

Semi-Annual Report to the Pennsylvania Public Utility Commission

Phase III of Act 129

Program Year 8

(June 1, 2016 – November 30, 2016)

For Pennsylvania Act 129 of 2008

Energy Efficiency and Conservation Plan

Prepared by ADM

For the FirstEnergy Pennsylvania EDCs:

Metropolitan Edison Company M-2015-2514767

Pennsylvania Electric Company M-2015-2514768

Pennsylvania Power Company M-2015-2514769

West Penn Power Company M-2015-2514772

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Table of Contents

ACRONYMS	III
TYPES OF SAVINGS	IV
SECTION 1 INTRODUCTION	1
SECTION 2 SUMMARY OF ACHIEVEMENTS	2
2.1 CARRYOVER SAVINGS FROM PHASE II OF ACT 129	2
2.2 PHASE III ENERGY EFFICIENCY ACHIEVEMENTS TO DATE	9
2.3 PHASE III DEMAND RESPONSE ACHIEVEMENTS TO DATE.....	18
2.4 PHASE III PERFORMANCE BY CUSTOMER SEGMENT	18
SECTION 3 UPDATES AND FINDINGS	21
3.1 IMPLEMENTATION UPDATES AND FINDINGS.....	21
3.2 EVALUATION UPDATES AND FINDINGS	24
SECTION 4 SUMMARY OF PARTICIPATION BY PROGRAM	25
SECTION 5 SUMMARY OF ENERGY IMPACTS BY PROGRAM	28
SECTION 6 SUMMARY OF DEMAND IMPACTS BY PROGRAM	35
6.1 ENERGY EFFICIENCY	35
6.2 DEMAND RESPONSE	43
SECTION 7 SUMMARY OF FINANCES	44
7.1 PROGRAM FINANCIALS.....	44
7.2 COST RECOVERY.....	52

Figures

FIGURES 1A-1D: CARRYOVER SAVINGS FROM PHASE II OF ACT 129	3
FIGURES 2A-2D: CUSTOMER SEGMENT-SPECIFIC CARRYOVER FROM PHASE II	7
FIGURES 3A-3D: PLAN PERFORMANCE TOWARD PHASE III PORTFOLIO COMPLIANCE	10
FIGURES 4A-4D: PLAN PERFORMANCE TOWARD PHASE III LOW-INCOME COMPLIANCE TARGET	13
FIGURES 5A-5D: PLAN PERFORMANCE AGAINST PHASE III GNI COMPLIANCE TARGET	16
FIGURES 6A-6D: REPORTED GROSS ENERGY SAVINGS BY PROGRAM	29
FIGURES 7A-7D: PSA ENERGY SAVINGS BY PROGRAM FOR PHASE III	32
FIGURES 8A-8D: PYRTD GROSS DEMAND SAVINGS BY ENERGY EFFICIENCY PROGRAM	37
FIGURES 9A-9D: PSA DEMAND SAVINGS BY ENERGY EFFICIENCY PROGRAM FOR PHASE III	40

Tables

TABLE 2-1: PHASE II CARRYOVER SAVINGS.....	2
TABLE 2-2: GROSS ELECTRIC AND DEMAND SAVINGS FOR PY8	9
TABLE 2-3: GROSS ELECTRIC AND DEMAND SAVINGS SINCE THE BEGINNING OF PHASE III OF ACT 129.....	9
TABLE 2-4: PHASE III ELECTRIC SAVINGS INCLUDING PHASE II CARRYOVER.....	9
TABLE 2-5: LOW-INCOME PROGRAM ENERGY SAVINGS AND TARGETS.....	13
TABLE 2-6: GNI SAVINGS AND TARGETS	15
TABLE 2-7: PY8 SUMMARY STATISTICS BY CUSTOMER SEGMENT.....	19
TABLE 2-8: PHASE III SUMMARY STATISTICS BY CUSTOMER SEGMENT	20
TABLE 4-1: EE&C PLAN PARTICIPATION BY PROGRAM	27
TABLE 5-1: ENERGY SAVINGS BY PROGRAM (MWH/YEAR).....	28
TABLE 6-1: PEAK DEMAND SAVINGS BY PROGRAM (MW/YEAR)	36
TABLE 7-1A TO 7-1D: PROGRAM YEAR TO DATE FINANCIALS	45
TABLE 7-2A TO 7-2D: PHASE III TO DATE FINANCIALS	49
TABLE 7-3A TO 7-3D: EE&C PLAN EXPENDITURES BY COST-RECOVERY CATEGORY.....	53

Acronyms

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

Types of Savings

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Table A - P3TD Savings Calculation Example

