVTD - Average PYX DR Event Performance						96.1 ± 17.2
						78.9 - 113.3
VTD - Average Phase III DR Event Performance						112.4 ± 15
						97.4 - 127.4

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

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

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

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

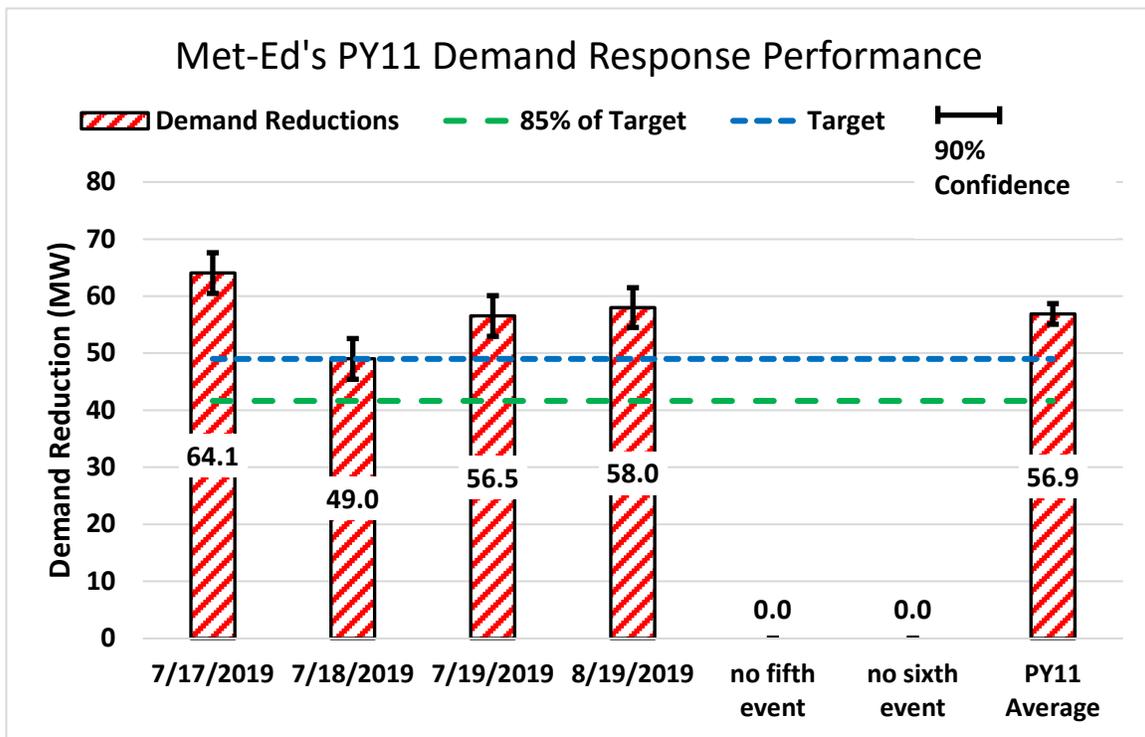
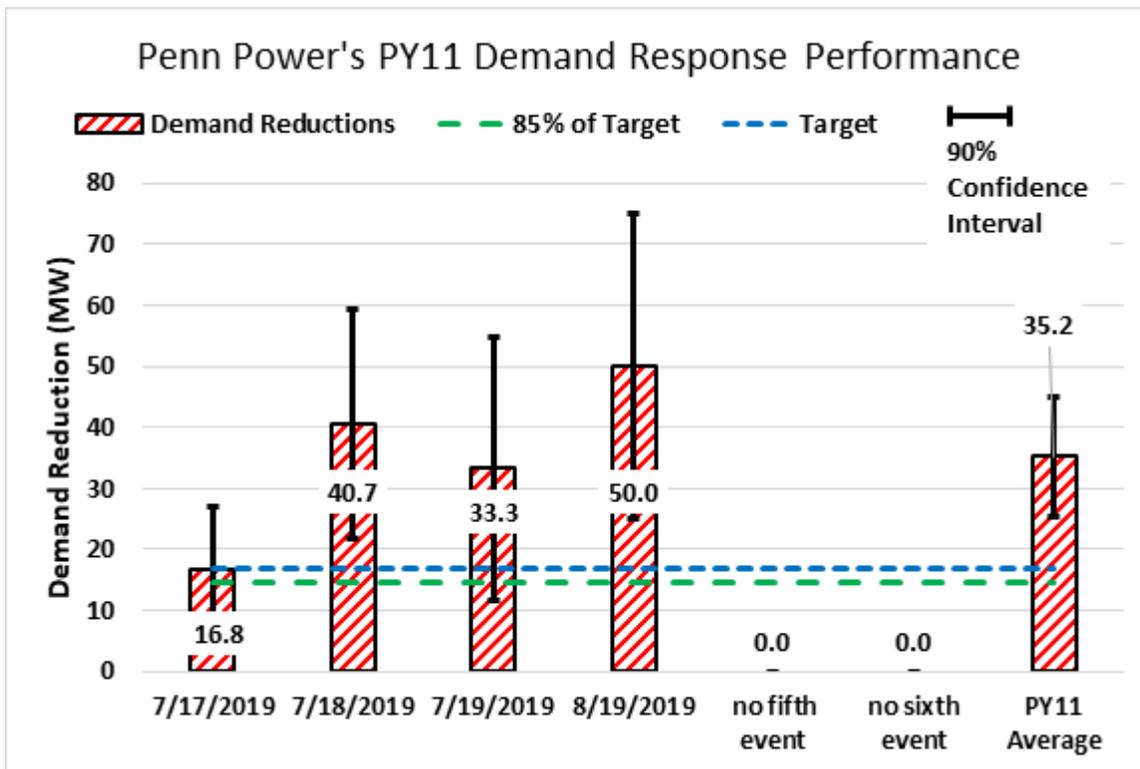
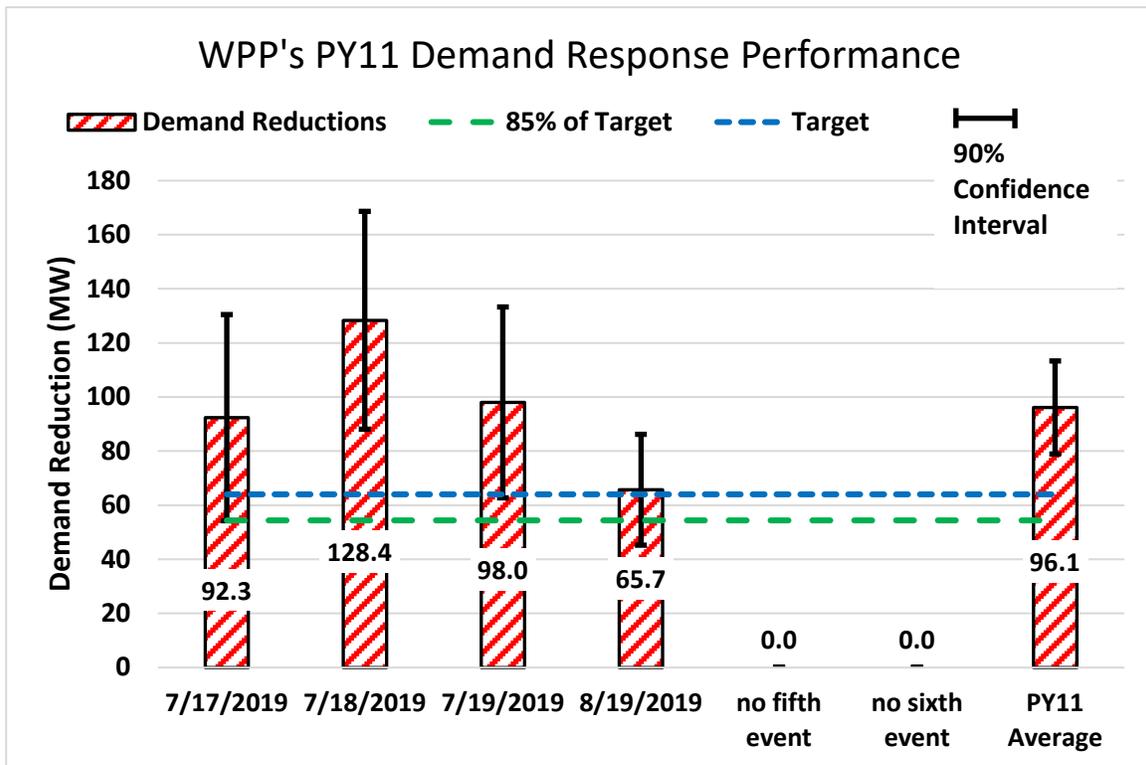


Figure 6B: Event Performance Compared to 85% Per-Event Target Penn Power



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



2.4 PHASE III PERFORMANCE BY CUSTOMER SEGMENT

Table 2-8 below presents the participation, savings, and spending by customer sector for PY11. The residential, small C&I, large C&I sectors are defined by EDC tariff and the residential low-income and governmental/educational/non-profit sector were defined by statute (66 Pa. C.S. § 2806.1). The residential low-income segment is a subset of the residential customer class and the GNI segment will include customers who are part of the Small C&I or Large C&I rate classes. The savings, spending, and participation values for the LI and GNI segments are presented individually after being removed from the parent sectors in **Table 2-8**.

Table 2-8: PY11 Summary Statistics by Customer Segment

EDC	Parameter	Residential (Non-LI)	Residential LI	Small C&I (Non-GNI)	Large C&I (Non-GNI)	GNI
Met-Ed	# participants	650,177	17,148	413	202	153
	PYRTD MWh/yr	74,882	3,641	20,812	35,639	5,206
	PYRTD MW/yr (Energy Efficiency)	10.6	0.5	3.2	4.9	0.9
	PYVTD MW (Demand Response)	9.6	0	1.2	41.7	4.4
	Incentives (\$1000)	\$4,033.25	\$74.57	\$934.43	\$2,102.43	\$494.20
Penelec	# participants	453,066	19,018	603	107	228
	PYRTD MWh/yr	66,470	3,530	22,057	31,893	7,778
	PYRTD MW/yr (Energy Efficiency)	7.9	0.4	3.1	3.9	1.0
	PYVTD MW (Demand Response)	0	0	0	0	0
	Incentives (\$1000)	\$3,373.10	\$142.88	\$921.68	\$1,426.31	\$724.28
Penn Power	# participants	167,183	3,756	233	26	42
	PYRTD MWh/yr	21,825	1,093	15,280	5,149	1,099
	PYRTD MW/yr (Energy Efficiency)	3.2	0.1	2.0	0.6	0.2
	PYVTD MW (Demand Response)	1.8	0	0.0	33.4	0.1
	Incentives (\$1000)	\$888.86	\$14.75	\$702.90	\$422.07	\$109.94
West Penn Power	# participants	523,600	20,571	678	108	213
	PYRTD MWh/yr	67,005	3,817	26,827	22,022	9,653
	PYRTD MW/yr (Energy Efficiency)	10.7	0.5	3.7	3.0	1.2
	PYVTD MW (Demand Response)	3.1	0	0.8	91.8	0.4
	Incentives (\$1000)	\$2,684.65	\$64.22	\$1,173.10	\$1,633.87	\$871.90

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	1,703,686	49,473	66,961	697	15,342
	PSA MWh/yr	349,169	38,540	101,237	124,566	27,287
	PSA MW (Energy Efficiency)	44.2	4.6	16.0	16.6	4.2
	Phase III MW (Demand Response)	5.8	0.0	1.8	38.5	6.9
	Incentives (\$1000)	\$20,106.46	\$352.12	\$4,083.27	\$6,674.30	\$1,251.57
Penelec	# participants	1,518,307	56,046	68,195	476	15,259
	PSA MWh/yr	311,297	38,673	94,530	113,187	51,723
	PSA MW (Energy Efficiency)	34.9	4.2	14.4	13.6	6.4
	Phase III MW (Demand Response)	0.0	0.0	0.0	0.0	0.0
	Incentives (\$1000)	\$18,055.83	\$411.24	\$4,571.63	\$5,610.14	\$2,238.96
Penn Power	# participants	414,385	15,785	17,850	135	4,559
	PSA MWh/yr	99,656	11,383	49,292	26,927	9,387
	PSA MW (Energy Efficiency)	13.5	1.4	7.3	3.1	1.1
	Phase III MW (Demand Response)	2.0	0.0	0.0	37.6	0.2
	Incentives (\$1000)	\$5,819.46	\$120.95	\$2,414.19	\$2,122.30	\$481.47
West Penn Power	# participants	1,440,106	45,156	63,652	430	14,105
	PSA MWh/yr	318,080	35,636	103,748	72,107	72,119
	PSA MW (Energy Efficiency)	43.3	4.3	15.0	8.7	6.7
	Phase III MW (Demand Response)	2.4	0.0	1.4	108.5	0.1
	Incentives (\$1000)	\$15,928.85	\$306.08	\$4,814.19	\$6,291.92	\$3,055.76

Section 3 Updates and Findings

3.1 IMPLEMENTATION UPDATES AND FINDINGS

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

- **Appliance Turn-In:** This program has been marketed through a variety of avenues including bill inserts, e-mail, direct mail campaigns, television ads, internet searches, and radio ads. Most customers that schedule a recycling appointment with ARCA cite hearing about the program through bill inserts. Honeywell also cross-promotes this program while educating retailers about the Appliance Rebates program. This program was suspended due to COVID-19 in mid-March and resumed on June 1, 2020.