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

PYRTD (PY10) = 500 MWh/year

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

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

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

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

Section 1 Introduction

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

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

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

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

Section 2 Summary of Achievements

2.1 CARRYOVER SAVINGS FROM PHASE II OF ACT 129

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

Table 2-1: Phase II Carryover Savings

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

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

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

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

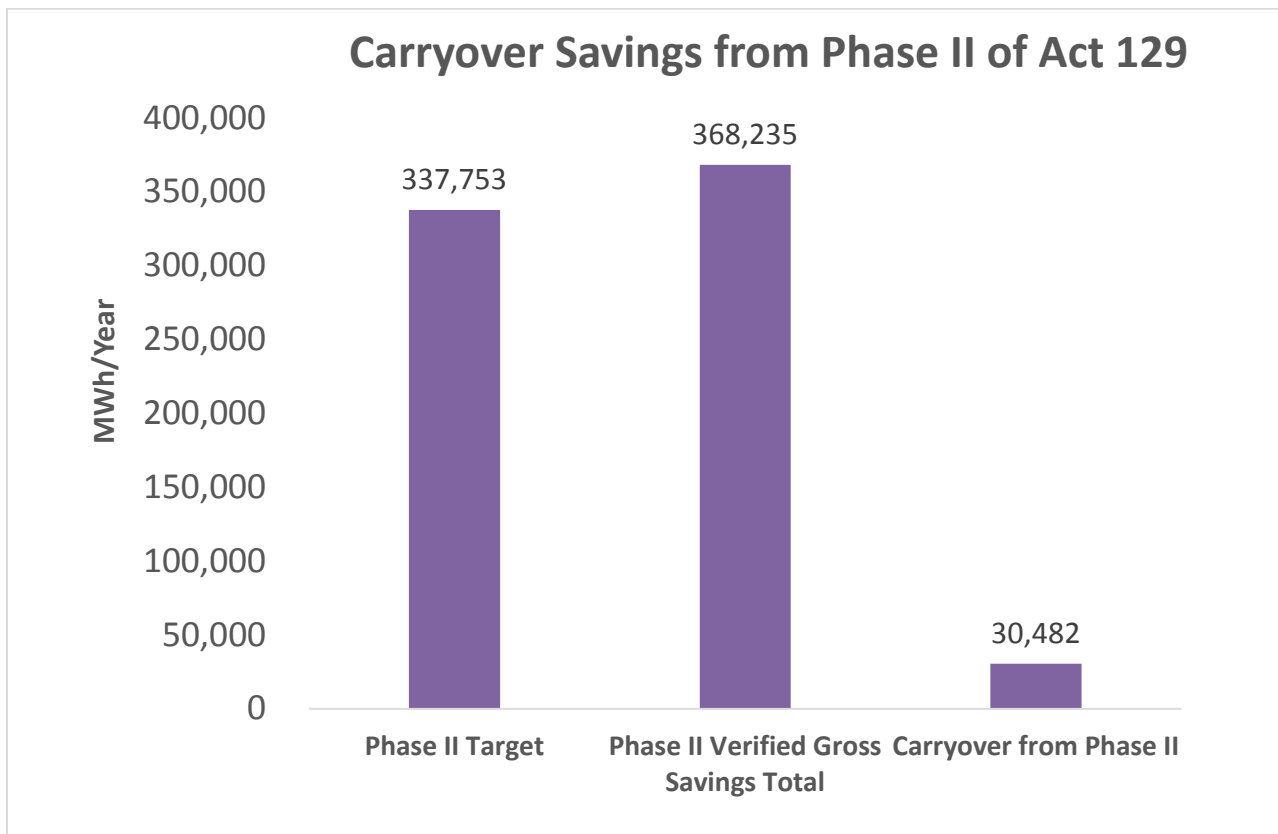


Figure 1B: Carryover Savings from Phase II of Act 129 – Penelec

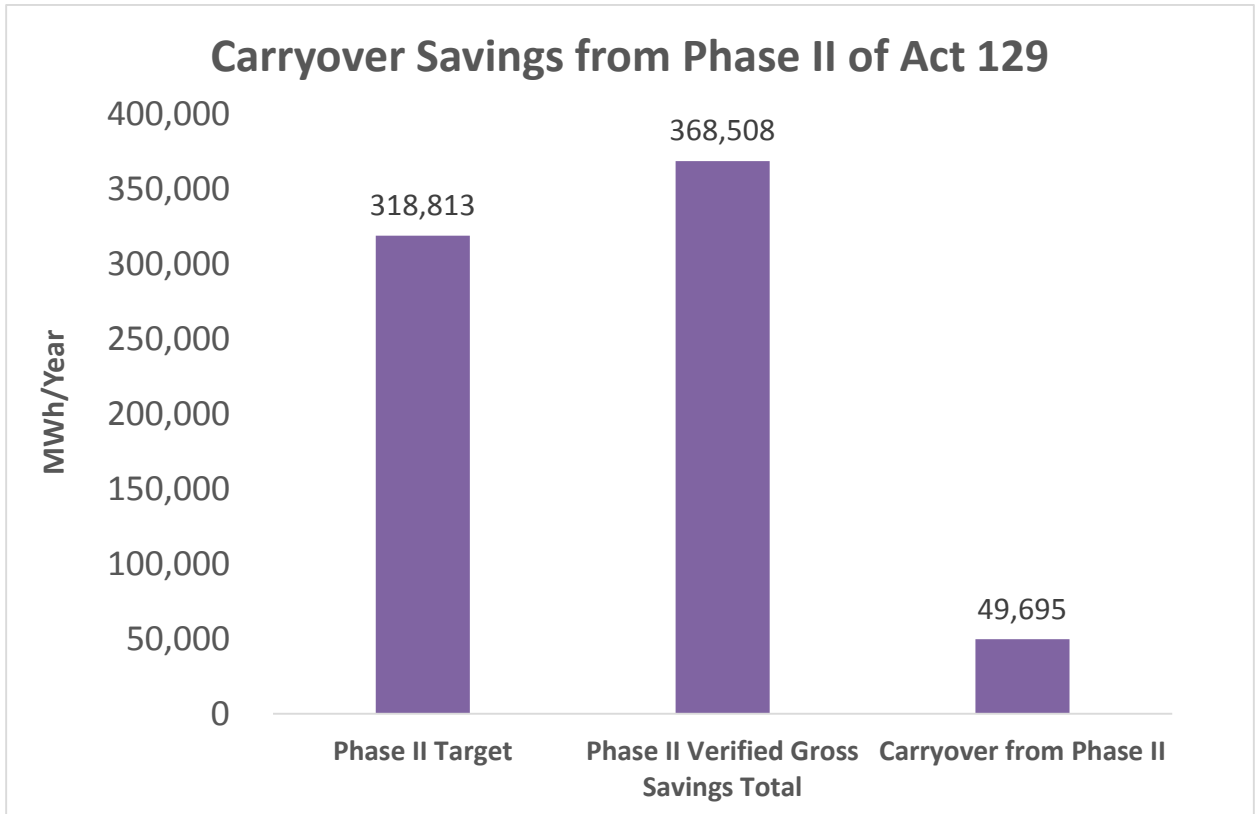


Figure 1C: Carryover Savings from Phase II of Act 129 – Penn Power

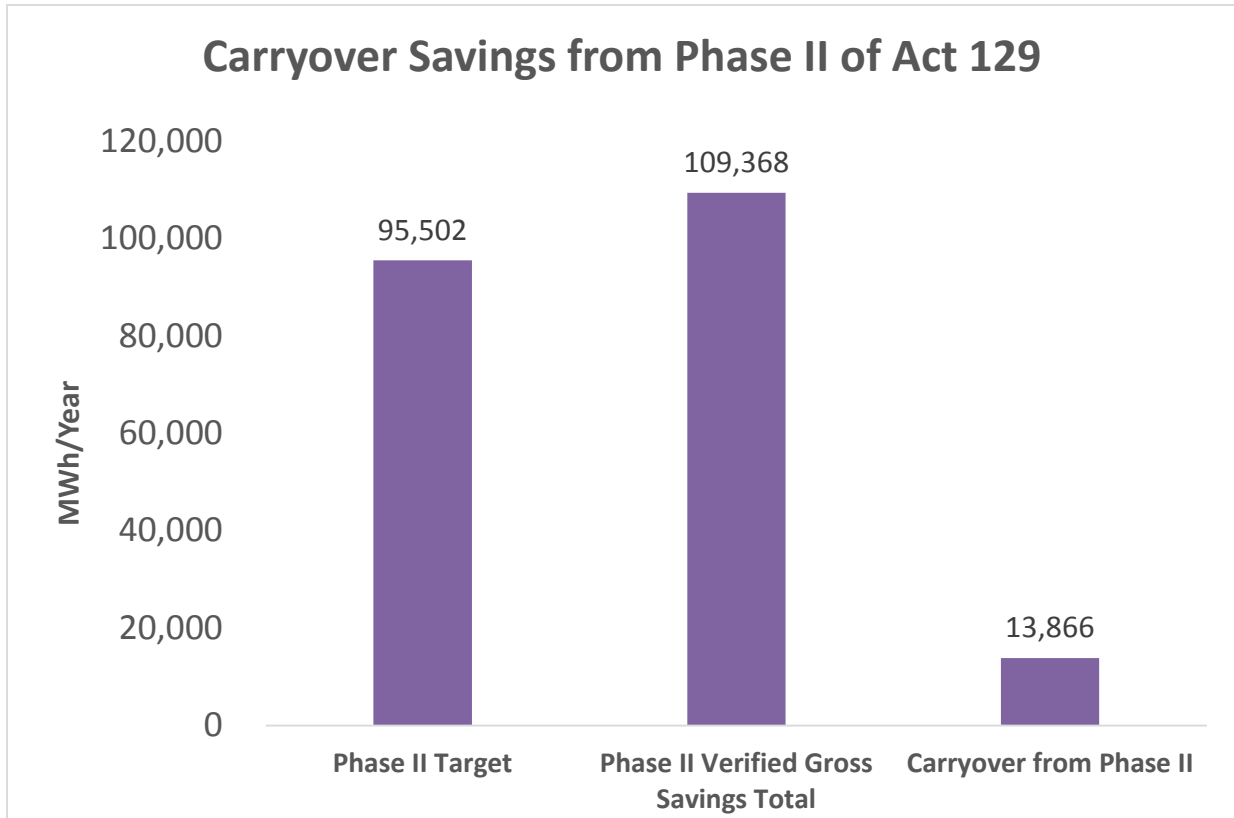
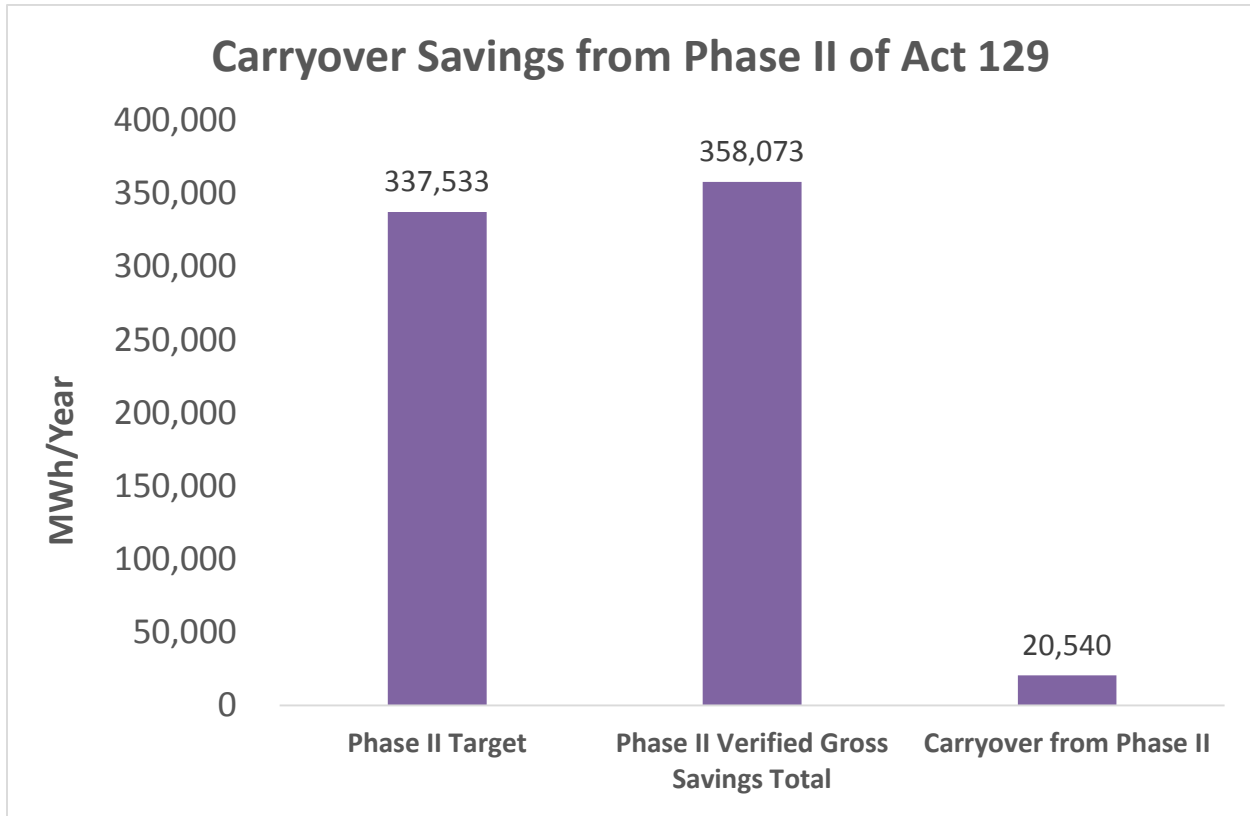


Figure 1D: Carryover Savings from Phase II of Act 129 – West Penn Power

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

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

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

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

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

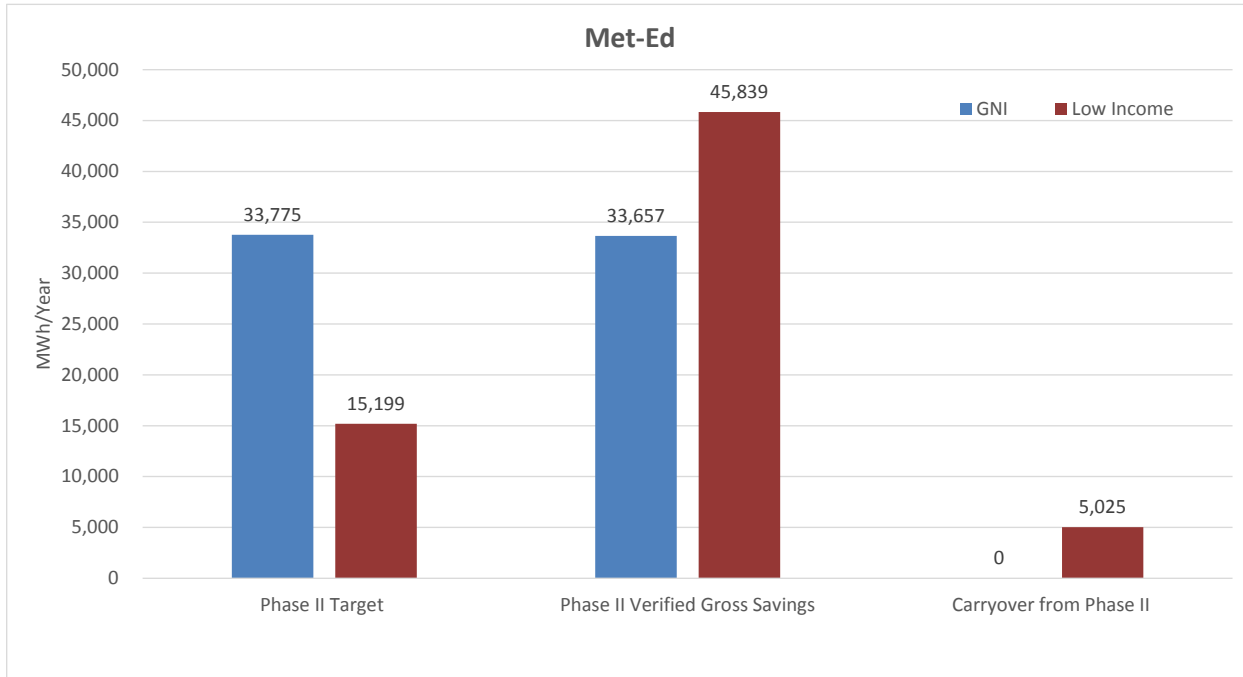


Figure 2B: Customer Segment-Specific Carryover from Phase II – Penelec

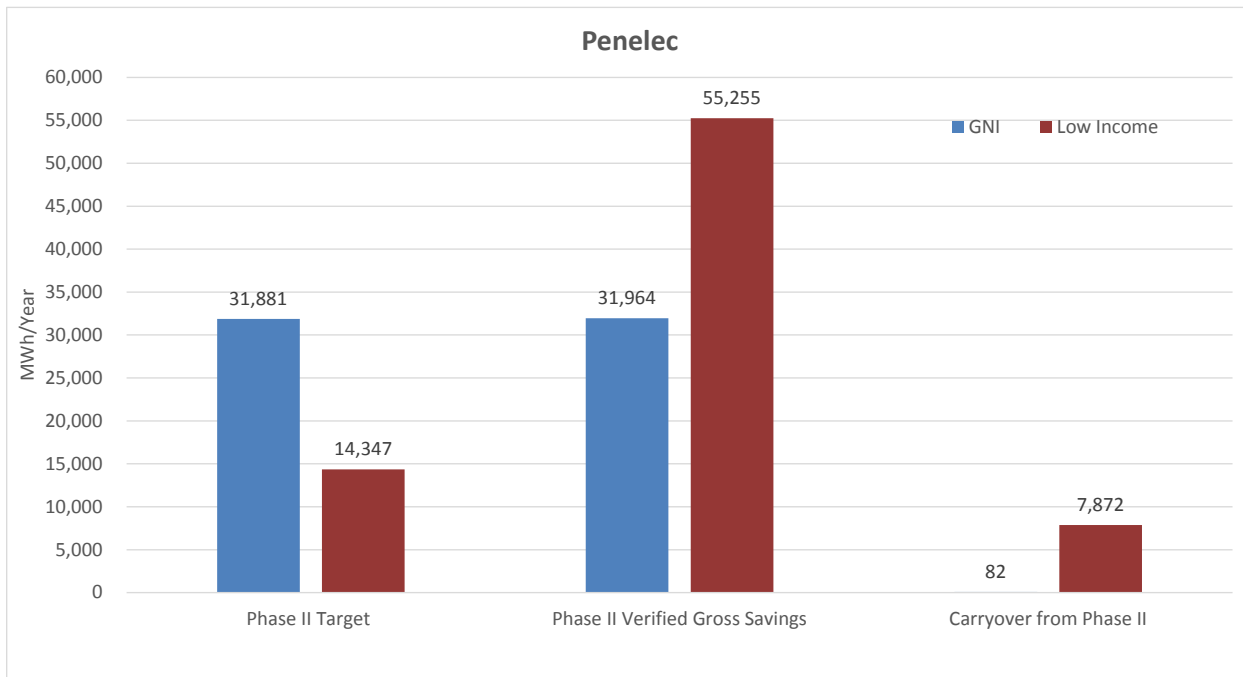


Figure 2C: Customer Segment-Specific Carryover from Phase II – Penn Power

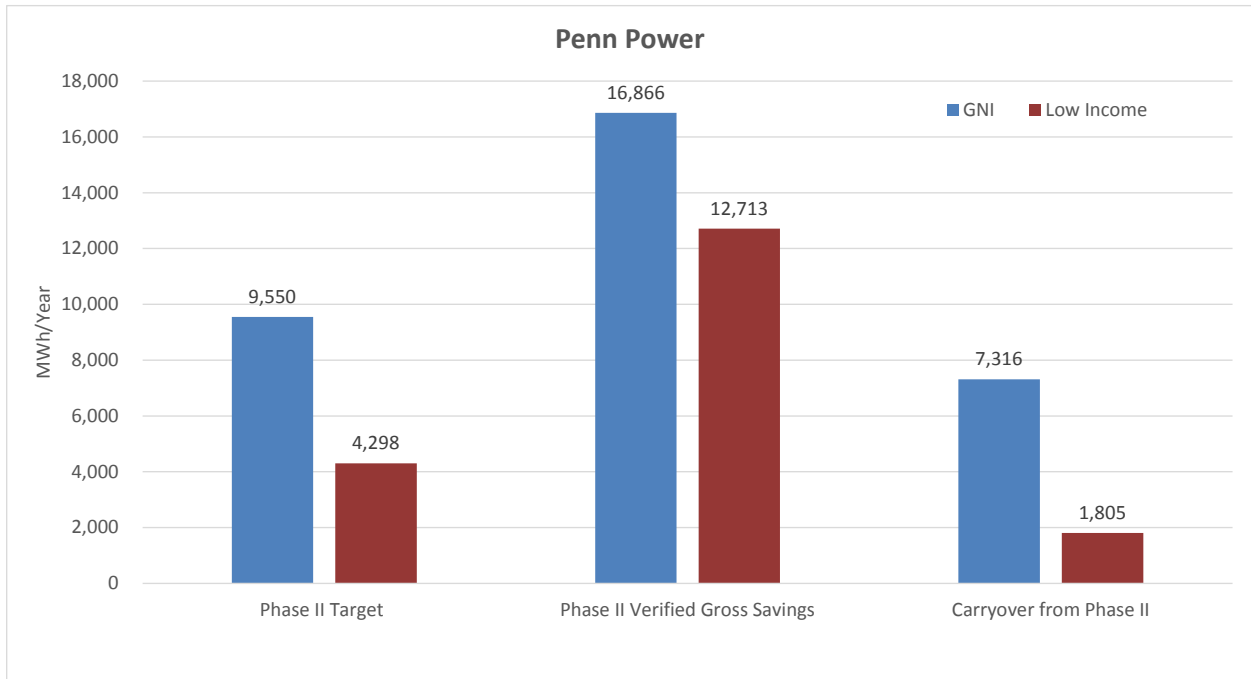
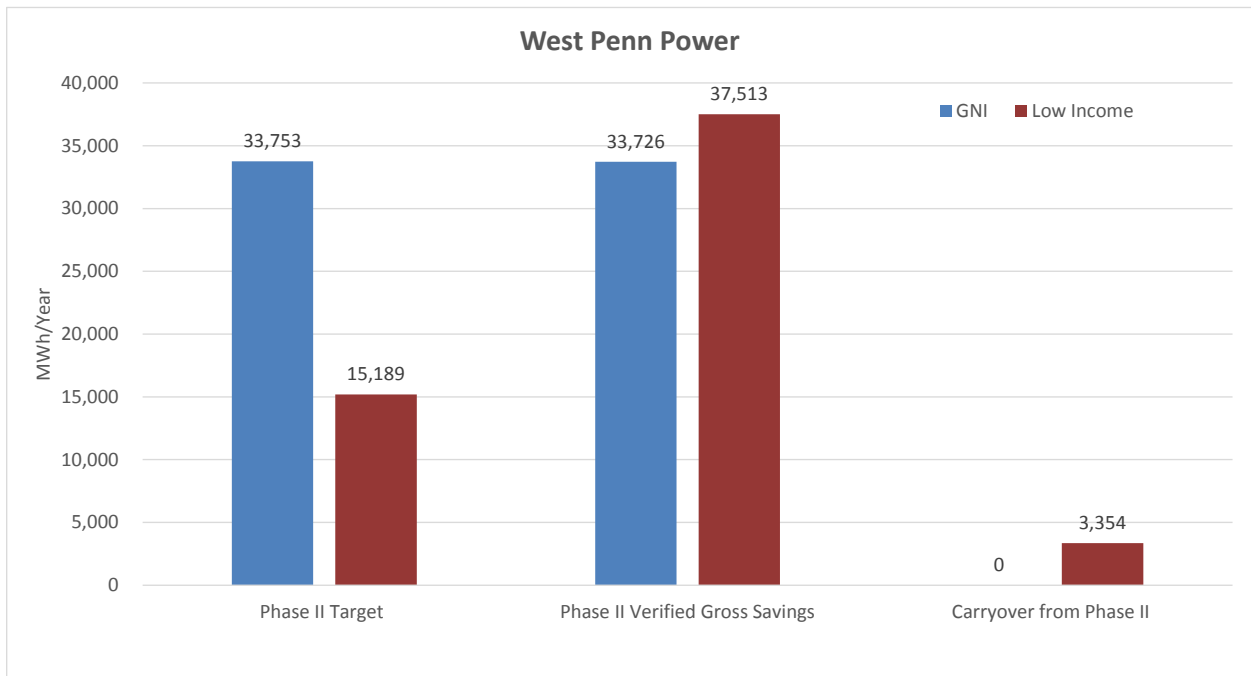