- **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 impacts of the COVID-19 pandemic and will return to full implementation as the phased reopening of businesses proceeds in accordance with government mandates.

- **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. These reports marketed winter thermostat myths and ways to save in December and the Lighting program in February. Oracle continued to implement the Behavioral program during the COVID-19 pandemic. The March and April reports included modified COVID-19 messaging with tips on how to save energy while at home during the day. The May reports included an updated version of the COVID-19 messaging directing customers to the Home Energy Analyzer Survey tool.

- **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 2021 MWh savings goals across all four PA EDCs. This program is expected to stay within budget. This program was suspended as of March 2020 due to the COVID-19 pandemic. We continue to monitor the situation to determine when we will return to normal operations.
 - **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.
 - **Energy Efficiency Kits:** The Kits subprogram implemented by Power Direct met its goals in 2019 and was 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. The subprogram continued subprograms continued in limited capacity due to impacts of the COVID-19 pandemic and will return to full implementation as the phased reopening of businesses proceeds in accordance with government mandates.
 - **New Homes:** Subprogram for this semi-annual period performed well with the CSP, Performance Systems Development. This subprogram 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.
 - **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 was suspended due to COVID-19 in mid-March and resumed on June 1, 2020.
 - **Behavioral subprogram:** Oracle has continued to implement the LI Behavioral subprogram during the COVID-19 pandemic. Customers identified as low-income receive Home Energy Reports with low or no cost tips to educate customers on how to use less energy. Oracle continued to implement the

Behavioral program during the COVID-19 pandemic. The March and April reports included modified COVID-19 messaging with tips on how to save energy while at home during the day. The May reports included an updated version of the COVID-19 messaging directing customers to the Home Energy Analyzer Survey tool.

- **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 was 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. Inspectors completed Quality Assurance Webinar Trainings with Contractors to foster a better understanding of the inspection process. WARM Advisory Panel subcommittee meetings were held in February to discuss strategies for addressing mold and moisture, changes to air leakage testing, installation of ductless mini-split heat pumps, replacement of electric furnaces with heat pumps, garage separation and lighting data collection. These subprograms were suspended as of March 2020 due to the COVID-19 pandemic. We continue to monitor the situation and will return to full implementation as the phased reopening of businesses proceeds in accordance with government mandates.

- **C/I Efficient Solutions for Business – Small:** FirstEnergy continues to promote and market the program through multiple channels – e.g., outreach to customers and program allies, hosting outreach events, and on-bill messaging. During this Reporting Period, e-Blast and on-bill messaging were utilized to reach a wider audience and promote outreach events.
 - On March 16th, 2020, FirstEnergy temporarily suspended all C&I Energy efficiency programs due to the Coronavirus pandemic.
 - FirstEnergy had scheduled and participated in three (3) mini workshops, two (2) Chamber of Commerce meetings, and one (1) full-day workshop in partnership with PennTAP, prior to March 16th. FirstEnergy also had two (2) events canceled and one (1) meeting canceled due to the Coronavirus pandemic after March 16th
 - FirstEnergy continues to work and partner with other entities - e.g., PennTAP, Southwest Regional Energy Efficiency Roundtable, Westmoreland County Economic Development Council, Jefferson County Conservation District, North-central Pa. Energy Efficiency Roundtable, and City of Reading’s Environmental Advisory Council – 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.

- **C/I Efficient Solutions for Business – Large:** FirstEnergy continues to promote and market the program through multiple channels – e.g., outreach to customers and program allies, hosting outreach events, and on-bill messaging. During this Reporting Period, e-Blast and on-bill messaging were utilized to reach a wider audience and promote outreach events.
 - On March 16th, 2020, FirstEnergy temporarily suspended all C&I Energy efficiency programs due to the Coronavirus pandemic.
 - FirstEnergy had scheduled and participated in three (3) mini workshops, two (2) Chamber of Commerce meetings, and one (1) full-day workshop in partnership with PennTAP, prior to March 16th. FirstEnergy also had two (2) events canceled and one (1) meeting canceled due to the Coronavirus pandemic after March 16th.
 - FirstEnergy continues to work and partner with other entities - e.g., PennTAP, Southwest Regional Energy Efficiency Roundtable, Westmoreland County Economic Development Council, Jefferson County Conservation District, North-central Pa. Energy Efficiency Roundtable, and City of Reading’s Environmental Advisory Council – 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:** FirstEnergy continues with its market and outreach efforts working closely with government, not-for-profit, and institutional (GNI) customers to promote the program through multiple channels – e.g., outreach to customers and program allies, hosting outreach events, and on-bill messaging. During this Reporting Period, e-Blast and on-bill messaging were utilized to reach a wider audience and promote outreach events.
 - On March 16th, 2020, FirstEnergy temporarily suspended all C&I Energy efficiency programs due to the Coronavirus pandemic.
 - FirstEnergy had scheduled and participated in three (3) mini workshops, two (2) Chamber of Commerce meetings, and one (1) full-day workshop in partnership with PennTAP, prior to March 16th. FirstEnergy also had two (2) events canceled and one (1) meeting canceled due to the Coronavirus pandemic after March 16th.

- FirstEnergy continues to work and partner with other entities - e.g., PennTAP, Southwest Regional Energy Efficiency Roundtable, Westmoreland County Economic Development Council, Jefferson County Conservation District, North-central Pa. Energy Efficiency Roundtable, and City of Reading's Environmental Advisory Council – 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 each year with the C&I DR Conservation Service Providers to prepare for summer activities, manage customer enrollments, and adjust for unexpected events like 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.

3.2 EVALUATION UPDATES AND FINDINGS

Evaluation updates and findings through the second half of PY11 are as follows:

- **Portfolio level:** ADM continually reviews the Companies' Tracking and Reporting (T&R) database and collaborates with Companies' staff and the T&R vendor, AEG, to investigate values that are flagged for review in an automated QA/QC process. In Q4 of PY11, ADM and FirstEnergy reviewed and revised automated QA/QC parameters in FirstEnergy's tracking and reporting system to reflect M&V findings and to prepare for PY12. ADM temporarily stopped all on-site evaluation activities in March 2020 in response to the COVID-19 pandemic. ADM has developed internal safety and practice guidelines for remote data collection. The internal guidelines follow the Guidance Letter issued by SWE on June 3, 2020.
- **Appliance Turn-In Program:** Participant surveys are conducted on an ongoing basis. Survey targets for PY11 are attained as of this writing.
- **Energy Efficient Products Program:** ADM has reviewed invoices and applications to support our desk review process in PY11. Reviews from Q1-Q3 are completed, and Q4 data are being reviewed presently. Verification surveys for HVAC and downstream appliances are conducted on an ongoing basis. EM&V of the lighting component for PY11 will continue through August, as lamps sold through May 31, 2020 will continue to trickle into the tracking and reporting system through July.
- **Energy Efficient Homes Program:** The survey effort for the program elements that provide conservation kits by Power Direct is now complete for PY11. ADM concluded on-site visits for the New Homes program component up to March 2020.
- **Low-Income Energy Efficiency Program:** ADM has concluded participant surveys for the Low-Income Appliance Turn-In program. In an ongoing process, ADM reviews data from on-site inspections for the direct install program component. The PY11 evaluation is on track to conclude by early July since implementation for PY11 effectively ended in March.
- **C&I Energy Solutions for Business – Small, C&I Energy Solutions for Business – Large, and Governmental & Institutional Tariff programs:** ADM has sampled over 280 distinct projects for the evaluation of these programs. To date, 204 project evaluations are complete, and the remainder are in various stages of evaluation. Importantly, all PY11 lighting projects with reported impacts above 750 MWh, and all non-lighting projects with reported impacts above 500 MWh, were evaluated prior to the pause in field activities due to COVID-19. ADM continues to evaluate remaining projects in accordance to SWE's June 3rd Guidance Letter.
- **C&I Demand Response Programs:** ADM has completed initial evaluation of the C&I Demand Response Programs, with results reported herein. ADM is coordinating with the implementation effort in the evaluation of the PY12 Demand Response season. Tetra Tech has conducted interviews with FirstEnergy program managers and has completed surveys with program participants. The evaluation is nearly complete, and the results memo is in final stages of construction.

- **Residential Behavior Demand Response:** ADM has concluded our initial evaluation of the Behavioral Demand Response program component for PY11, with results reported herein.

Section 4 Summary of Participation by Program

Participation is defined differently for certain programs depending on the program delivery channel and data tracking practices. The nuances of the participant definition vary by program and are summarized by program in the bullets below, and **Table 4-1** provides the current participation totals for PY11 and Phase III.

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

- **New Homes:** the count of new energy efficient homes being built with EnergyStar standards or higher efficiency level than the current building code.
- **Appliances and Electronics:** the count of appliances sold.
- **Appliance Turn In:** the count of customer recycling pick-up incidents. If a homeowner recycles multiple appliances at one pick-up event, it is recorded as a single participant.
- **School Kits:** the number of energy savings kits delivered to students' homes.

- **C&I Energy Solutions for Business Program – Small:** The count of completed project applications.

- **C&I Energy Solutions for Business Program –Large:** The count of completed project applications.

- **C&I Demand Response Program – Small:** The number of participants who participated in one or more demand response events.

- **C&I Demand Response Program – Large:** The number of participants who participated in one or more demand response events.

- **Government & Institutional Tariff Program:** The count of completed project applications.

Table 4-1: EE&C Plan Participation by Program⁴

Utility	Program	PYTD Participation	P3TD Participation
Met-Ed	Appliance Turn-in	3,319	17,088
	Energy Efficient Homes	327,508	359,917
	Energy Efficient Products	319,350	1,406,650
	Low Income Energy Efficiency	17,148	49,473
	C&I Energy Solutions for Business - Small	432	1,778
	C&I Demand Response - Small	45	139
	C&I Energy Solutions for Business - Large	174	719
	C&I Demand Response - Large	104	247
	Governmental & Institutional Tariff	13	148
	Portfolio Total	668,093	1,836,159
Penelec	Appliance Turn-in	2,881	15,004
	Energy Efficient Homes	151,768	233,502
	Energy Efficient Products	298,417	1,349,293
	Low Income Energy Efficiency	19,018	56,046
	C&I Energy Solutions for Business - Small	707	3,003
	C&I Demand Response - Small	0	0
	C&I Energy Solutions for Business - Large	140	642
	C&I Demand Response - Large	0	0
	Governmental & Institutional Tariff	91	792
	Portfolio Total	473,022	1,658,282
Penn Power	Appliance Turn-in	745	5,081
	Energy Efficient Homes	50,232	22,636
	Energy Efficient Products	116,206	407,583
	Low Income Energy Efficiency	3,756	15,785
	C&I Energy Solutions for Business - Small	265	1,196
	C&I Demand Response - Small	0	3
	C&I Energy Solutions for Business - Large	26	137
	C&I Demand Response - Large	9	24
	Governmental & Institutional Tariff	1	269
	Portfolio Total	171,240	452,714
West Penn Power	Appliance Turn-in	3,535	19,377
	Energy Efficient Homes	187,858	125,021
	Energy Efficient Products	332,207	1,369,611
	Low Income Energy Efficiency	20,571	45,156
	C&I Energy Solutions for Business - Small	765	2,857
	C&I Demand Response - Small	15	48
	C&I Energy Solutions for Business - Large	103	463
	C&I Demand Response - Large	32	79
	Governmental & Institutional Tariff	84	836
	Portfolio Total	545,170	1,563,448

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 5-1⁵.