Figure 2D: Customer Segment-Specific Carryover from Phase II – West Penn Power



2.2 PHASE III ENERGY EFFICIENCY ACHIEVEMENTS TO DATE

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

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

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

EDC	Gross MWh/yr Savings (PYRTD)	Gross Peak Demand Savings (PYRTD)
Met-Ed	42,807	9.81
Penelec	44,884	8.91
Penn Power	12,210	2.53
West Penn Power	47,782	10.30

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 Savings (RTD)	Gross Electric Energy Savings MWh/yr Savings (PSA)	Gross Peak Demand Savings (PSA)
Met-Ed	42,807	9.81	42,807	9.81
Penelec	44,884	8.91	44,884	8.91
Penn Power	12,210	2.53	12,210	2.53
West Penn Power	47,782	10.30	47,782	10.30

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

EDC	Gross/Verified MWh/yr Savings (PSA)	Carryover Savings MWh/yr (CO)	CO + Gross/Verified Savings (PSA + CO)	% of Compliance Target
Met-Ed	42,807	30,482	73,289	12%
Penelec	44,884	49,695	94,579	17%
Penn Power	12,210	13,866	26,076	17%
West Penn Power	47,782	20,540	68,322	13%

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

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

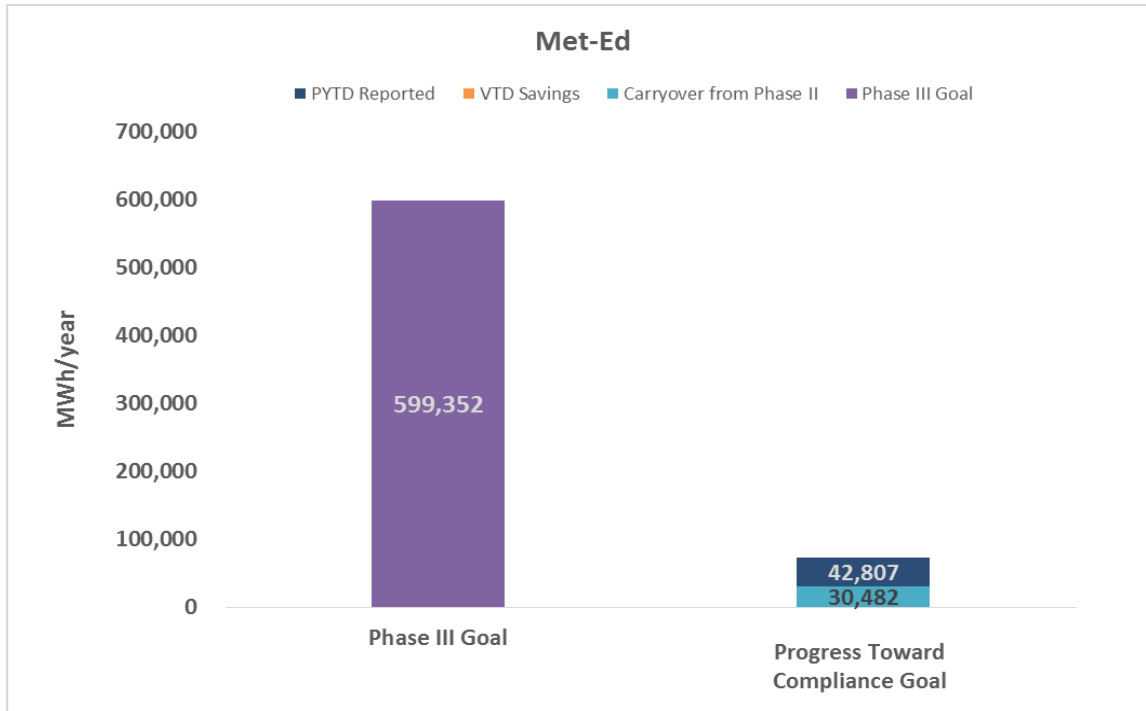


Figure 3B: EE&C Plan Performance toward Phase III Portfolio Compliance Target – Penelec

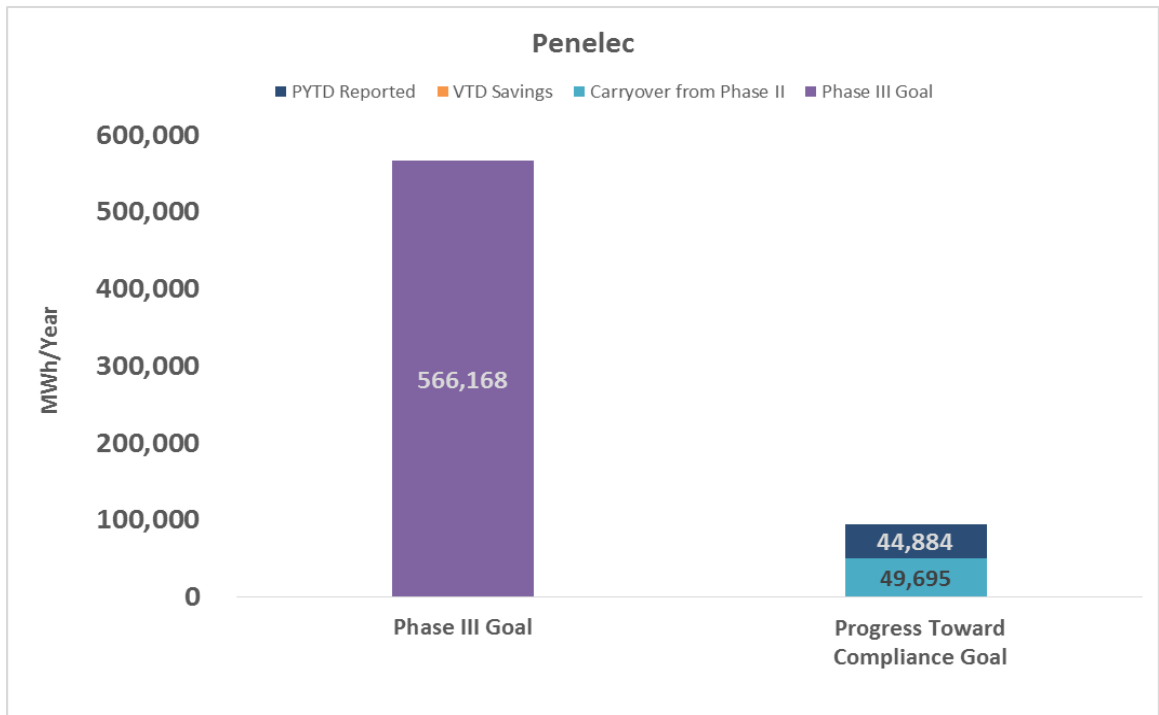


Figure 3C: EE&C Plan Performance toward Phase III Portfolio Compliance Target – Penn Power

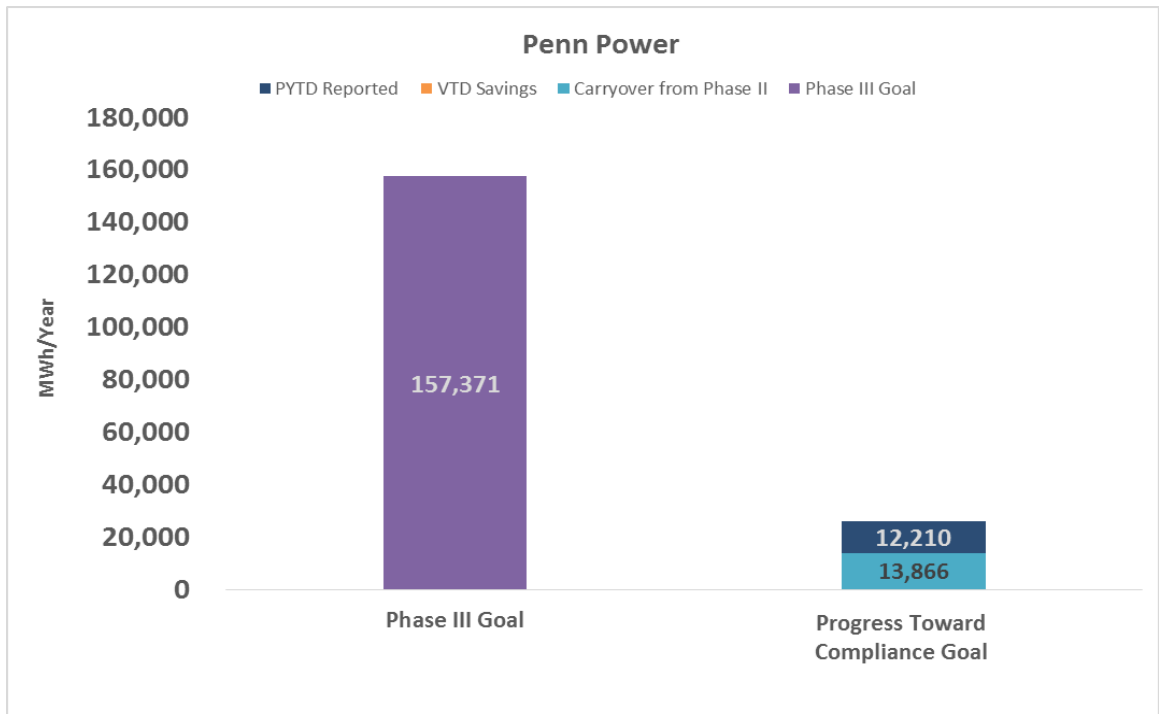
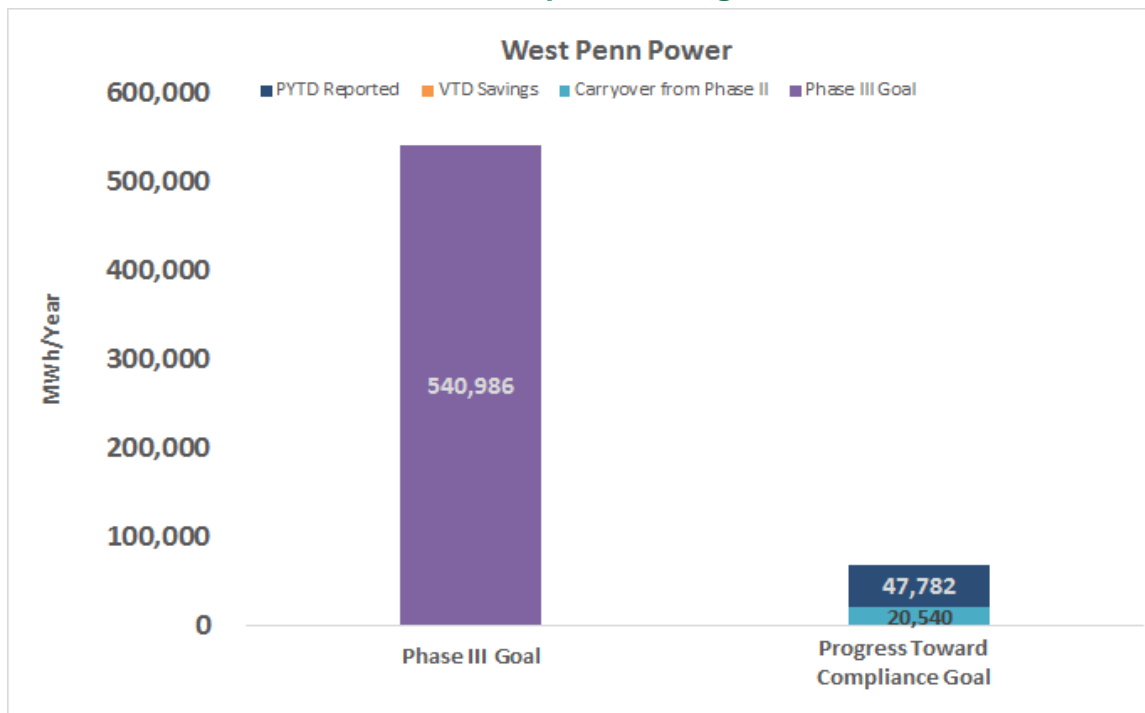


Figure 3D: EE&C Plan Performance toward Phase III Portfolio Compliance Target – West Penn Power



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 offers a total of 158 EE&C measures to its residential and non-residential customer classes. There are 59 measures available to each of the FirstEnergy EDC low-income customer segments at no cost to the customer. This represents 37.34% of the total measures offered in the EE&C plan and exceeds the proportionate number of measures target for each of the EDCs.

The PA PUC also established a low-income energy savings target of 5.5% of the portfolio savings goal. The low-income savings target for the FirstEnergy EDCs is presented in **Table 2.5** and is based on verified gross savings. **Table 2-5** and **Figures 4A-4D: Plan Performance toward Phase III Low-Income Compliance Target** compare the PSA+CO performance to date for the low-income customer segments to the Phase III savings targets as well as, the percent achievement of each EDC's Phase III low-income energy savings target based on the latest available information.

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

EDC	Low-Income Target (MWh/yr) (PYRTD)	PSA + CO (MWh/yr)	% of Low-Income Savings Target Achieved
Met-Ed	32,964	9,361	28%
Penelec	31,139	14,220	46%
Penn Power	8,655	3,294	38%
West Penn Power	29,754	8,892	30%

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

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

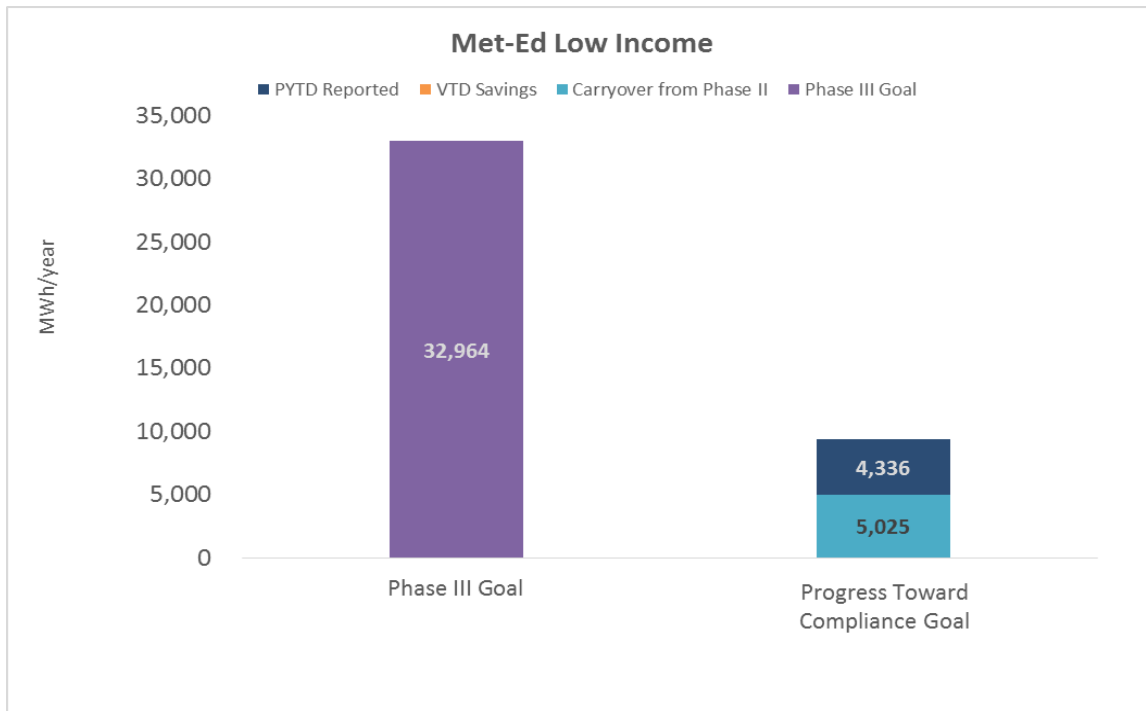


Figure 4B: EE&C Plan Performance toward Phase III Low-Income Compliance Target – Penelec

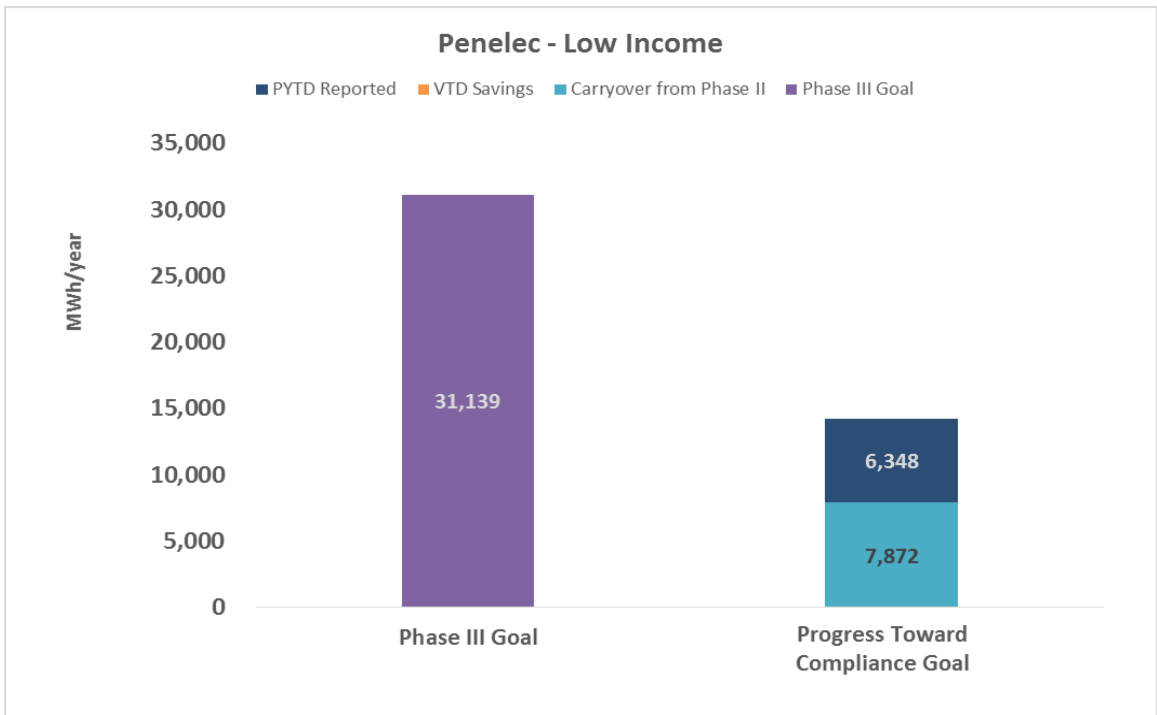


Figure 4C: EE&C Plan Performance toward Phase III Low-Income Compliance Target – Penn Power

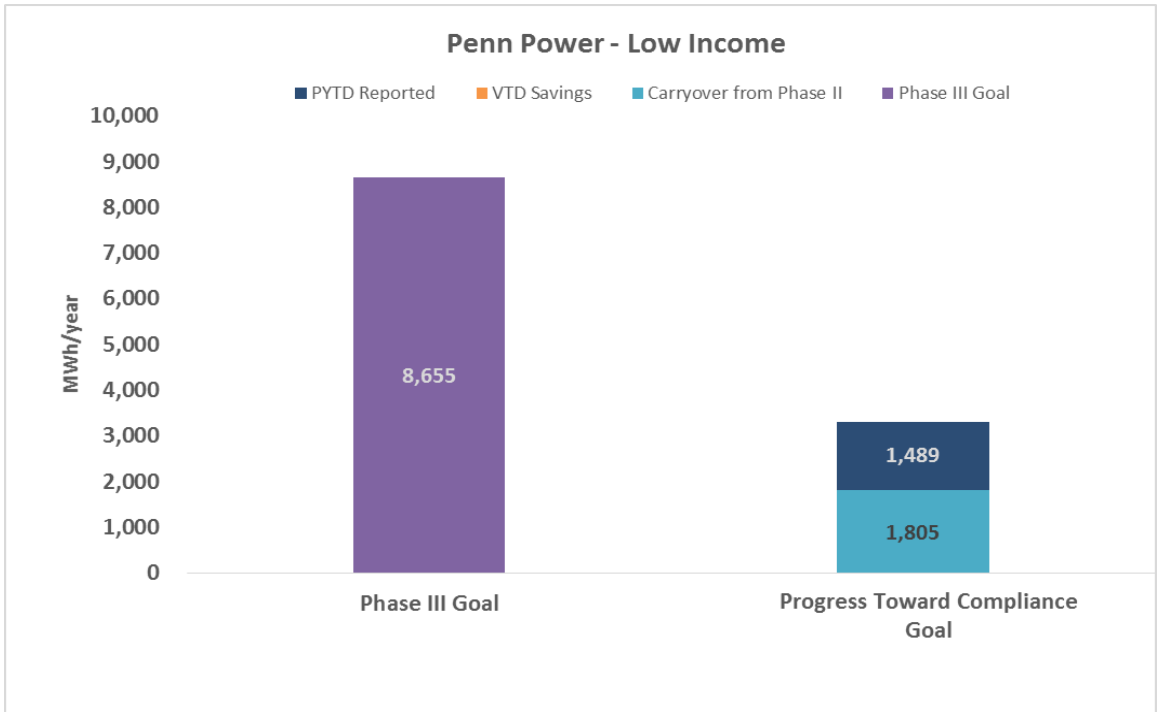
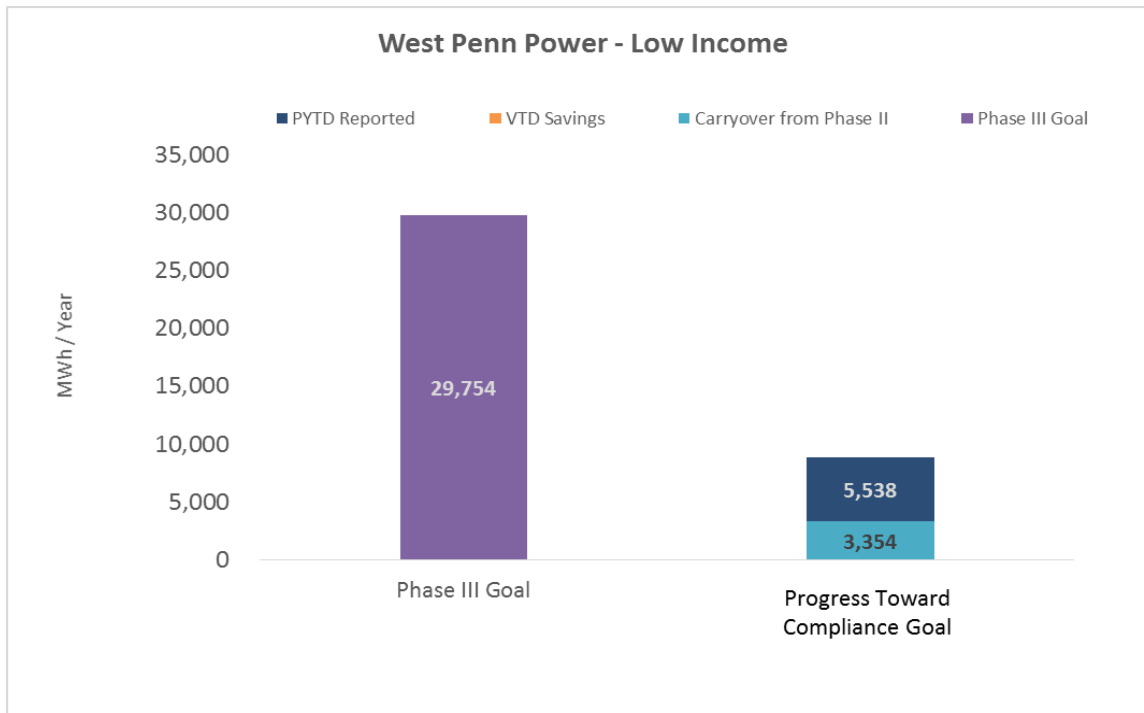


Figure 4D: EE&C Plan Performance toward Phase III Low-Income Compliance Target – West Penn Power



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

Table 2-6: GNI Savings and Targets

EDC	GNI Target (MWh/yr)	GNI Savings PSA + CO (MWh/yr)	% of GNI Savings Target Achieved
Met-Ed	20,977	519	2%
Penelec	19,816	1,015	5%
Penn Power	5,508	8,256	150%
West Penn Power	18,935	1,934	10%