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

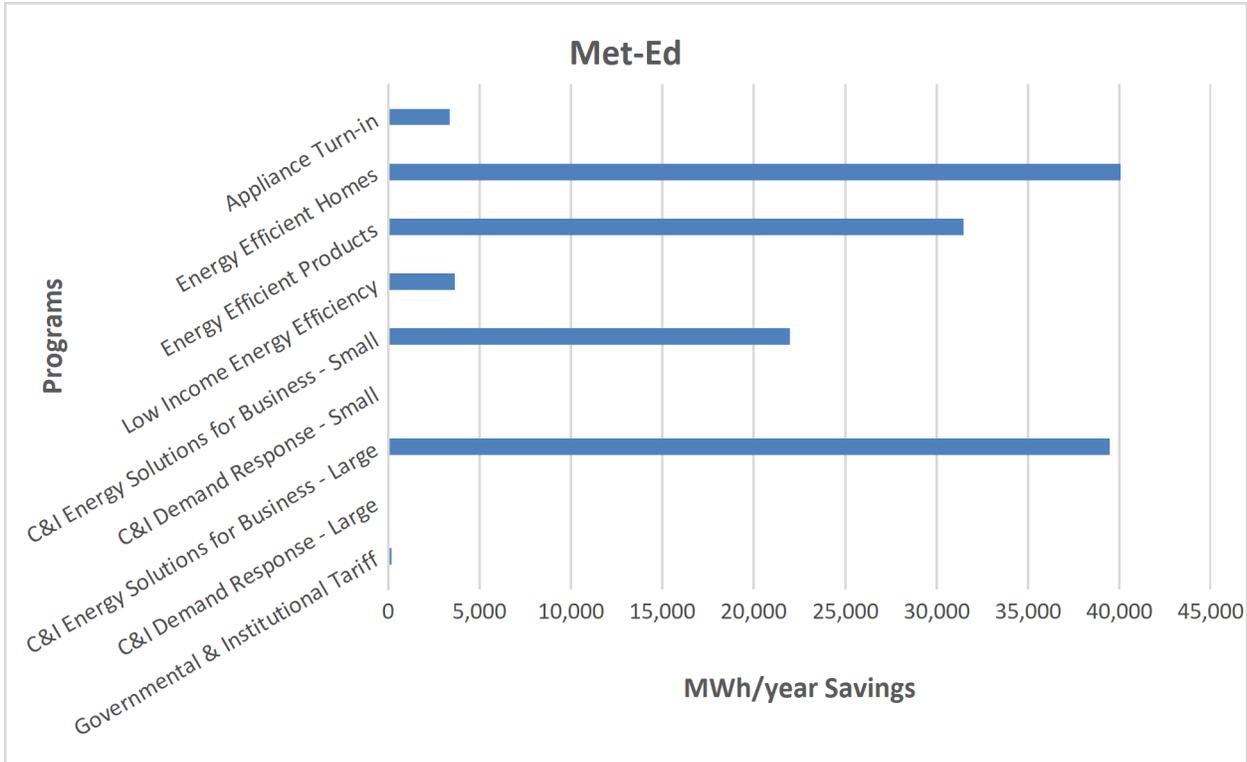
Utility	Program	PYRTD	VTD	PSA	RTD
Met-Ed	Appliance Turn-in	3,350	13,562	16,912	17,208
	Energy Efficient Homes	40,074	171,171	211,245	195,427
	Energy Efficient Products	31,459	102,598	134,057	110,061
	Low Income Energy Efficiency	3,641	34,754	38,395	34,122
	C&I Energy Solutions for Business - Small	21,973	75,279	97,252	98,131
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	39,482	101,423	140,905	142,226
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	202	1,832	2,034	2,061
	Portfolio Total	140,179	500,620	640,799	599,237
Penelec	Appliance Turn-in	3,183	12,385	15,568	16,514
	Energy Efficient Homes	30,867	134,113	164,980	150,020
	Energy Efficient Products	32,420	112,143	144,564	122,233
	Low Income Energy Efficiency	3,530	34,838	38,368	35,134
	C&I Energy Solutions for Business - Small	26,348	75,366	101,714	104,101
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	34,757	106,175	140,933	146,493
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	623	2,661	3,284	3,427
	Portfolio Total	131,729	477,681	609,410	577,922
Penn Power	Appliance Turn-in	815	4,102	4,916	5,635
	Energy Efficient Homes	6,338	40,739	47,077	42,400
	Energy Efficient Products	14,673	37,724	52,397	43,146
	Low Income Energy Efficiency	1,093	10,110	11,203	11,006
	C&I Energy Solutions for Business - Small	16,149	34,994	51,143	52,452
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	5,376	22,587	27,964	28,576
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	2	1,945	1,948	2,034
	Portfolio Total	44,446	152,201	196,646	185,250
West Penn Power	Appliance Turn-in	3,787	16,423	20,210	20,737
	Energy Efficient Homes	25,771	134,090	159,861	158,951
	Energy Efficient Products	37,447	114,484	151,931	127,343
	Low Income Energy Efficiency	3,817	31,382	35,199	33,707
	C&I Energy Solutions for Business - Small	31,387	78,957	110,344	108,748
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	26,250	76,251	102,501	103,622
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	865	20,779	21,644	20,467
	Portfolio Total	129,325	472,366	601,691	573,575

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 PY11. The energy impacts in this report are presented at the meter level and do not reflect adjustments for transmission and distribution losses.

Figures 7A-7D: Reported Gross Energy Savings by 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