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

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

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

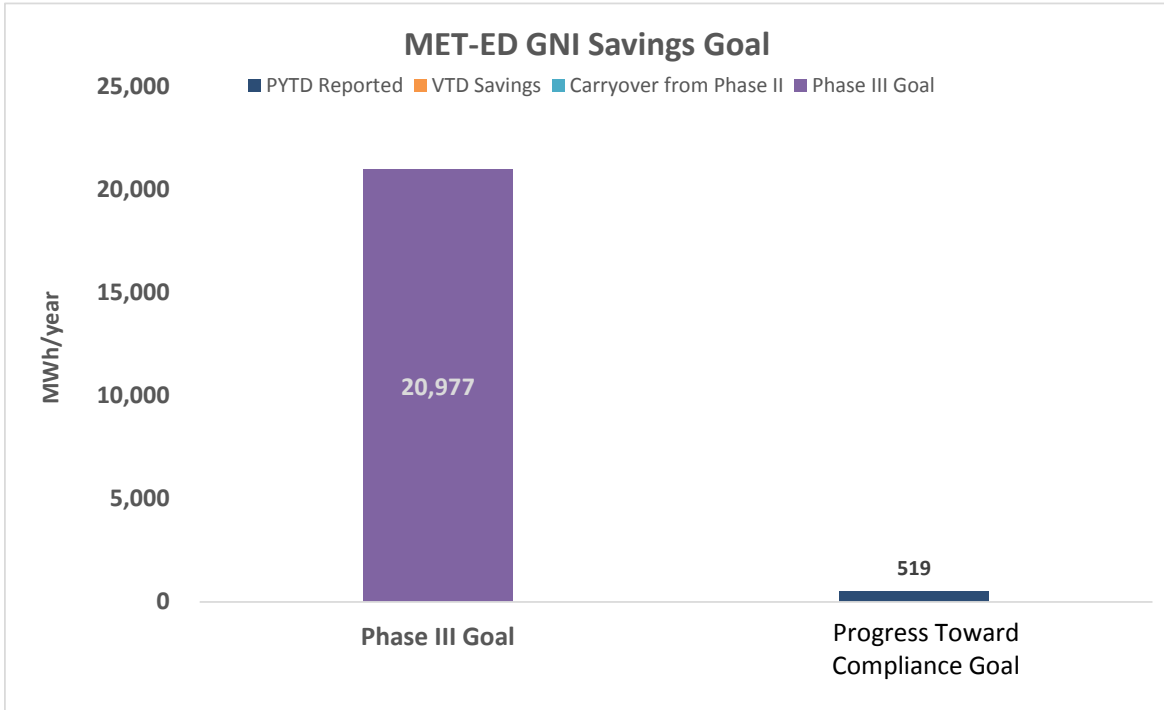


Figure 5B: EE&C Plan Performance against Phase III GNI Compliance Target – Penelec

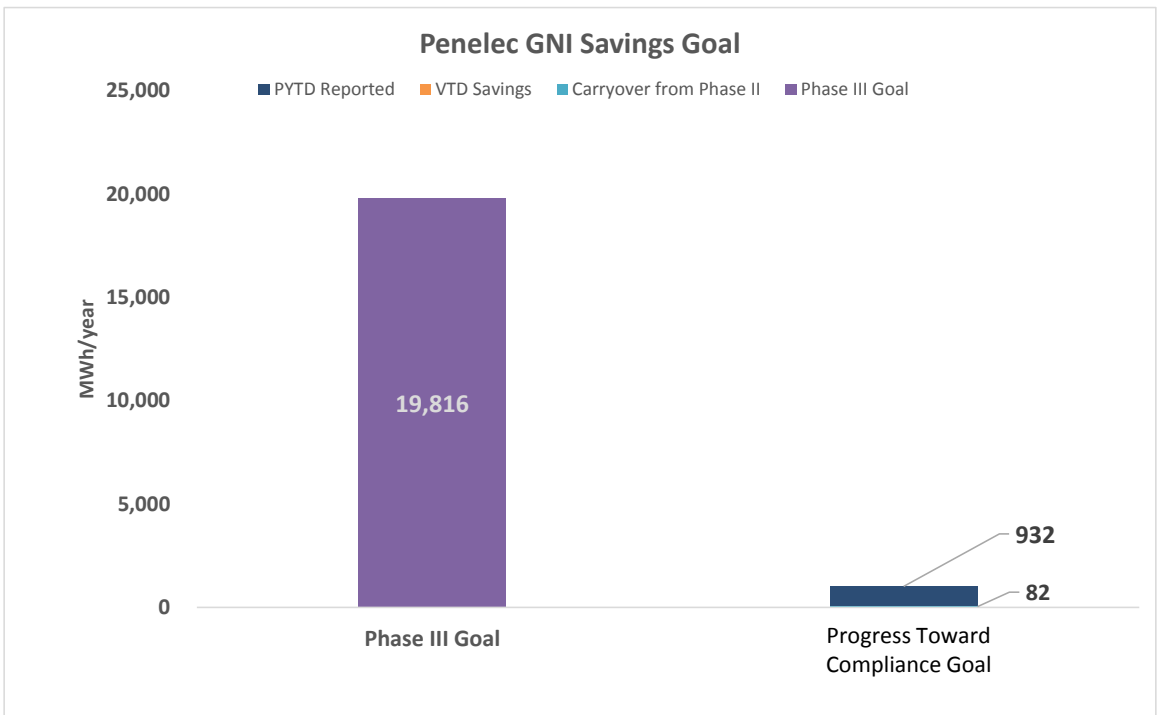


Figure 5C: EE&C Plan Performance against Phase III GNI Compliance Target – Penn Power

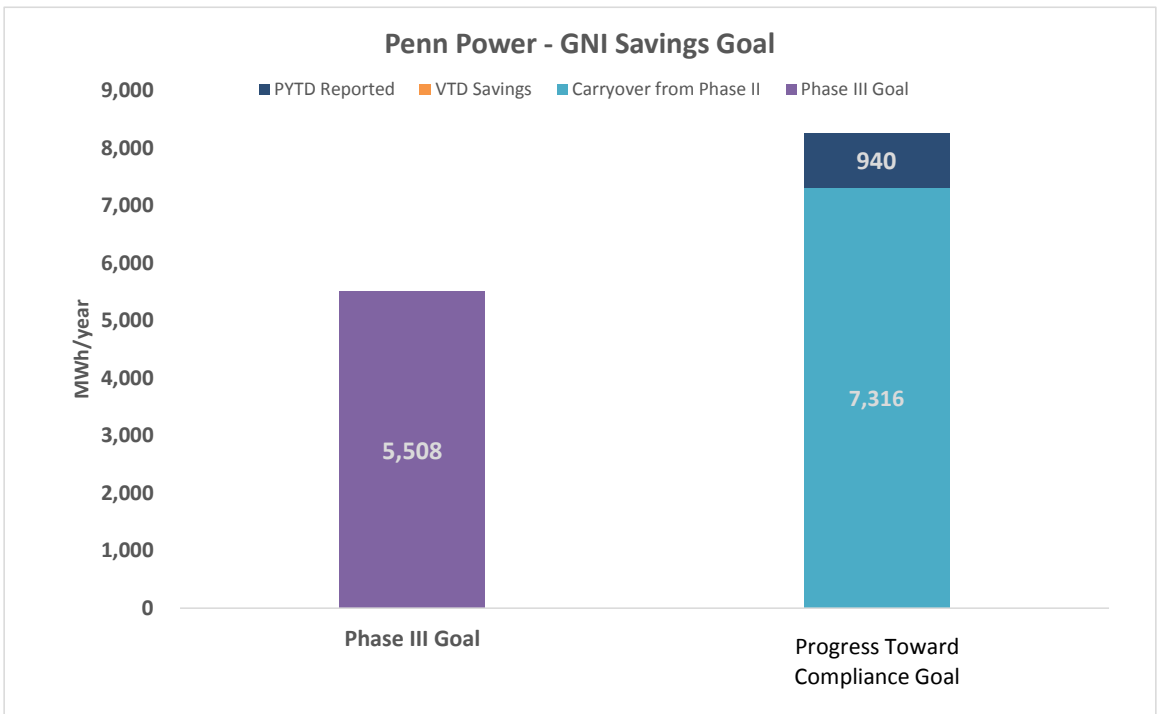
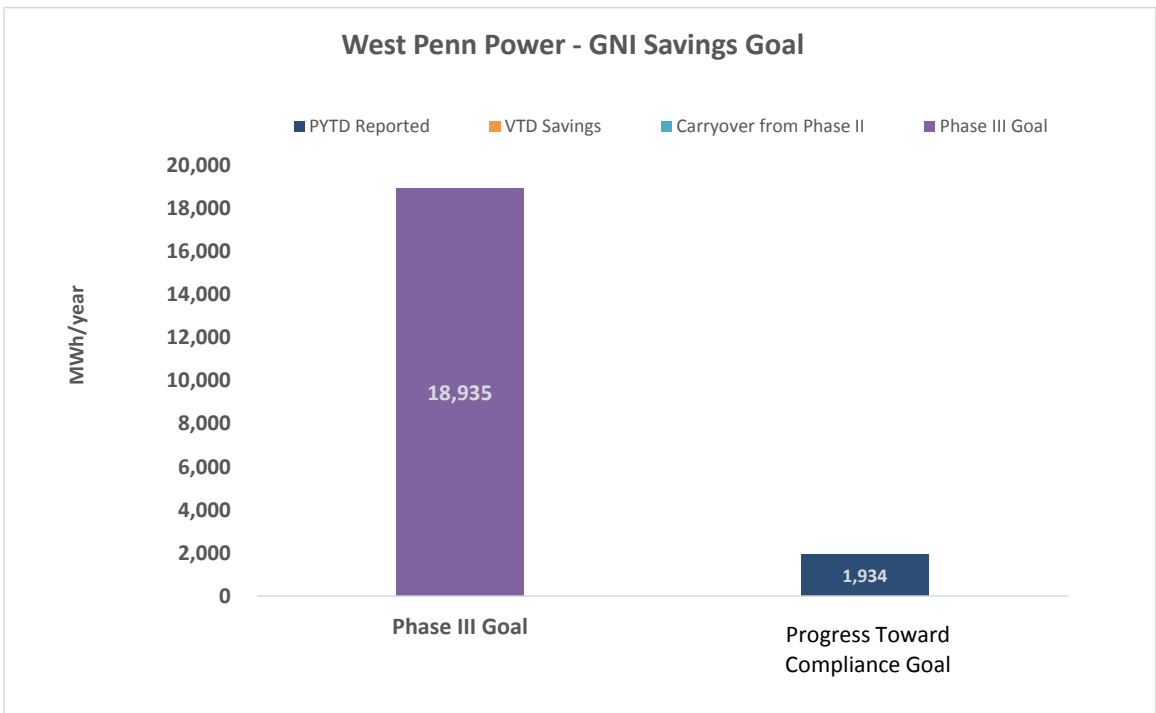


Figure 5D: EE&C Plan Performance against Phase III GNI Compliance Target – West Penn Power



2.3 PHASE III DEMAND RESPONSE ACHIEVEMENTS TO DATE

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

2.4 PHASE III PERFORMANCE BY CUSTOMER SEGMENT

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

Table 2-7: PY8 Summary Statistics by Customer Segment

EDC	Parameter	Residential (Non-LI)	Residential LI	Small C&I (Non-GNI)	Large C&I (Non-GNI)	GNI
Met-Ed	# participants	264,385	20,544	79	26	19
	PYRTD MWh/yr	31,637	4,336	2,834	3,482	519
	PYRTD MW/yr (Energy Efficiency)	8.0	1.0	0.4	0.4	0
	PYVTD MW (Demand Response)	n/a	n/a	n/a	n/a	n/a
	Incentives (\$1000)	\$1,717.46	\$274.39	\$140.84	\$163.05	\$26.83
Penelec	# participants	275,862	31,092	141	17	42
	PYRTD MWh/yr	31,274	6,348	4,134	2,196	933
	PYRTD MW/yr (Energy Efficiency)	6.7	1.2	0.7	0.3	0.1
	PYVTD MW (Demand Response)	n/a	n/a	n/a	n/a	n/a
	Incentives (\$1000)	\$1,679.59	\$460.40	\$252.02	\$104.94	\$58.38
Penn Power	# participants	52,053	5,632	69	6	59
	PYRTD MWh/yr	7,842	1,489	1,412	528	940
	PYRTD MW/yr (Energy Efficiency)	1.9	0.3	0.2	0.1	0.1
	PYVTD MW (Demand Response)	n/a	n/a	n/a	n/a	n/a
	Incentives (\$1000)	\$554.59	\$92.62	\$94.46	\$27.33	\$54.48
West Penn Power	# participants	293,298	24,524	130	14	81
	PYRTD MWh/yr	34,398	5,538	3,923	1,989	1,934
	PYRTD MW/yr (Energy Efficiency)	8.3	1.1	0.5	0.2	0.1
	PYVTD MW (Demand Response)	n/a	n/a	n/a	n/a	n/a
	Incentives (\$1000)	\$1,547.41	\$341.30	\$211.21	\$97.90	\$96.66

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

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

EDC	Parameter	Residential (Non-LI)	Residential LI	Small C&I (Non-GNI)	Large C&I (Non-GNI)	GNI
Met-Ed	# participants	264,385	20,544	79	26	19
	PYRTD MWh/yr	31,637	4,336	2,834	3,482	519
	PYRTD MW/yr (Energy Efficiency)	8.0	1.0	0.4	0.4	0
	PYVTD MW (Demand Response)	n/a	n/a	n/a	n/a	n/a
	Incentives (\$1000)	\$1,717.46	\$274.39	\$140.84	\$163.05	\$26.83
Penelec	# participants	275,862	31,092	141	17	42
	PYRTD MWh/yr	31,274	6,348	4,134	2,196	933
	PYRTD MW/yr (Energy Efficiency)	6.7	1.2	0.7	0.3	0.1
	PYVTD MW (Demand Response)	n/a	n/a	n/a	n/a	n/a
	Incentives (\$1000)	\$1,679.59	\$460.40	\$252.02	\$104.94	\$58.38
Penn Power	# participants	52,053	5,632	69	6	59
	PYRTD MWh/yr	7,842	1,489	1,412	528	940
	PYRTD MW/yr (Energy Efficiency)	1.9	0.3	0.2	0.1	0.1
	PYVTD MW (Demand Response)	n/a	n/a	n/a	n/a	n/a
	Incentives (\$1000)	\$554.59	\$92.62	\$94.46	\$27.33	\$54.48
West Penn Power	# participants	293,298	24,524	130	14	81
	PYRTD MWh/yr	34,398	5,538	3,923	1,989	1,934
	PYRTD MW/yr (Energy Efficiency)	8.3	1.1	0.5	0.2	0.1
	PYVTD MW (Demand Response)	n/a	n/a	n/a	n/a	n/a
	Incentives (\$1000)	\$1,547.41	\$341.30	\$211.21	\$97.90	\$96.66

Section 3 Updates and Findings

3.1 IMPLEMENTATION UPDATES AND FINDINGS

Implementation updates and findings through Q2 of PY8 are as follows:

- **Appliance Turn-In:** ARCA Recycling was chosen as the Conservation Service Provider (CSP) for the Companies for Phase III. This program was launched in July 2016. This program has been marketed through a variety of avenues including bill inserts, e-mail and direct mail campaigns, and internet radio ads. This program was also highlighted in Behavioral subprogram Home Energy Reports.
- **Energy Efficient Products Program:** Honeywell was chosen to continue as the Conservation Service Provider (CSP) for the Companies for Phase III. This program was launched in June 2016. This program has been marketed through a variety of avenues including in-store displays, outreach events, radio ads, digital ads, bill inserts, and e-mail and direct mail campaigns. Below are the sub-program updates:
 - **Appliances & Electronics:** Honeywell has continued to implement this subprogram in Phase III across all four PA EDCs.
 - **Lighting:** Honeywell has continued to implement this subprogram in Phase III across all four PA EDCs.
 - **HVAC:** Honeywell has continued to implement this subprogram in Phase III across all four PA EDCs.
- **Energy Efficient Homes Program:**
 - **Behavioral:** OPower has continued to implement the Behavioral subprogram in Phase III for the Companies.
 - **Energy Audits:** The Home Audits subprogram was implemented by GoodCents across all four PA EDCs.
 - **New Homes:** The New Homes subprogram was implemented by Performance Systems Development (PSD) across all four PA EDCs.
 - **School kits:** The School Education subprogram was implemented by AM Conservation Group (AMCG) across all four PA EDCs.
 - **Energy Efficiency Kits:** Power Direct Energy has continued to implement the Kits subprogram in Phase III for the Companies. The Kits subprogram has been marketed through e-mail during the second half of 2016.
 - **The Online Audit:** This software tool is available on the Companies' website. Upon completion of an online audit and specific energy tips being given to a customer, a kit is sent to a customer to help assist customers in saving energy in the home. There is also educational material in the kit – such as 100 Ways to Save Electricity and a brochure with other energy efficiency programs.

- **Low Income Energy Efficiency Program:**
 - **Appliance Rebate:** The Appliance Rebate subprogram and associated measures of this subprogram were implemented by Honeywell across all four PA EDCs.
 - **New Homes:** PSD was chosen as the Conservation Service Provider (CSP) for the Companies in Phase III for the Low Income New Homes subprogram.
 - **School Kits:** The Low Income School Education subprogram was implemented by AMCG across all four PA EDCs.
 - **Appliance Turn-in subprogram:** ARCA Recycling was chosen as the Conservation Service Provider (CSP) for the Companies for Phase III for the Low Income Appliance Turn-In subprogram. This subprogram was launched in July 2016. This subprogram provides an enhanced incentive for customers identified as low income.
 - **Behavioral subprogram:** OPower has continued to implement the LI Behavioral subprogram. Customers identified as low-income receive Home Energy Reports with low or no cost tips to educate customers on how to use less energy.
 - **Energy Efficiency Kits:** Customers identified as low-income will receive an enhanced kit through the Low Income Energy Efficiency Kits subprogram. The kit also contains educational material on ways to save electricity, other energy efficiency programs available through the Companies, and information about the WARM program.
- **C/I Efficient Solutions for Business – Small:** The Companies launched this program on June 1, 2016 across all four EDCs. The CSP hired by the Companies brought on-line necessary infrastructure – new program website, new on-line portal, new toll free #, new e-mail address, and a call center – effective June 1, 2016 to make this program operational. The CSP has hosted educational session for Companies’ Customer Support Staff and Area Managers. To date, the Companies have hosted four outreach events targeted at customers and program allies. The CSP has developed and produced number of new marketing pieces that are used at trade shows and other outreach events. These marketing pieces are also made available to Companies’ Customer Support Staff and Area Managers as a “leave behind” piece when they call upon their assigned accounts. The outreach team has engaged all existing program allies that were active in Phase II and continue to recruit new program allies.
- **C/I Efficient Solutions for Business – Large:** Companies launched this program on June 1, 2016 across all four EDCs. The CSP hired by the Companies brought on-line necessary infrastructure – new program website, new on-line portal, new toll free #, new e-mail address, and a call center – effective June 1, 2016 to make this program operational. The CSP has hosted educational session for Companies’ Customer Support Staff and Area Managers. To date, the Companies have hosted four outreach events targeted at customers and program allies. The CSP has developed and produced number of new marketing pieces that are used at trade shows and other outreach events. These marketing pieces are also made available to Companies’ Customer Support Staff and Area Managers as a “leave behind” piece when they call

upon their assigned accounts. The outreach team has engaged all existing program allies that were active in Phase II and continue to recruit new program allies.

- **Government & Institutional Tariff Program:** Companies launched this program on June 1, 2016 across all four EDCs. The CSP hired by the Companies' brought on-line necessary infrastructure – new program website, new on-line portal, new toll free #, new e-mail address, and a call center – effective June 1, 2016 to make this program operational. The CSP has hosted educational session and developed tools for the Companies' Streetlighting Reps who work directly with municipalities. To date, the Companies have hosted four outreach events targeted at customers and program allies. The outreach team has engaged all existing program allies that were active in Phase II and continue to recruit new program allies.
- **Demand Response Residential, Small, and Large:** C&I DR contracts for ME, PP and WPP were executed with two Conservation Service Providers and received Commission approval in late December 2016. Program implementation meetings began in late October 2016 with the C&I DR Conservation Service Providers. Residential Behavioral DR Program contract (s) are currently being developed based on proposals with expected filing for Commission approval in early 2017. The C&I DR Programs and Residential Behavioral Programs will be implemented starting in June of 2017.

3.2 EVALUATION UPDATES AND FINDINGS

Evaluation updates and findings through Q2 of PY8 are as follows:

- **Portfolio level:** developed PY8 Evaluation Plan and submitted to SWE as of November 2016.
- **Portfolio level:** ADM has reviewed the Companies' Tracking and Reporting (T&R) database and has collaborated with the T&R vendor, AEG, to develop automated QA/QC processes.
- **Appliance Turn-In Program:** ADM developed a customer survey instrument for impact and process evaluation. Participant surveys were launched in December 2016 and will be conducted on an ongoing basis. ADM also developed draft IMP for dehumidifier recycling. The IMP is currently being reviewed by other EDCs and the SWE.
- **Energy Efficient Products Program:** A desk review completed for upstream programs through Q2 of PY8. A participant survey instrument is in development for downstream programs. The anticipated launch is Q3 of PY8.
- **Energy Efficient Homes Program:** In late 2016, ADM conducted equivalence testing for Behavioral subprogram. ADM also reviewed reported savings and expected in-service rates for Home Energy Audit and Schools Kits. A participant survey instrument is in development for kits programs. The anticipated launch in Q3 of PY8. For the New Homes subprogram, ADM conducted initial on-site visits concurrent to the implementer's QA/QC visits.
- **Low-Income Energy Efficiency Program:** ADM reviewed reported savings and expected in-service rates for Home Energy Audit and Schools Kits.
- **C&I Energy Solutions for Business – Small, C&I Energy Solutions for Business – Large, and Governmental & Institutional Tariff programs:** ADM pulled initial sample and completed approximately 50 desk reviews in advance of on-site visits.
- **C&I Energy Solutions for Business – Small, C&I Energy Solutions for Business – Large, and Governmental & Institutional Tariff programs:** ADM has started evaluation of 16 "above threshold" high impact lighting and custom projects.
- **C&I Demand Response Programs:** ADM has discussed allowed and disallowed customer baseline load (CBL) reconstruction procedures with ICSPs. ADM has developed an evaluation plan outline, and will complete evaluation plans in Q1 of 2017.
- **Residential Behavior Demand Response:** ADM has developed an evaluation plan outline, and will complete evaluation plans in Q1 of 2017.

Section 4 Summary of Participation by Program

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

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

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

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

Utility	Program	PYTD Participation	P3TD Participation
Met-Ed	Appliance Turn-in	1,527	1,527
	Energy Efficient Homes	153,419	153,419
	Energy Efficient Products	109,439	109,439
	Low Income Energy Efficiency	20,544	20,544
	C&I Energy Solutions for Business - Small	89	89
	C&I Demand Response - Small	n/a	n/a
	C&I Energy Solutions for Business - Large	34	34
	C&I Demand Response - Large	n/a	n/a
	Governmental & Institutional Tariff	1	1
	Portfolio Total	285,053	285,053
Penelec	Appliance Turn-in	1,451	1,451
	Energy Efficient Homes	152,939	152,939
	Energy Efficient Products	121,472	121,472
	Low Income Energy Efficiency	31,092	31,092
	C&I Energy Solutions for Business - Small	174	174
	C&I Demand Response - Small	n/a	n/a
	C&I Energy Solutions for Business - Large	23	23
	C&I Demand Response - Large	n/a	n/a
	Governmental & Institutional Tariff	3	3
	Portfolio Total	307,154	307,154
Penn Power	Appliance Turn-in	454	454
	Energy Efficient Homes	29,132	29,132
	Energy Efficient Products	22,466	22,466
	Low Income Energy Efficiency	5,632	5,632
	C&I Energy Solutions for Business - Small	82	82
	C&I Demand Response - Small	n/a	n/a
	C&I Energy Solutions for Business - Large	6	6
	C&I Demand Response - Large	n/a	n/a
	Governmental & Institutional Tariff	47	47
	Portfolio Total	57,819	57,819
West Penn Power	Appliance Turn-in	2,001	2,001
	Energy Efficient Homes	165,300	165,300
	Energy Efficient Products	125,997	125,997
	Low Income Energy Efficiency	24,524	24,524
	C&I Energy Solutions for Business - Small	145	145
	C&I Demand Response - Small	n/a	n/a
	C&I Energy Solutions for Business - Large	20	20
	C&I Demand Response - Large	n/a	n/a
	Governmental & Institutional Tariff	60	60
	Portfolio Total	318,047	318,047

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

Section 5 Summary of Energy Impacts by Program

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

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

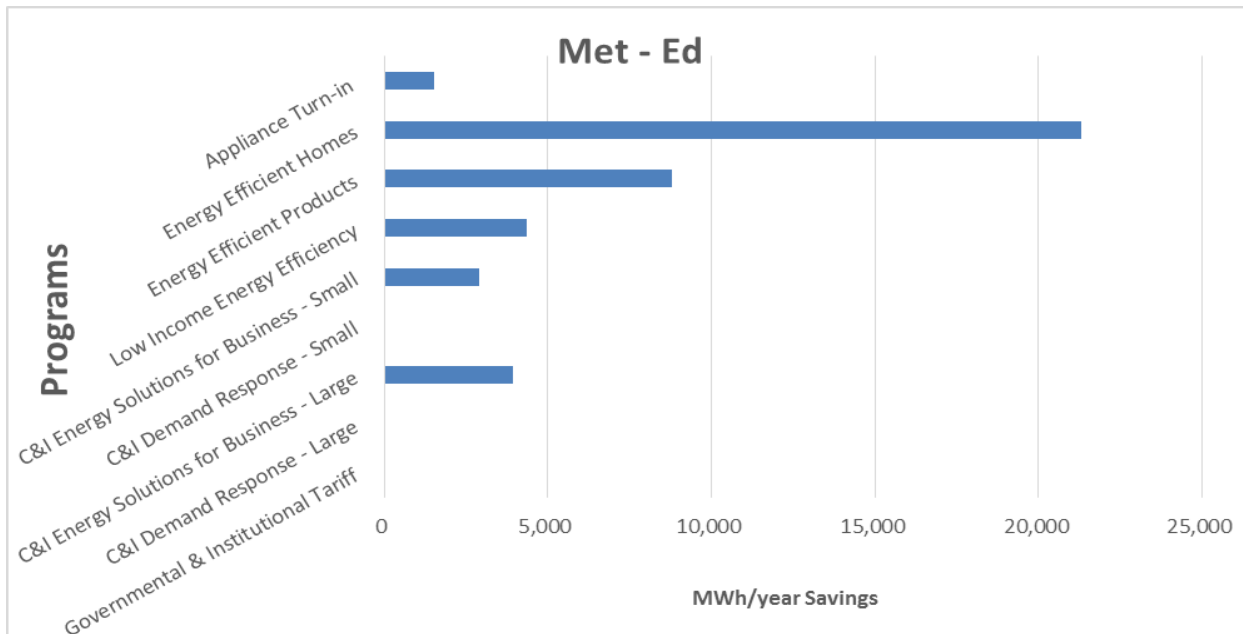
Utility	Program	PYRTD	VTD	PSA	RTD
Met-Ed	Appliance Turn-in	1,535	0	1,535	1,535
	Energy Efficient Homes	21,297	0	21,297	21,297
	Energy Efficient Products	8,804	0	8,804	8,804
	Low Income Energy Efficiency	4,336	0	4,336	4,336
	C&I Energy Solutions for Business - Small	2,916	0	2,916	2,916
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	3,915	0	3,915	3,915
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	3	0	3	3
	Portfolio Total	42,807	0	42,807	42,807
	Program	PYRTD	VTD	PSA	RTD
Penelec	Appliance Turn-in	1,593	0	1,593	1,593
	Energy Efficient Homes	18,369	0	18,369	18,369
	Energy Efficient Products	11,293	0	11,293	11,293
	Low Income Energy Efficiency	6,348	0	6,348	6,348
	C&I Energy Solutions for Business - Small	4,759	0	4,759	4,759
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	2,486	0	2,486	2,486
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	17	0	17	17
	Portfolio Total	44,884	0	44,884	44,884
	Program	PYRTD	VTD	PSA	RTD
Penn Power	Appliance Turn-in	500	0	500	500
	Energy Efficient Homes	5,434	0	5,434	5,434
	Energy Efficient Products	1,908	0	1,908	1,908
	Low Income Energy Efficiency	1,489	0	1,489	1,489
	C&I Energy Solutions for Business - Small	2,039	0	2,039	2,039
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	528	0	528	528
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	313	0	313	313
	Portfolio Total	12,210	0	12,210	12,210
	Program	PYRTD	VTD	PSA	RTD
West Penn Power	Appliance Turn-in	2,155	0	2,155	2,155
	Energy Efficient Homes	21,486	0	21,486	21,486
	Energy Efficient Products	10,758	0	10,758	10,758
	Low Income Energy Efficiency	5,538	0	5,538	5,538
	C&I Energy Solutions for Business - Small	4,192	0	4,192	4,192
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	2,395	0	2,395	2,395
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	1,259	0	1,259	1,259
	Portfolio Total	47,782	0	47,782	47,782