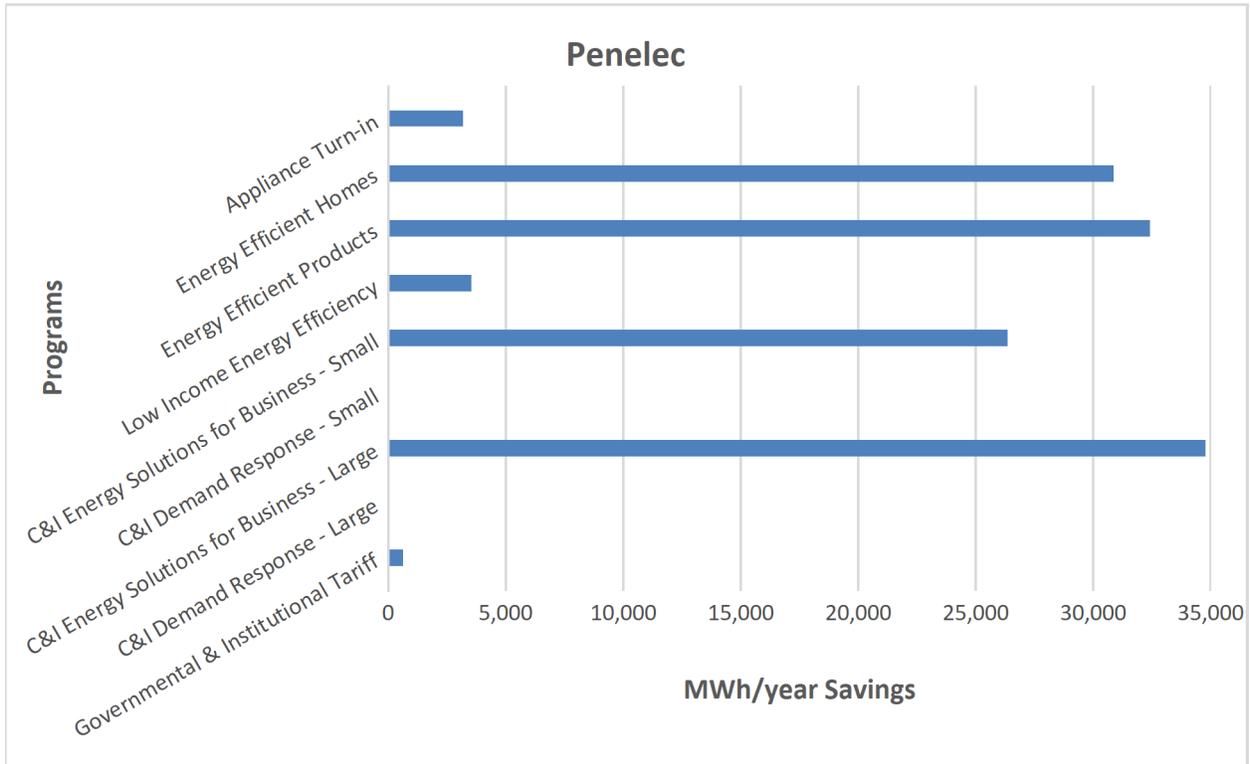


Figure 7C: PYTD Reported Gross Energy Savings by Program - Penn Power

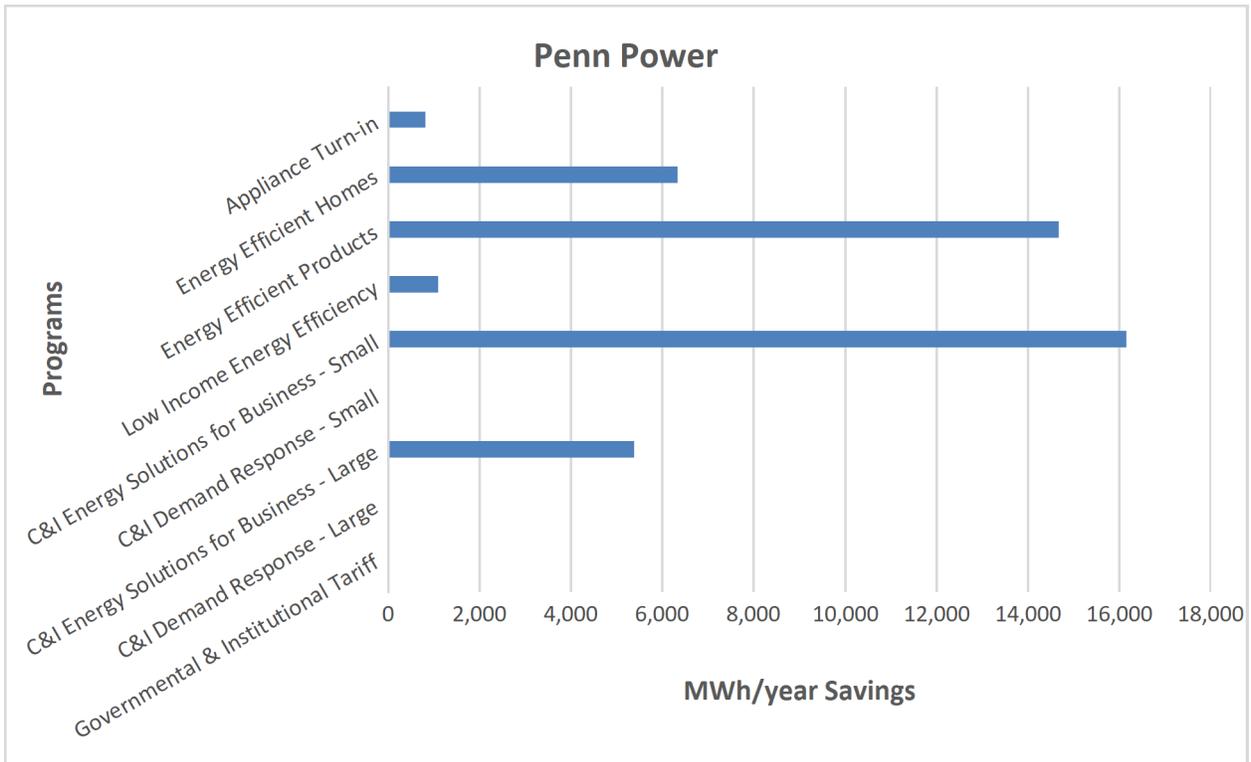
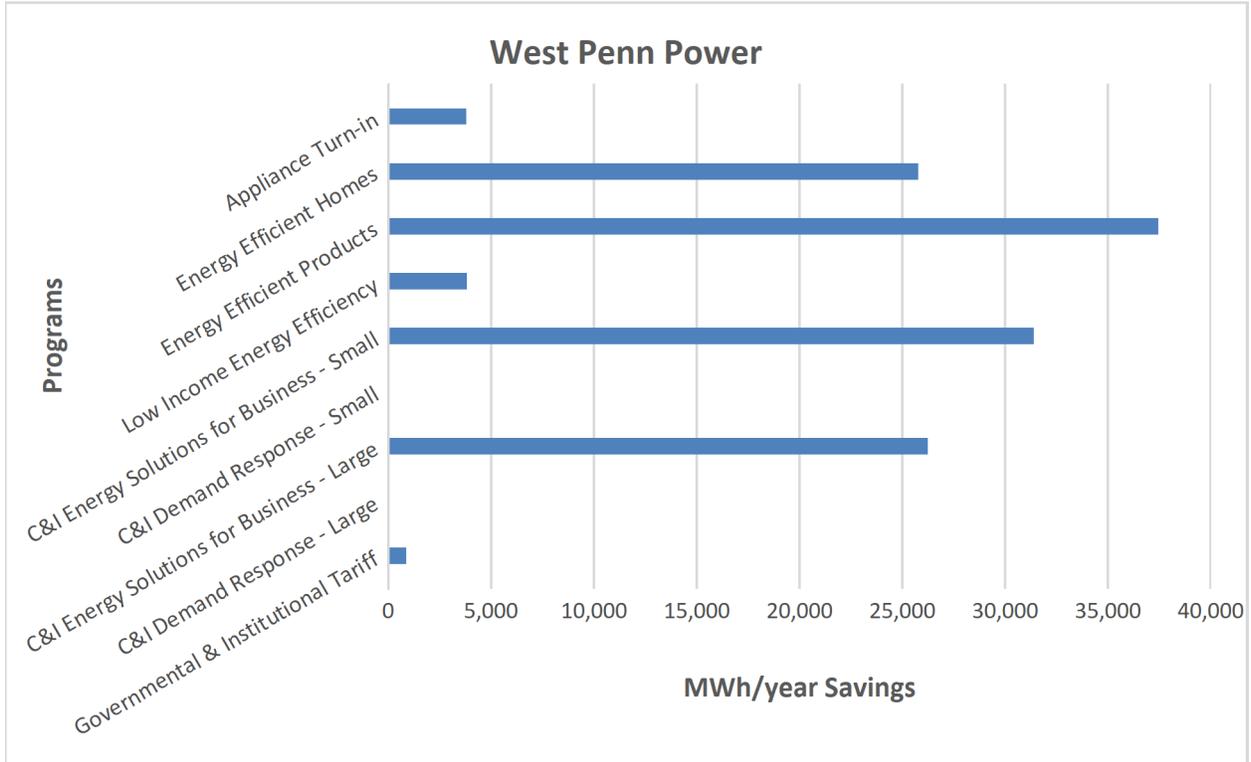


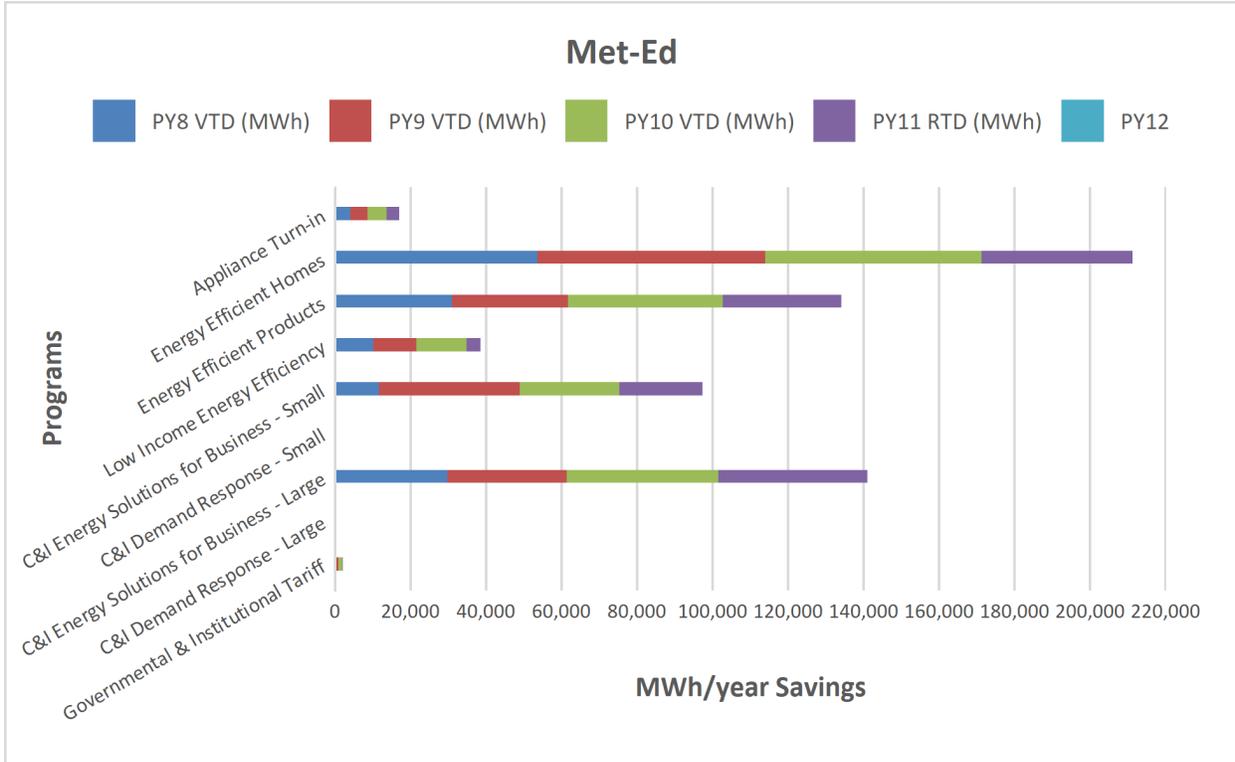
Figure 7D: PYTD Reported Gross Energy Savings by Program - West Penn Power