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

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

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

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



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

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

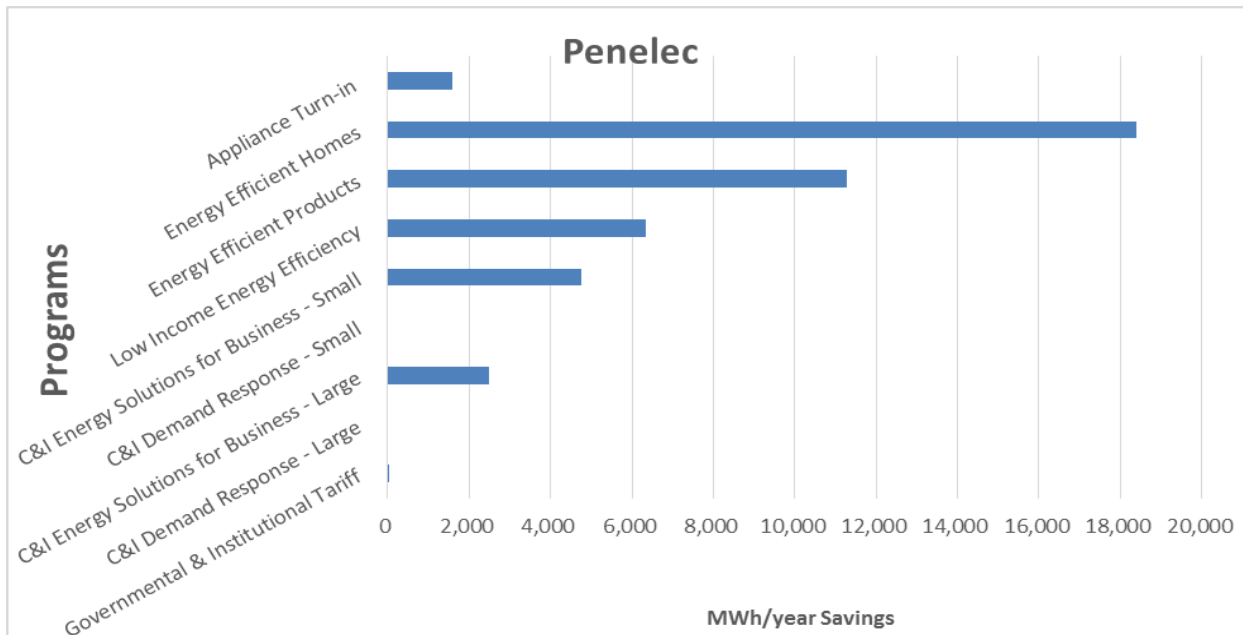


Figure 6C: PYTD Reported Gross Energy Savings by Program - Penn Power

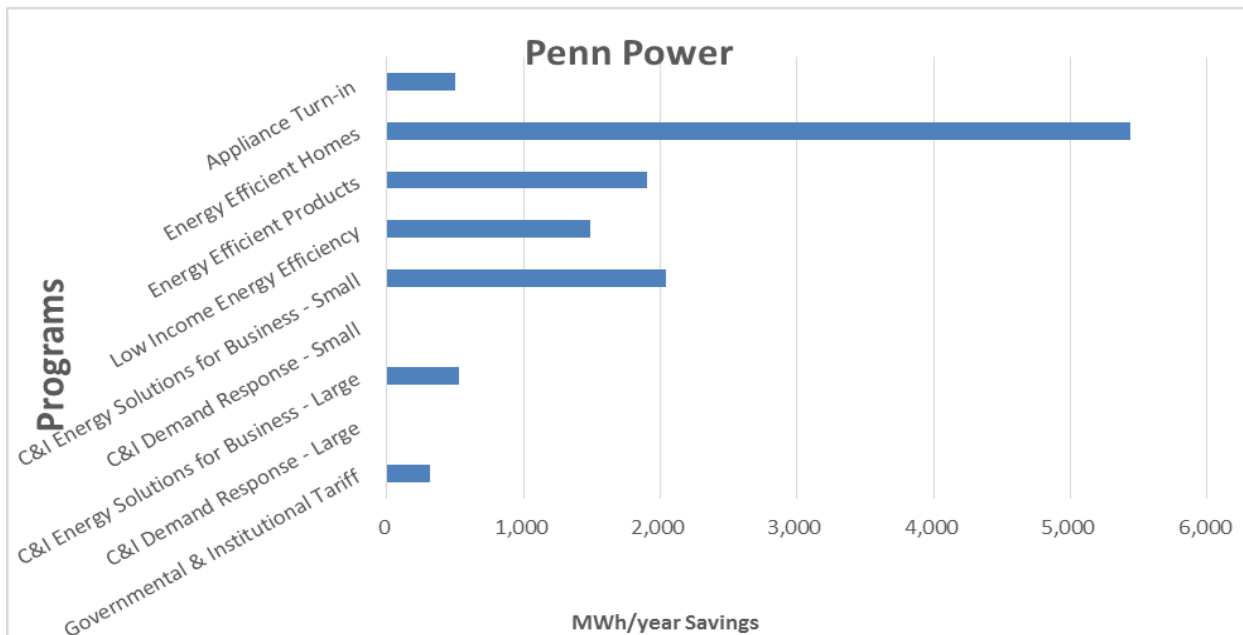
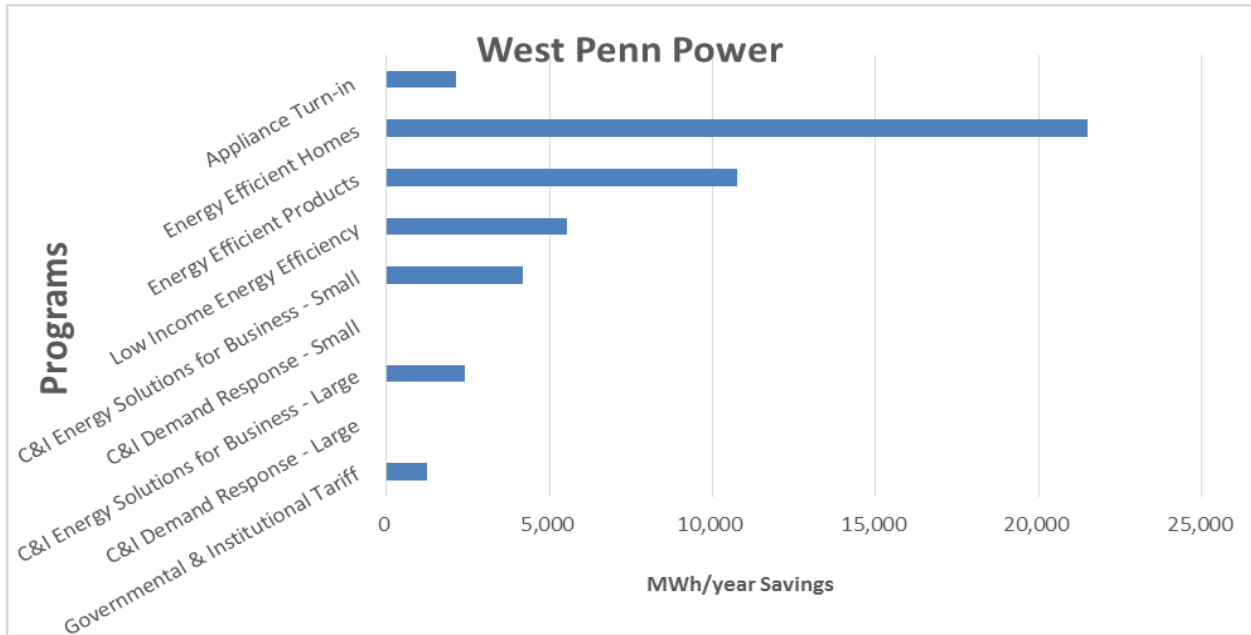


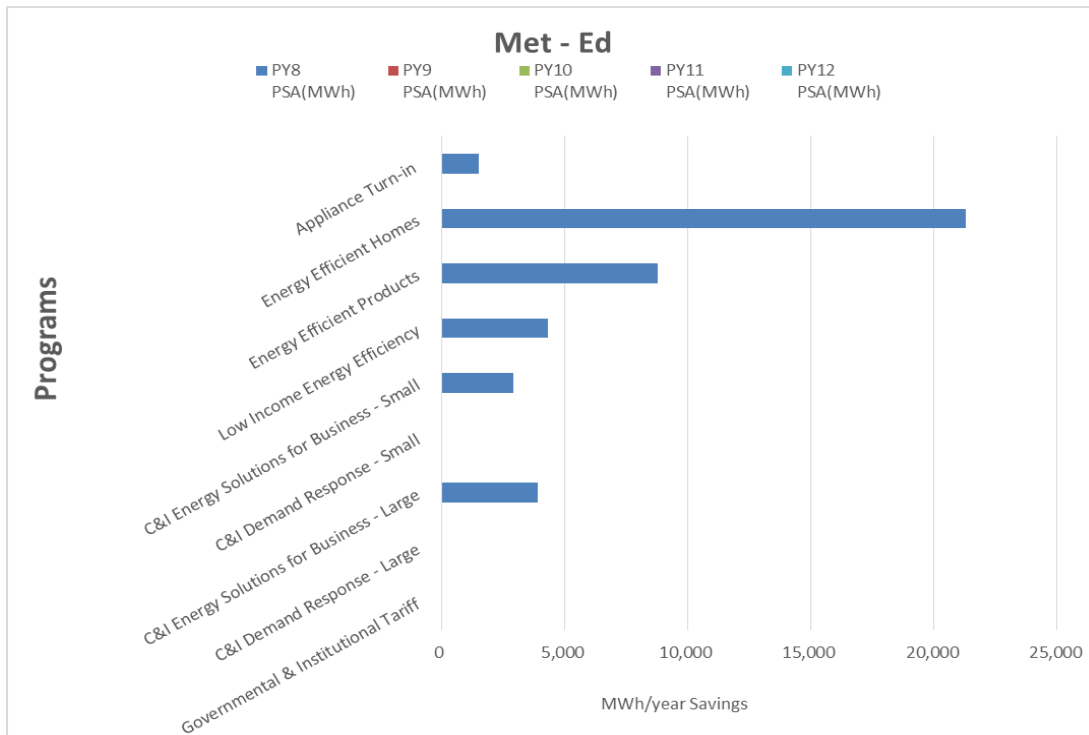
Figure 6D: PYTD Reported Gross Energy Savings by Program - West Penn Power