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

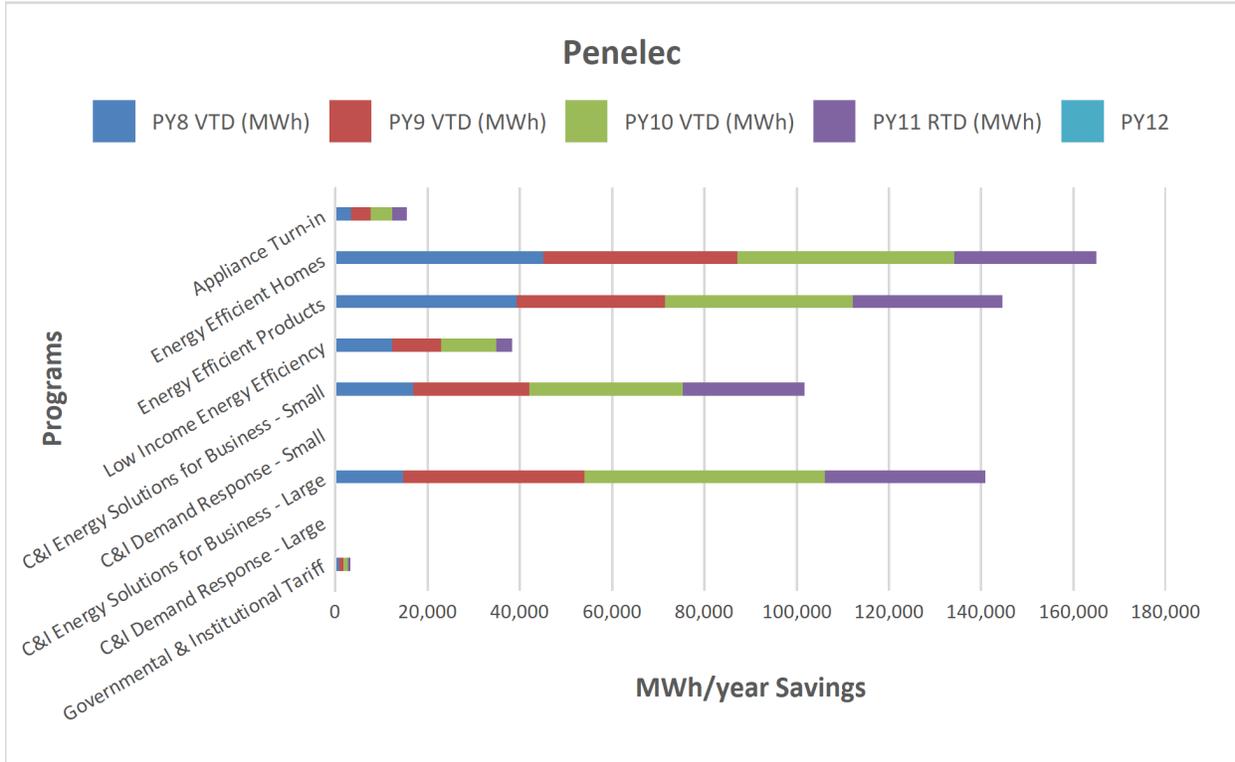


Figure 8C: PSA Energy Savings by Program for Phase III - Penn Power

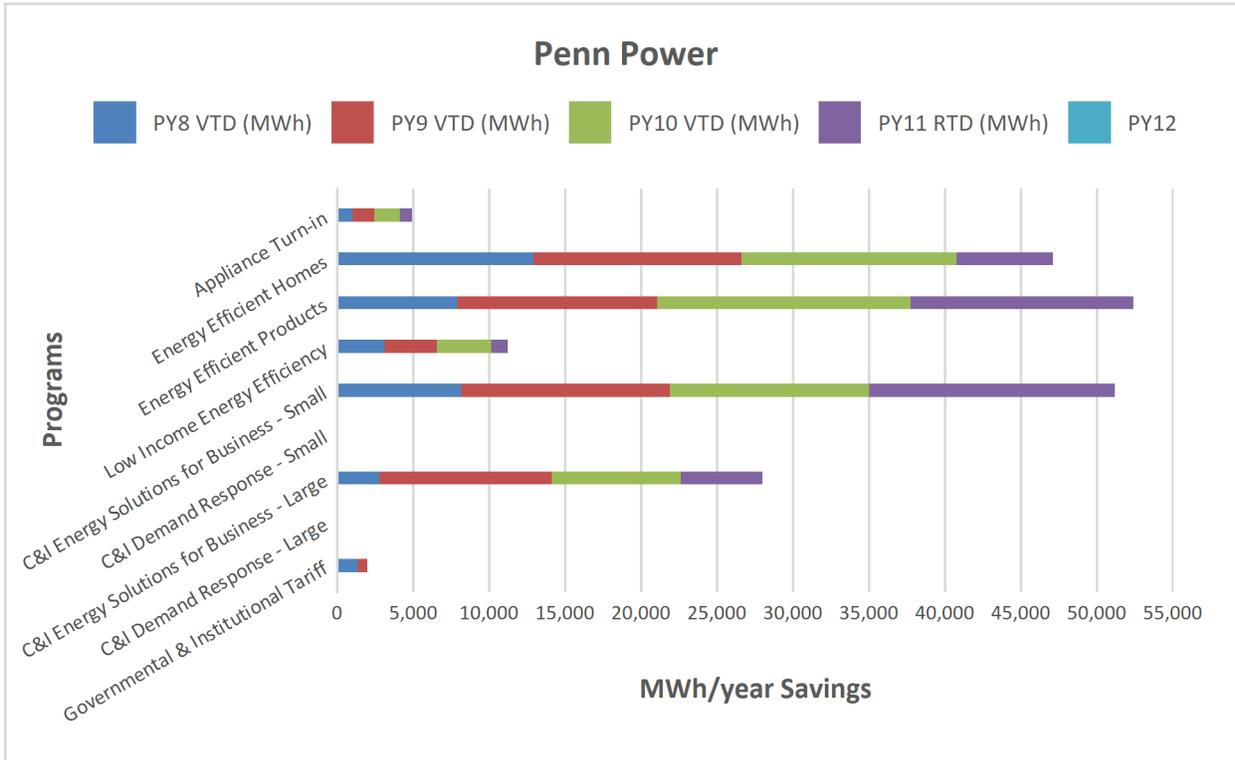
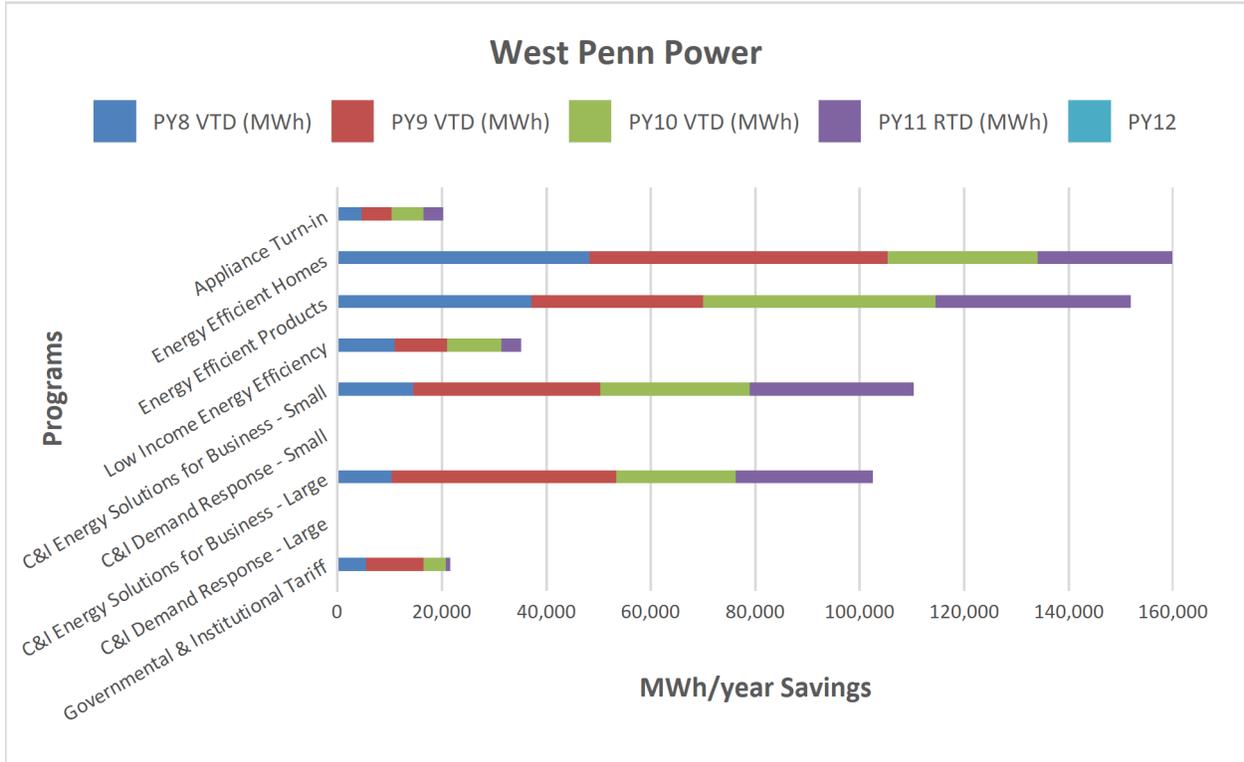


Figure 8D: PSA Energy Savings by Program for Phase III - West Penn Power



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

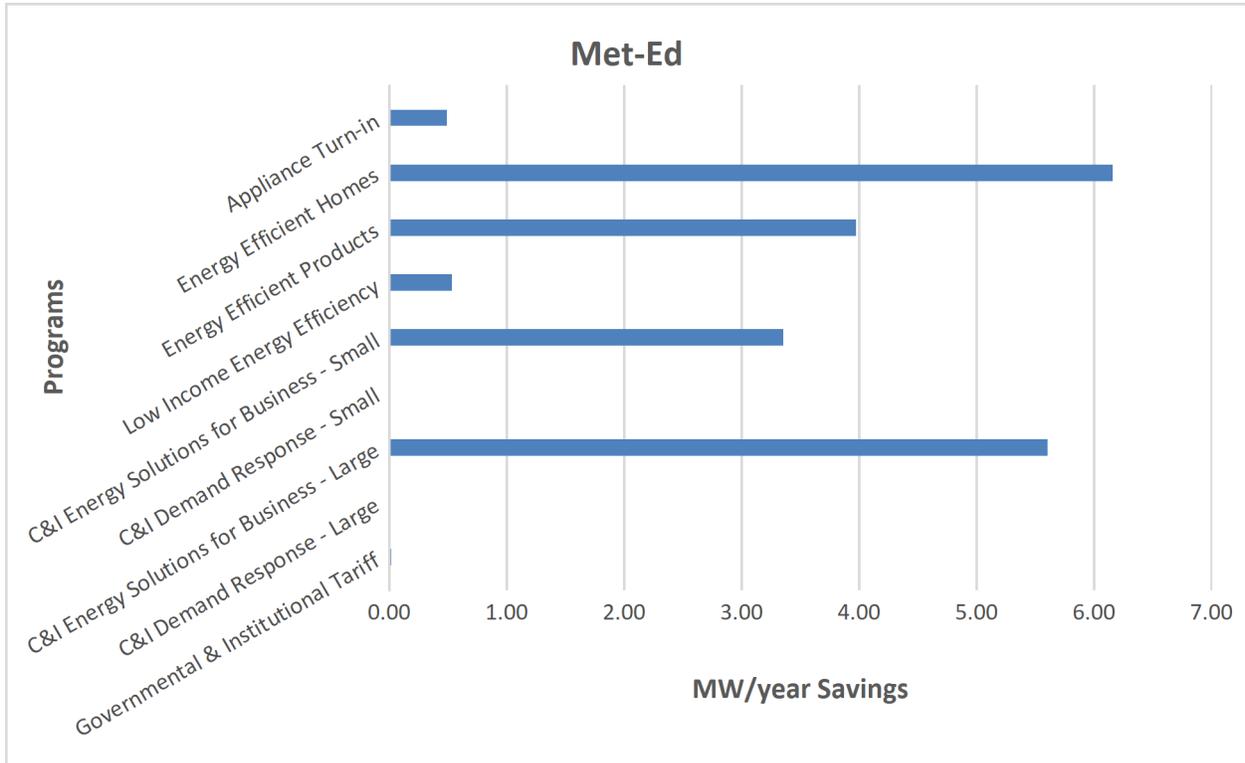
Utility	Program	PYRTD	VTD	PSA	RTD
Met-Ed	Appliance Turn-in	0.49	1.86	2.35	2.44
	Energy Efficient Homes	6.16	20.42	26.58	26.96
	Energy Efficient Products	3.97	13.99	17.96	13.99
	Low Income Energy Efficiency	0.54	4.02	4.55	4.27
	C&I Energy Solutions for Business - Small	3.35	11.44	14.79	14.74
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	5.60	13.76	19.36	19.44
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	0.02	0.02	0.04	0.04
	Portfolio Total	20.12	65.51	85.63	81.87
Penelec	Appliance Turn-in	0.44	1.63	2.07	2.22
	Energy Efficient Homes	3.81	14.54	18.35	18.85
	Energy Efficient Products	3.67	13.66	17.33	13.82
	Low Income Energy Efficiency	0.42	3.72	4.14	4.09
	C&I Energy Solutions for Business - Small	3.75	11.16	14.91	15.60
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	4.25	12.36	16.61	17.92
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	0.01	0.06	0.06	0.07
Portfolio Total	16.35	57.13	73.48	72.57	
Penn Power	Appliance Turn-in	0.10	0.53	0.63	0.72
	Energy Efficient Homes	1.28	5.66	6.94	6.84
	Energy Efficient Products	1.86	4.98	6.84	5.35
	Low Income Energy Efficiency	0.15	1.18	1.33	1.38
	C&I Energy Solutions for Business - Small	2.14	5.20	7.34	7.51
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	0.61	2.51	3.12	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	6.14	20.13	26.28	25.18	
West Penn Power	Appliance Turn-in	0.51	2.12	2.63	2.69
	Energy Efficient Homes	5.11	17.12	22.23	26.17
	Energy Efficient Products	5.10	16.19	21.29	17.41
	Low Income Energy Efficiency	0.52	3.70	4.21	4.48
	C&I Energy Solutions for Business - Small	4.38	11.01	15.39	15.65
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	3.53	8.44	11.98	12.74
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	0.02	0.18	0.20	0.20
Portfolio Total	19.16	58.76	77.92	79.34	

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 PY11.

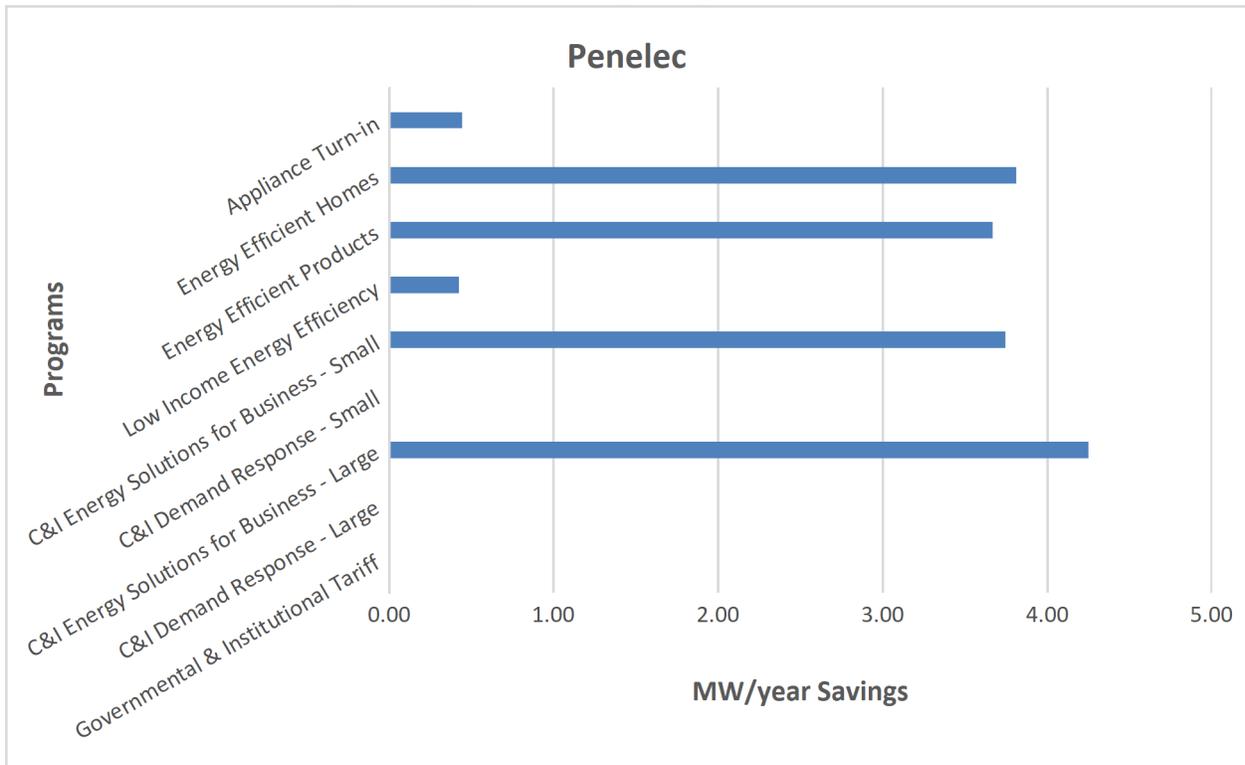
Figures 9A-9D: PYRTD Gross Demand Savings by Energy Efficiency Program⁹

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**

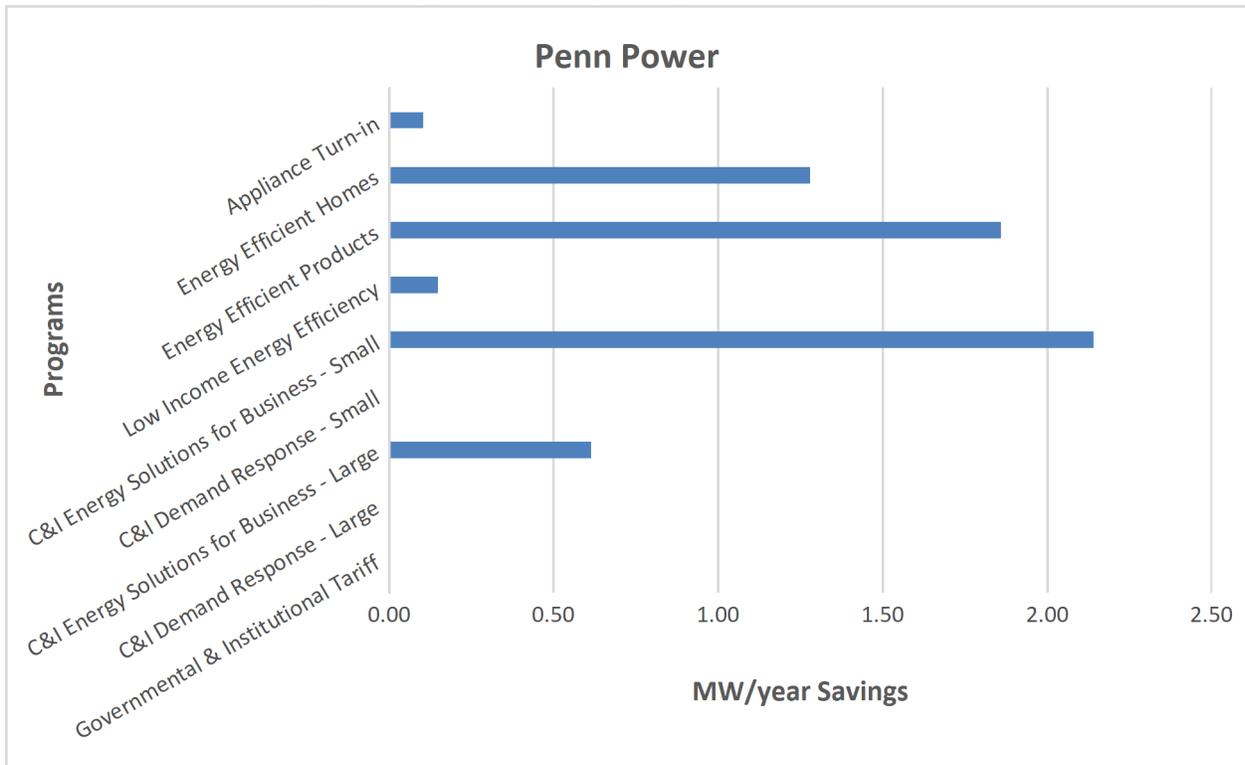
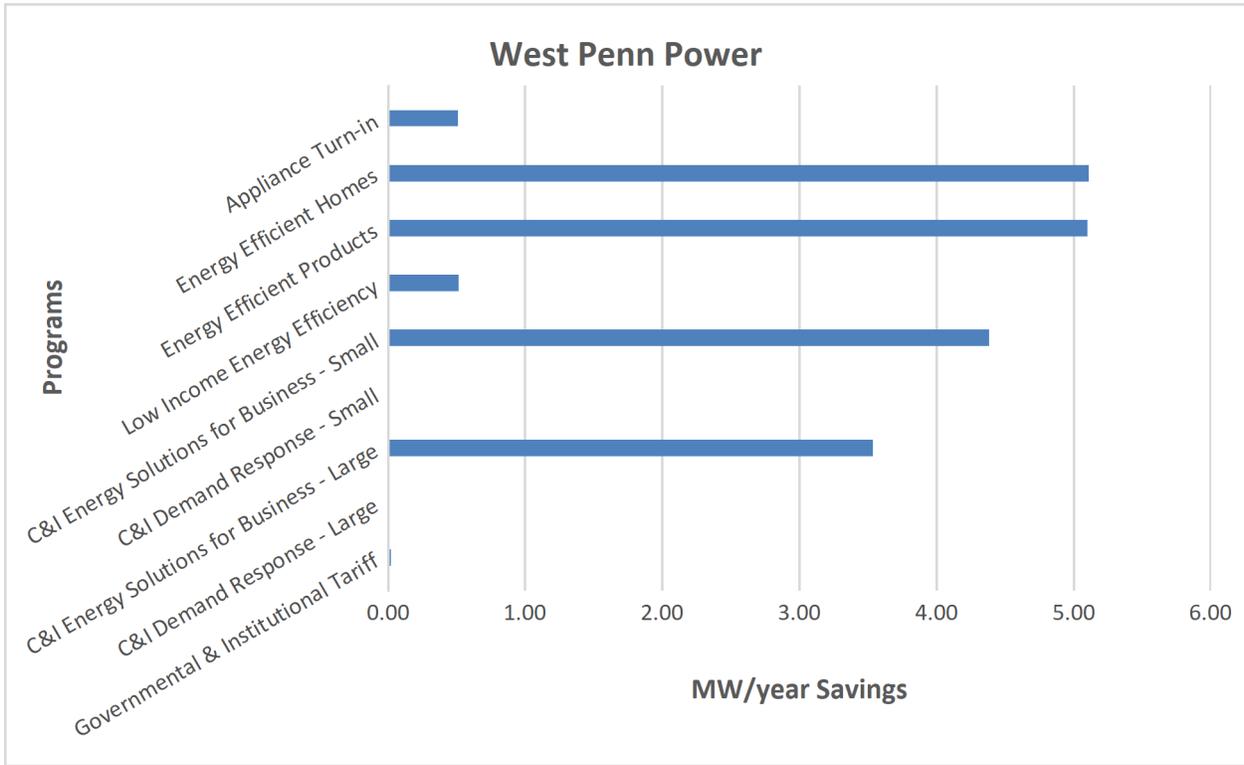


Figure 9D: PYRTD Gross Demand Savings by Energy Efficiency Program - West Penn Power

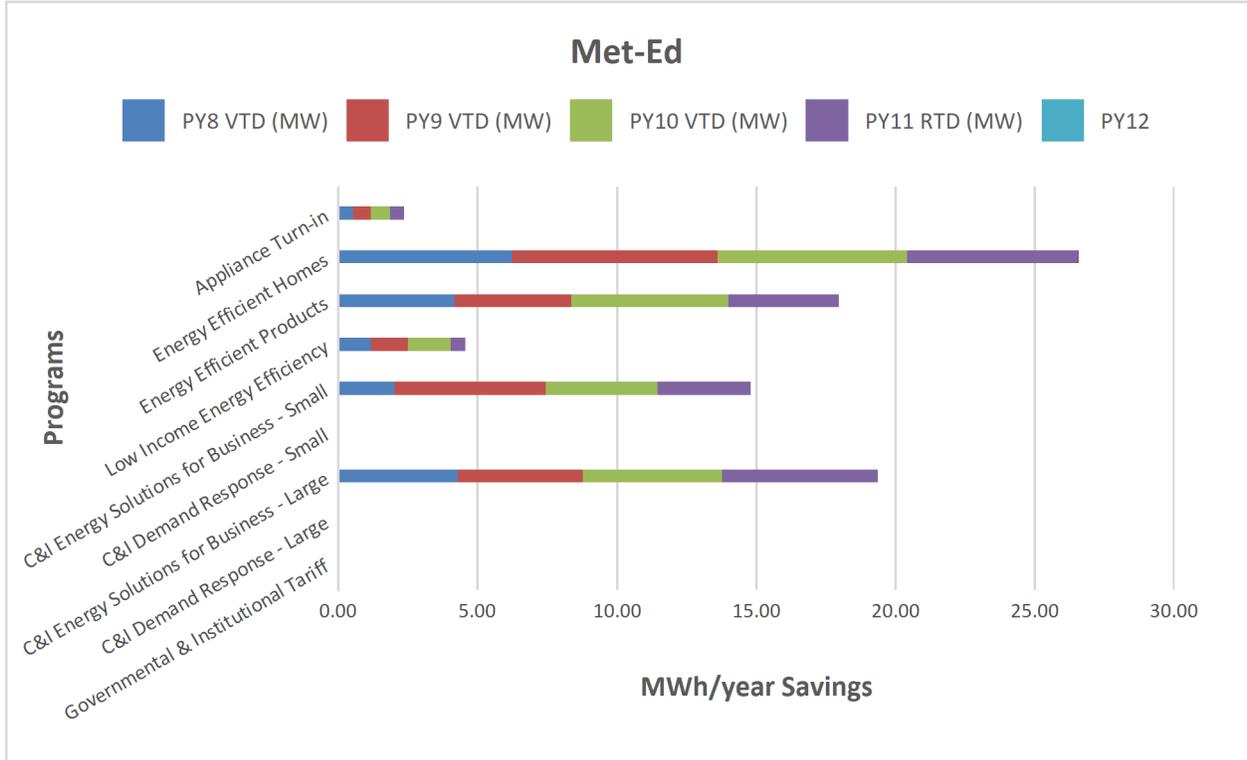


Figures 10A-10D: PSA Demand Savings by Energy Efficiency Program for Phase III present a summary of the PSA gross demand savings by energy efficiency program for Phase III of Act 129.¹⁰

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

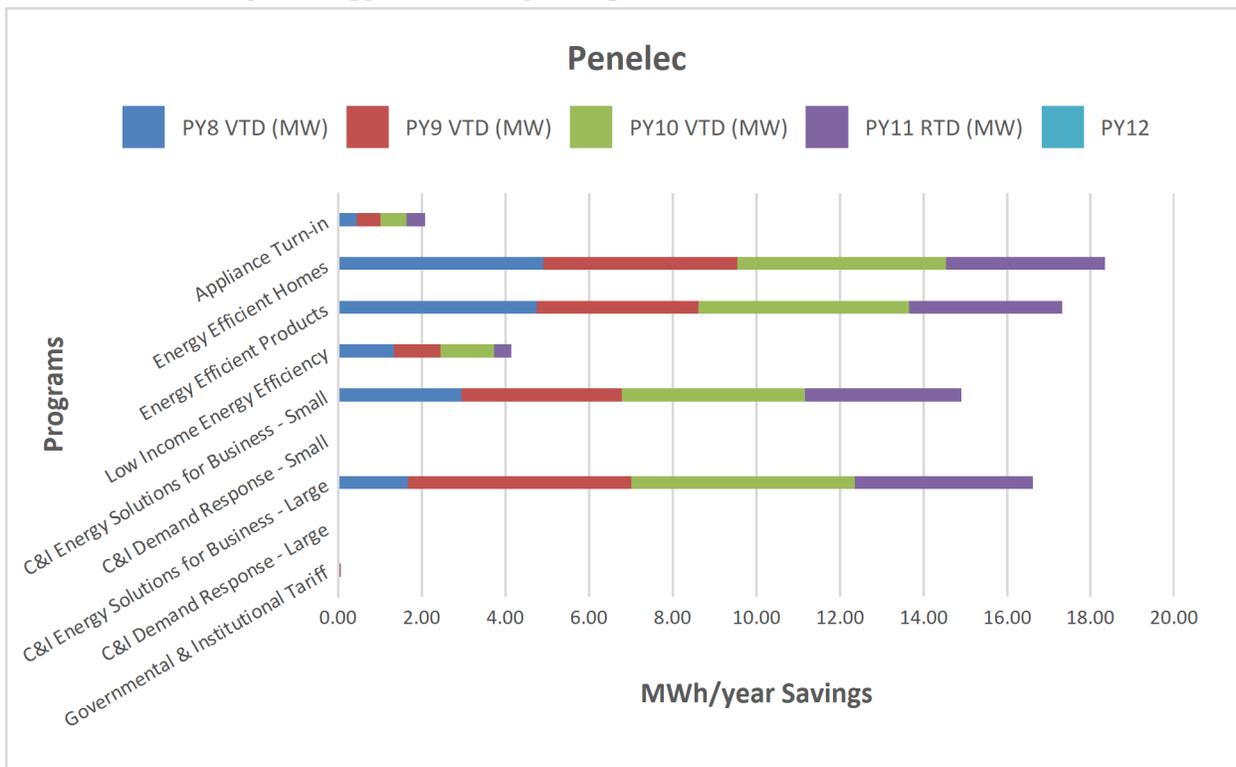
Figures 10A-10D: PSA Demand Savings by Energy Efficiency Program for Phase III¹¹

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

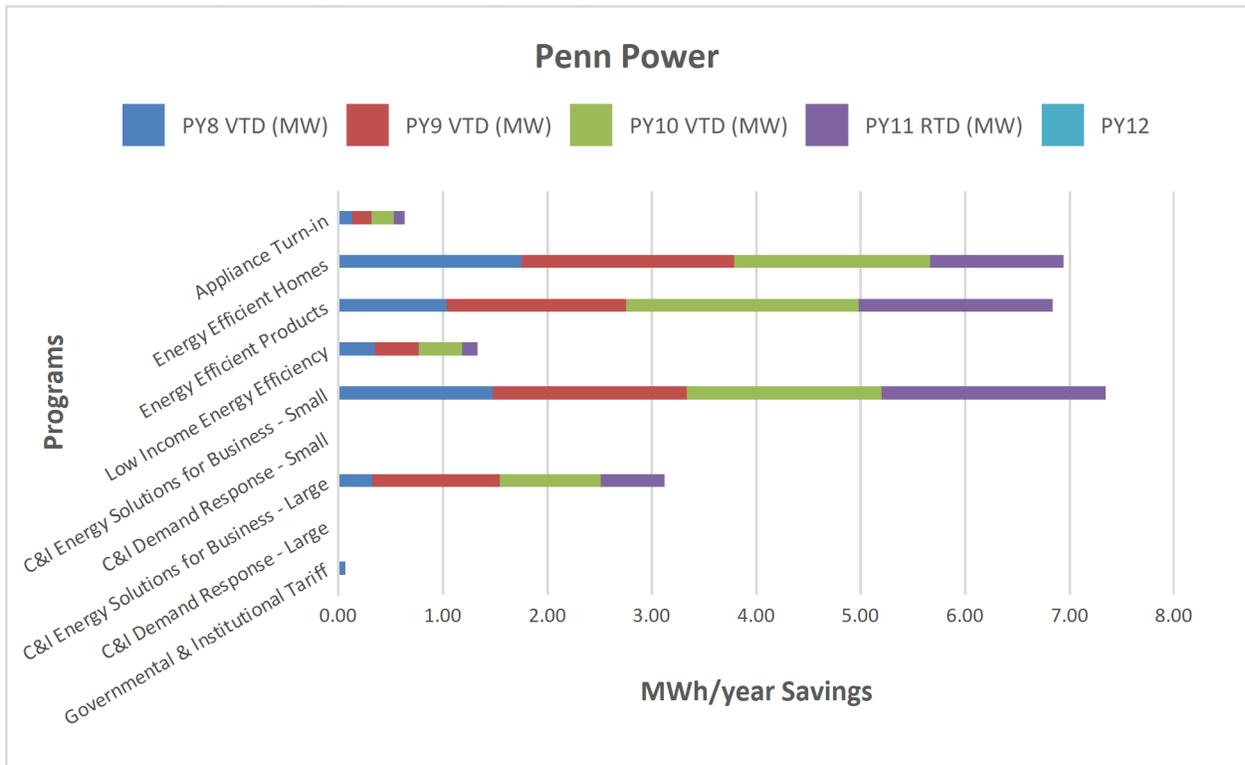


¹¹ Results for the Small & Large Energy Solutions for Business programs include GNI customers who participated in these programs.

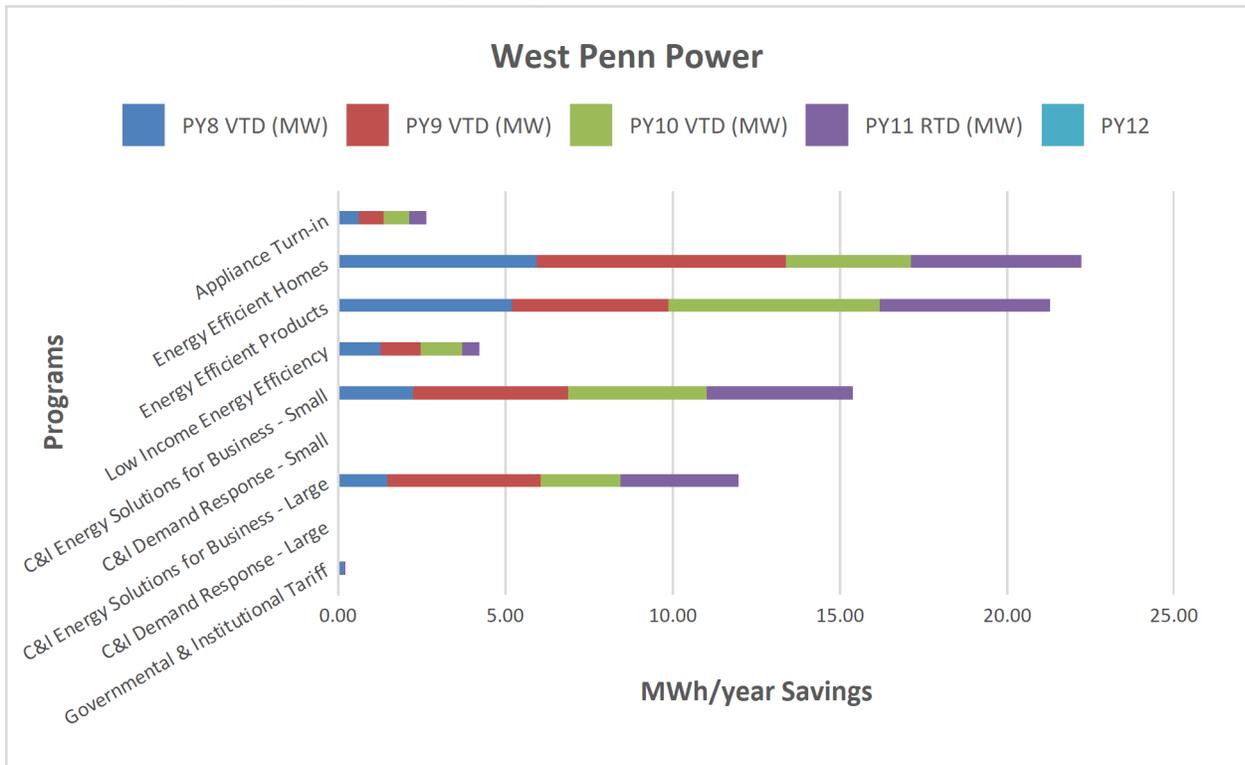
**Figure 10B: PSA Demand Savings
by Energy Efficiency Program for Phase III – Penelec**



**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. FirstEnergy uses the following line loss percentages/multipliers 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	9.6	20.1%	5.8	11.7%
	C&I Demand Response - Small	1.5	9.6%	3.4	7.2%
	C&I Demand Response - Large	45.8	5.3%	43.8	3.7%
	Portfolio Total	56.9	3.2%	53.0	3.4%
	Portfolio Total (Confidence Interval)	55.1 - 58.7		51.2 - 54.8	
Penelec	Energy Efficient Homes	n/a	n/a	n/a	n/a
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Portfolio Total	n/a	n/a	n/a	n/a
Penn Power	Energy Efficient Homes	1.8	31.6%	2.0	10.5%
	C&I Demand Response - Small	0.0	0.0%	0.0	58.1%
	C&I Demand Response - Large	33.4	48.4%	37.8	23.3%
	Portfolio Total	35.2	27.8%	39.9	22.1%
	Portfolio Total (Confidence Interval)	25.4 - 45.0		31.1 - 48.7	
West Penn Power	Energy Efficient Homes	3.1	30.1%	2.4	14.0%
	C&I Demand Response - Small	0.9	5.6%	1.4	17.0%
	C&I Demand Response - Large	92.1	30.7%	108.6	13.8%
	Portfolio Total	96.1	17.9%	112.4	13.3%
	Portfolio Total (Confidence Interval)	78.9 - 113.3		97.4 - 127.4	

Section 7 Summary of Finances

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

7.1 PROGRAM FINANCIALS

Program-specific and portfolio total finances for PY11 are shown in **Table 7-1A to 7-1D**.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 employs to support program delivery.

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>	\$193,025	\$59,509	\$516,547	\$32,642	\$801,723
<i>Energy Efficient Homes</i>	\$2,291,251	\$236,397	\$2,124,602	\$186,619	\$4,838,870
<i>Energy Efficient Products</i>	\$1,548,978	\$90,638	\$914,951	\$155,339	\$2,709,906
<i>Low Income Energy Efficiency</i>	\$74,568	\$253,094	\$1,123,762	\$114,890	\$1,566,314
<i>C&I Energy Solutions for Business - Small</i>	\$1,017,178	\$256,863	\$784,788	\$282,849	\$2,341,678
<i>C&I Demand Response - Small</i>	\$33,072	\$11,305	\$34,204	\$4,610	\$83,191
<i>C&I Energy Solutions for Business - Large</i>	\$1,760,802	\$190,216	\$980,263	\$315,389	\$3,246,669
<i>C&I Demand Response - Large</i>	\$715,359	\$100,583	\$718,690	\$41,340	\$1,575,971
<i>Governmental & Institutional Tariff</i>	\$7,928	\$15,145	\$25,099	\$15,681	\$63,852
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$7,642,161	\$1,213,748	\$7,222,905	\$1,149,360	\$17,228,174
<i>SWE Costs⁵</i>	\$0	\$0	\$0	\$0	\$256,000
<i>Total</i>	\$7,642,161	\$1,213,748	\$7,222,905	\$1,149,360	\$17,484,174

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>	\$165,700	\$64,788	\$465,761	\$34,956	\$731,205
<i>Energy Efficient Homes</i>	\$2,006,341	\$205,104	\$1,453,798	\$130,493	\$3,795,736
<i>Energy Efficient Products</i>	\$1,201,060	\$93,549	\$873,403	\$150,288	\$2,318,301
<i>Low Income Energy Efficiency</i>	\$142,880	\$253,427	\$1,236,253	\$113,796	\$1,746,355
<i>C&I Energy Solutions for Business - Small</i>	\$1,360,894	\$242,702	\$931,702	\$295,370	\$2,830,668
<i>C&I Demand Response - Small</i>	\$0	\$0	\$0	\$0	\$0
<i>C&I Energy Solutions for Business - Large</i>	\$1,683,801	\$150,574	\$778,442	\$274,613	\$2,887,430
<i>C&I Demand Response - Large</i>	\$0	\$0	\$0	\$0	\$0
<i>Governmental & Institutional Tariff</i>	\$31,096	\$19,314	\$53,170	\$22,236	\$125,816
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$6,591,772	\$1,029,458	\$5,792,529	\$1,021,752	\$14,435,511
<i>SWE Costs⁵</i>	\$0	\$0	\$0	\$0	\$232,000
<i>Total</i>	\$6,591,772	\$1,029,458	\$5,792,529	\$1,021,752	\$14,667,511

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>	\$41,150	\$11,242	\$129,897	\$7,580	\$189,869
<i>Energy Efficient Homes</i>	\$296,253	\$84,919	\$456,925	\$59,472	\$897,570
<i>Energy Efficient Products</i>	\$551,453	\$21,893	\$299,942	\$31,939	\$905,227
<i>Low Income Energy Efficiency</i>	\$14,745	\$96,854	\$359,565	\$38,670	\$509,834
<i>C&I Energy Solutions for Business - Small</i>	\$790,605	\$92,845	\$418,811	\$70,119	\$1,372,380
<i>C&I Demand Response - Small</i>	\$0	\$3,983	\$1,105	\$1,596	\$6,684
<i>C&I Energy Solutions for Business - Large</i>	\$267,590	\$53,992	\$116,921	\$59,388	\$497,892
<i>C&I Demand Response - Large</i>	\$177,229	\$35,642	\$239,470	\$14,305	\$466,646
<i>Governmental & Institutional Tariff</i>	\$115	\$7,775	\$8,985	\$5,339	\$22,214
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$2,139,142	\$409,145	\$2,031,621	\$288,407	\$4,868,315
<i>SWE Costs⁵</i>	\$0	\$0	\$0	\$0	\$72,000
<i>Total</i>	\$2,139,142	\$409,145	\$2,031,621	\$288,407	\$4,940,315

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>	\$201,125	\$59,764	\$537,036	\$32,608	\$830,533
<i>Energy Efficient Homes</i>	\$786,185	\$241,993	\$1,837,452	\$168,850	\$3,034,479
<i>Energy Efficient Products</i>	\$1,697,342	\$104,014	\$1,143,655	\$173,866	\$3,118,877
<i>Low Income Energy Efficiency</i>	\$64,222	\$258,213	\$3,081,626	\$119,715	\$3,523,776
<i>C&I Energy Solutions for Business - Small</i>	\$1,604,145	\$280,220	\$1,396,613	\$335,896	\$3,616,874
<i>C&I Demand Response - Small</i>	\$7,128	\$14,069	\$12,446	\$5,801	\$39,445
<i>C&I Energy Solutions for Business - Large</i>	\$1,308,993	\$144,078	\$680,766	\$253,784	\$2,387,622
<i>C&I Demand Response - Large</i>	\$747,519	\$126,740	\$818,324	\$52,257	\$1,744,840
<i>Governmental & Institutional Tariff</i>	\$14,656	\$17,991	\$38,968	\$19,764	\$91,379
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$6,431,315	\$1,247,082	\$9,546,886	\$1,162,540	\$18,387,824
<i>SWE Costs⁵</i>	\$0	\$0	\$0	\$0	\$240,000
<i>Total</i>	\$6,431,315	\$1,247,082	\$9,546,886	\$1,162,540	\$18,627,824

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>	\$982,300	\$208,669	\$2,433,594	\$111,942	\$3,736,505
<i>Energy Efficient Homes</i>	\$12,103,192	\$815,043	\$9,207,348	\$614,898	\$22,740,480
<i>Energy Efficient Products</i>	\$7,020,965	\$234,238	\$3,321,488	\$477,256	\$11,053,947
<i>Low Income Energy Efficiency</i>	\$352,116	\$1,043,346	\$10,149,849	\$431,896	\$11,977,207
<i>C&I Energy Solutions for Business - Small</i>	\$4,383,742	\$674,344	\$3,133,853	\$739,115	\$8,931,053
<i>C&I Demand Response - Small</i>	\$68,319	\$45,828	\$184,774	\$23,381	\$322,301
<i>C&I Energy Solutions for Business - Large</i>	\$6,586,312	\$451,888	\$3,714,493	\$811,962	\$11,564,654
<i>C&I Demand Response - Large</i>	\$882,376	\$410,009	\$2,523,633	\$209,821	\$4,025,838
<i>Governmental & Institutional Tariff</i>	\$105,027	\$25,662	\$131,885	\$50,155	\$312,728
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$32,484,347	\$3,909,026	\$34,800,915	\$3,470,425	\$74,664,714
<i>SWE Costs⁵</i>	\$0	\$0	\$0	\$0	\$1,215,987
<i>Total</i>	\$32,484,347	\$3,909,026	\$34,800,915	\$3,470,425	\$75,880,701

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>	\$852,875	\$230,279	\$2,221,161	\$120,920	\$3,425,235
<i>Energy Efficient Homes</i>	\$11,107,906	\$758,631	\$7,666,303	\$503,655	\$20,036,495
<i>Energy Efficient Products</i>	\$6,095,047	\$248,035	\$3,313,550	\$459,298	\$10,115,930
<i>Low Income Energy Efficiency</i>	\$411,244	\$1,205,083	\$10,020,901	\$460,379	\$12,097,607
<i>C&I Energy Solutions for Business - Small</i>	\$5,557,551	\$692,738	\$3,313,513	\$774,438	\$10,338,239
<i>C&I Demand Response - Small</i>	\$0	\$0	\$0	\$0	\$0
<i>C&I Energy Solutions for Business - Large</i>	\$6,708,848	\$405,981	\$3,492,419	\$713,277	\$11,320,525
<i>C&I Demand Response - Large</i>	\$0	\$0	\$0	\$0	\$0
<i>Governmental & Institutional Tariff</i>	\$171,511	\$48,533	\$256,798	\$74,959	\$551,802
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$30,904,982	\$3,589,280	\$30,284,645	\$3,106,927	\$67,885,834
<i>SWE Costs⁵</i>	\$0	\$0	\$0	\$0	\$1,102,000
<i>Total</i>	\$30,904,982	\$3,589,280	\$30,284,645	\$3,106,927	\$68,987,834

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	\$49,807	\$820,089	\$27,118	\$1,179,514
<i>Energy Efficient Homes</i>	\$3,379,545	\$303,341	\$2,448,758	\$202,397	\$6,334,041
<i>Energy Efficient Products</i>	\$2,157,420	\$27,165	\$897,939	\$98,539	\$3,181,062
<i>Low Income Energy Efficiency</i>	\$120,945	\$428,485	\$2,915,538	\$150,223	\$3,615,192
<i>C&I Energy Solutions for Business - Small</i>	\$2,730,950	\$251,249	\$1,326,070	\$185,142	\$4,493,411
<i>C&I Demand Response - Small</i>	\$0	\$16,009	\$4,547	\$8,033	\$28,589
<i>C&I Energy Solutions for Business - Large</i>	\$1,320,696	\$150,124	\$676,387	\$154,387	\$2,301,594
<i>C&I Demand Response - Large</i>	\$859,568	\$143,392	\$729,645	\$72,025	\$1,804,630
<i>Governmental & Institutional Tariff</i>	\$109,860	\$16,852	\$91,156	\$17,386	\$235,254
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$10,961,484	\$1,386,424	\$9,910,128	\$915,250	\$23,173,285
<i>SWE Costs⁵</i>	\$0	\$0	\$0	\$0	\$342,000
<i>Total</i>	\$10,961,484	\$1,386,424	\$9,910,128	\$915,250	\$23,515,285

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>	\$1,085,600	\$215,181	\$2,718,545	\$111,620	\$4,130,945
<i>Energy Efficient Homes</i>	\$7,364,007	\$895,493	\$8,724,780	\$573,442	\$17,557,722
<i>Energy Efficient Products</i>	\$7,479,242	\$347,223	\$4,081,182	\$517,546	\$12,425,193
<i>Low Income Energy Efficiency</i>	\$306,076	\$1,069,168	\$11,555,107	\$457,666	\$13,388,018
<i>C&I Energy Solutions for Business - Small</i>	\$5,687,177	\$754,579	\$4,493,101	\$837,457	\$11,772,315
<i>C&I Demand Response - Small</i>	\$17,957	\$57,644	\$69,211	\$29,406	\$174,218
<i>C&I Energy Solutions for Business - Large</i>	\$4,811,499	\$368,654	\$2,879,956	\$655,288	\$8,715,397
<i>C&I Demand Response - Large</i>	\$2,728,963	\$518,580	\$2,836,319	\$264,750	\$6,348,612
<i>Governmental & Institutional Tariff</i>	\$934,478	\$43,272	\$537,050	\$64,446	\$1,579,246
<i>Common Portfolio Costs</i>					\$0
<i>Total Portfolio</i>	\$30,414,999	\$4,269,796	\$37,895,251	\$3,511,620	\$76,091,666
<i>SWE Costs⁵</i>	\$0	\$0	\$0	\$0	\$1,140,000
<i>Total</i>	\$30,414,999	\$4,269,796	\$37,895,251	\$3,511,620	\$77,231,666

Cost-effectiveness testing for Act 129 EE&C programs is performed using the TRC Test. Benefit cost modeling is conducted annually using verified gross and verified net savings once the results of the independent impact evaluation are completed. TRC test results for PY10 were presented in the final annual report to the PA PUC on November 15, 2019 along with a more granular breakdown of portfolio costs.

7.2 COST RECOVERY

Act 129 allows Pennsylvania EDCs to recover EE&C plan costs through a cost-recovery mechanism. FirstEnergy's cost-recovery charges are organized separately by five customer sectors to ensure that the electric rate classes that finance the programs are the rate classes that receive the direct energy and conservation benefits. Cost-recovery is necessarily tied to the way customers are metered and charged for electric service. Readers should be mindful of the differences between Table 2-7 Section 2.4 and Tables 7-3A-7-3D. For example, the low-income customer segment is a subset of the FirstEnergy EDCs' residential tariff(s) and therefore not listed in Tables 7-3A to 7-3D.

Table 7-3A to 7-3D: EE&C Plan Expenditures by Cost-Recovery 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	\$10,084	\$50,299
	Small C&I	Rate GS-Small, Rate GS-Medium, and Outdoor Lighting Service	\$2,462	\$9,434
	Large C&I	Rate GS-Large, Rate GP and Rate TP	\$4,872	\$15,825
	Street Lighting	Street Lighting Service, LED Street Lighting Service and Ornamental Street Lighting Service	\$14	\$144
	Government & Non-Profit Tariff	Rate GS - Volunteer Fire Company, and Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate and Rate MS	\$52	\$179
Portfolio Total			\$17,484	\$75,881

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	\$8,760	\$46,472
	Small C&I	Rate GS-Small, Rate GS-Medium, and Outdoor Lighting Service	\$2,867	\$10,517
	Large C&I	Rate GS-Large, Rate GP, and Rate LP	\$2,911	\$11,433
	Street Lighting	Street Lighting Service, LED Street Lighting Service, and Ornamental Street Lighting Service	\$18	\$192
	Government & Non-Profit Tariff	Rate GS – Volunteer Fire Company, and Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate and Rate H	\$111	\$374
Portfolio Total			\$14,668	\$68,988

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	\$2,548	\$14,531
	Small C&I	Rate GS, GS Special Rider GSDS, Rate GM, Rate GS-Large and POL	\$1,390	\$4,573
	Large C&I	Rate GP, and Rate GT	\$979	\$4,172
	Street Lighting	Rate Schedules SV, SVD, SM and LED	\$3	\$167
	Government & Non-Profit Tariff	Rate GS – Volunteer Fire Company, and Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate and Rate PNP	\$20	\$72
Portfolio Total			\$4,940	\$23,515

**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	\$10,661	\$48,229
	Small C&I	Rate GS 20, Rate GS 30	\$3,695	\$12,130
	Large C&I	Rate GS 35, 40, 44, 46, and Tariff No. 38	\$4,178	\$15,282
	Street Lighting	Rate Schedules 51 through 58, 71, 72	\$17	\$1,315
	Government & Non-Profit Tariff	Rate GS 20 – Volunteer Fire Company, and Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate	\$77	\$276
Portfolio Total			\$18,628	\$77,232

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