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

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

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



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

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

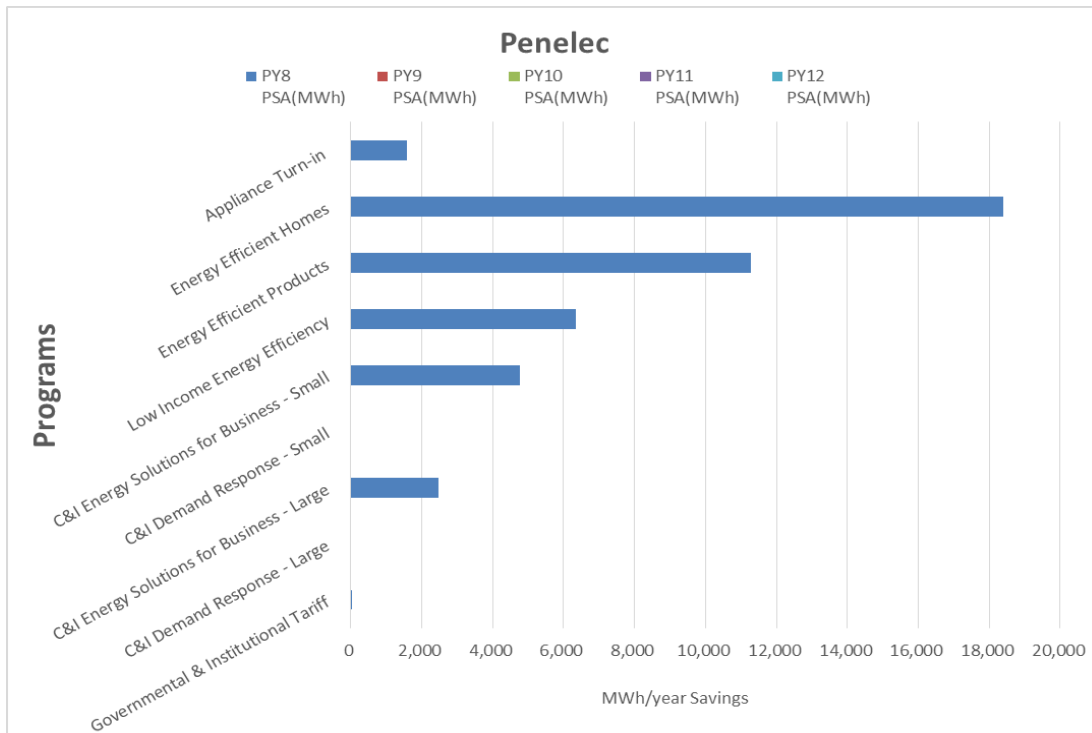


Figure 7C: PSA Energy Savings by Program for Phase III - Penn Power

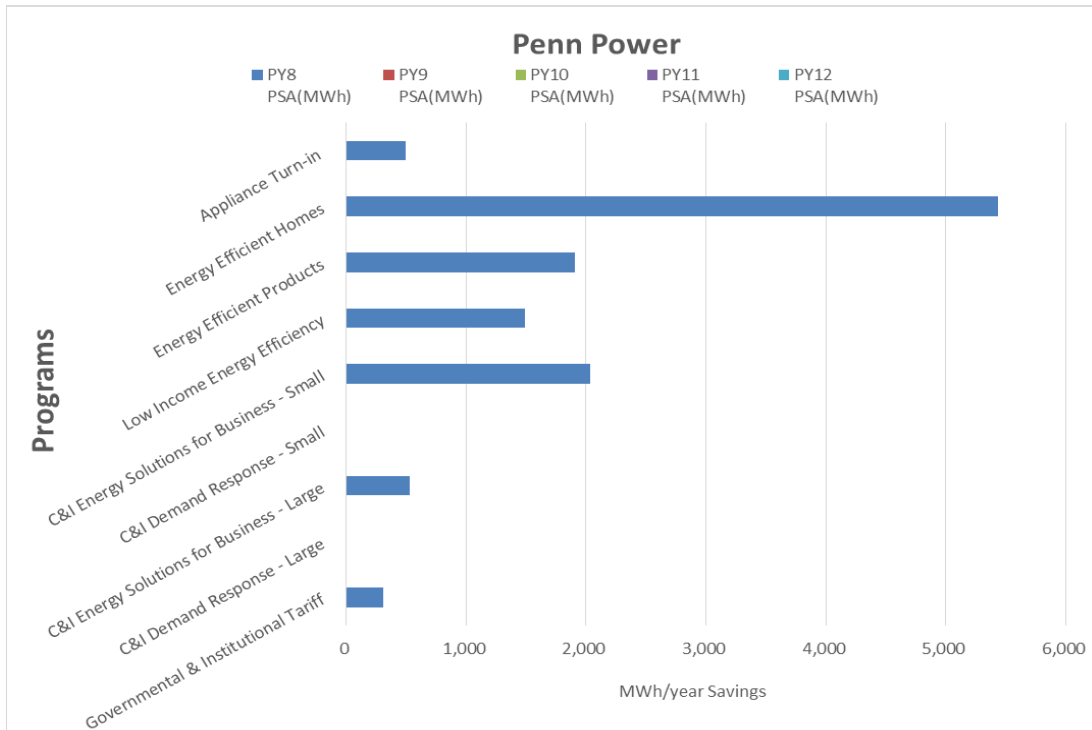
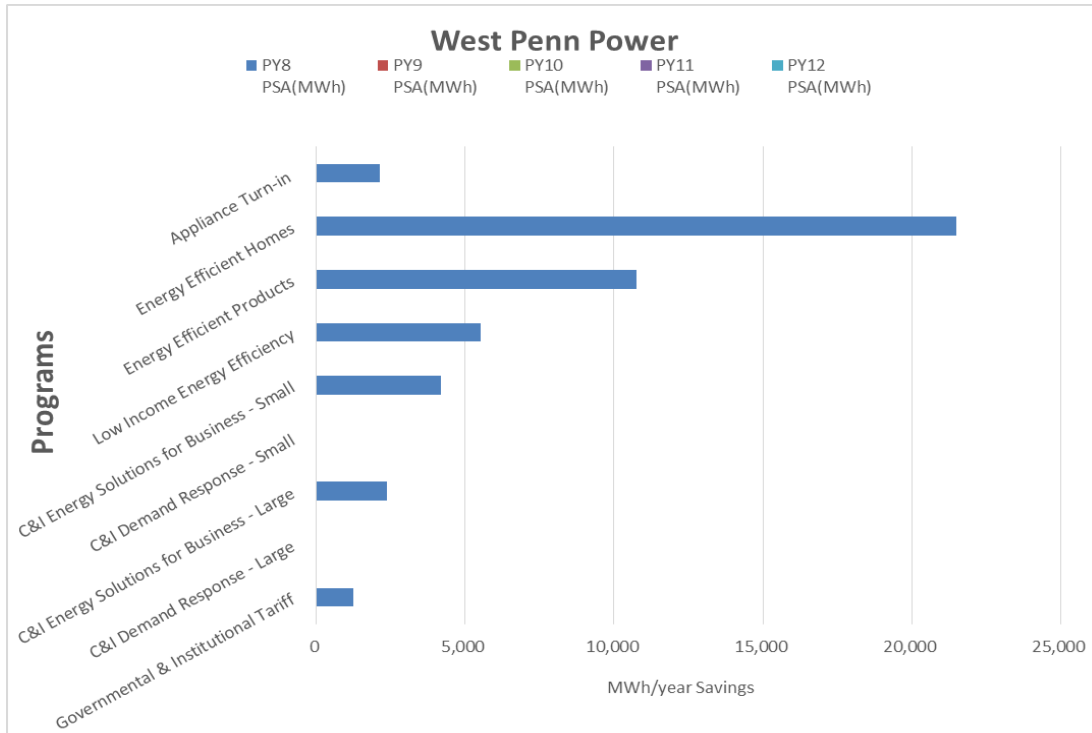


Figure 7D: PSA Energy Savings by Program for Phase III - West Penn Power



Section 6 Summary of Demand Impacts by Program

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

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

6.1 ENERGY EFFICIENCY

Act 129 defines peak demand savings from energy efficiency as the average expected reduction in electric demand from 2:00 p.m. to 6:00 p.m. EDT on non-holiday weekdays from June to August. The peak demand impacts from energy efficiency in this report are presented at the meter level and do not reflect adjustments for transmission and distribution losses.

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

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

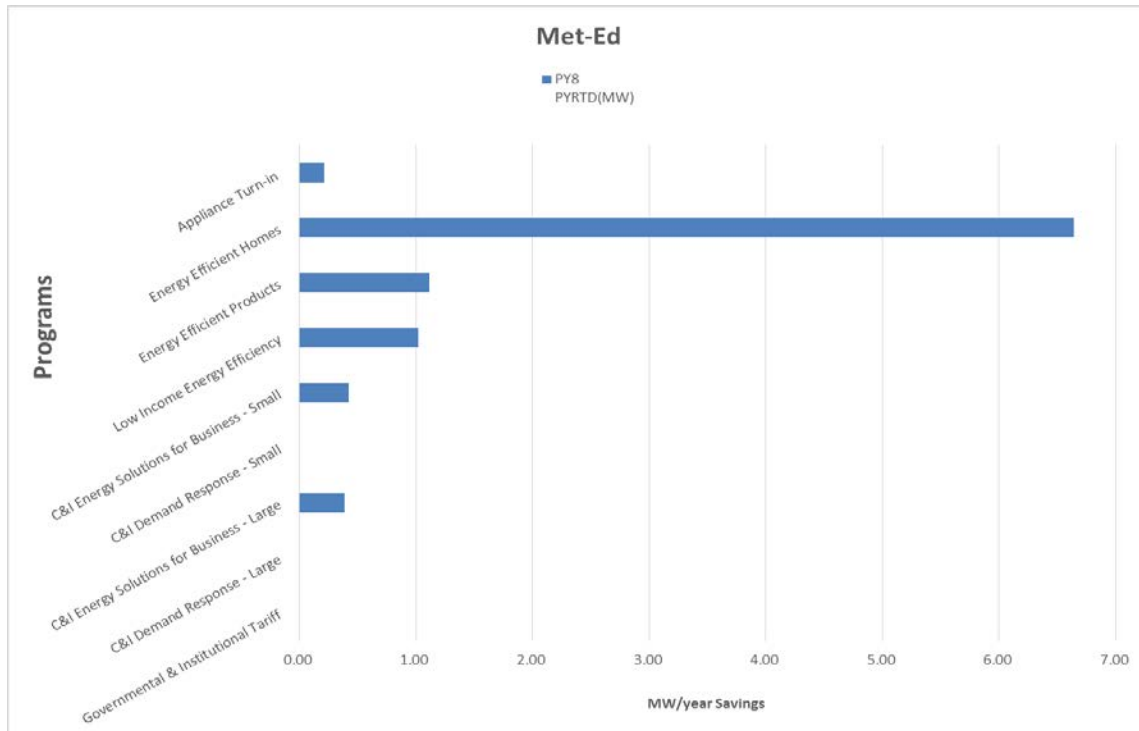
	Program	PYRTD	VTD	PSA	RTD
Met-Ed	Appliance Turn-in	0.22	0.00	0.22	0.22
	Energy Efficient Homes	6.64	0.00	6.64	6.64
	Energy Efficient Products	1.12	0.00	1.12	1.12
	Low Income Energy Efficiency	1.02	0.00	1.02	1.02
	C&I Energy Solutions for Business - Small	0.42	0.00	0.42	0.42
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	0.39	0.00	0.39	0.39
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	0.00	0.00	0.00	0.00
	Portfolio Total	9.81	0.00	9.81	9.81
	Program	PYRTD	VTD	PSA	RTD
Penelec	Appliance Turn-in	0.21	0.00	0.21	0.21
	Energy Efficient Homes	5.21	0.00	5.21	5.21
	Energy Efficient Products	1.23	0.00	1.23	1.23
	Low Income Energy Efficiency	1.20	0.00	1.20	1.20
	C&I Energy Solutions for Business - Small	0.75	0.00	0.75	0.75
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	0.31	0.00	0.31	0.31
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	0.00	0.00	0.00	0.00
	Portfolio Total	8.91	0.00	8.91	8.91
	Program	PYRTD	VTD	PSA	RTD
Penn Power	Appliance Turn-in	0.06	0.00	0.06	0.06
	Energy Efficient Homes	1.56	0.00	1.56	1.56
	Energy Efficient Products	0.23	0.00	0.23	0.23
	Low Income Energy Efficiency	0.29	0.00	0.29	0.29
	C&I Energy Solutions for Business - Small	0.30	0.00	0.30	0.30
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	0.07	0.00	0.07	0.07
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	0.02	0.00	0.02	0.02
	Portfolio Total	2.53	0.00	2.53	2.53
	Program	PYRTD	VTD	PSA	RTD
West Penn Power	Appliance Turn-in	0.27	0.00	0.27	0.27
	Energy Efficient Homes	6.59	0.00	6.59	6.59
	Energy Efficient Products	1.44	0.00	1.44	1.44
	Low Income Energy Efficiency	1.15	0.00	1.15	1.15
	C&I Energy Solutions for Business - Small	0.58	0.00	0.58	0.58
	C&I Demand Response - Small	n/a	n/a	n/a	n/a
	C&I Energy Solutions for Business - Large	0.19	0.00	0.19	0.19
	C&I Demand Response - Large	n/a	n/a	n/a	n/a
	Governmental & Institutional Tariff	0.08	0.00	0.08	0.08
	Portfolio Total	10.30	0.00	10.30	10.30

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

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

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

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



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

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

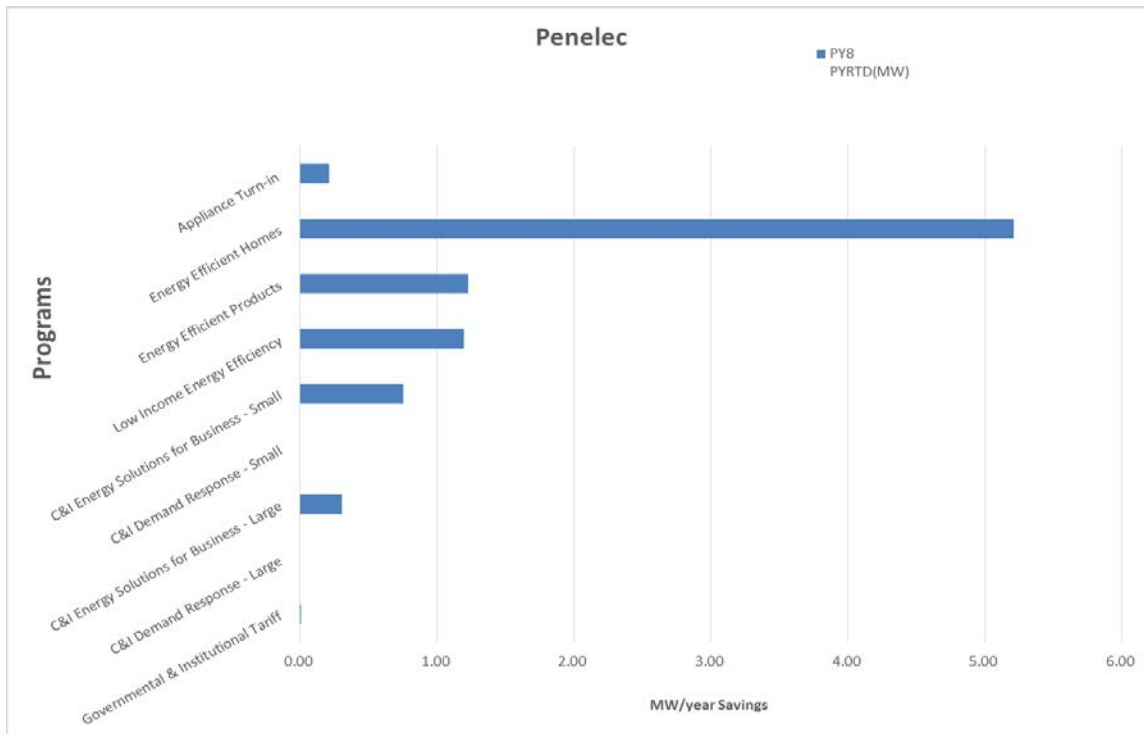


Figure 8C: PYRTD Gross Demand Savings by Energy Efficiency Program - Penn Power

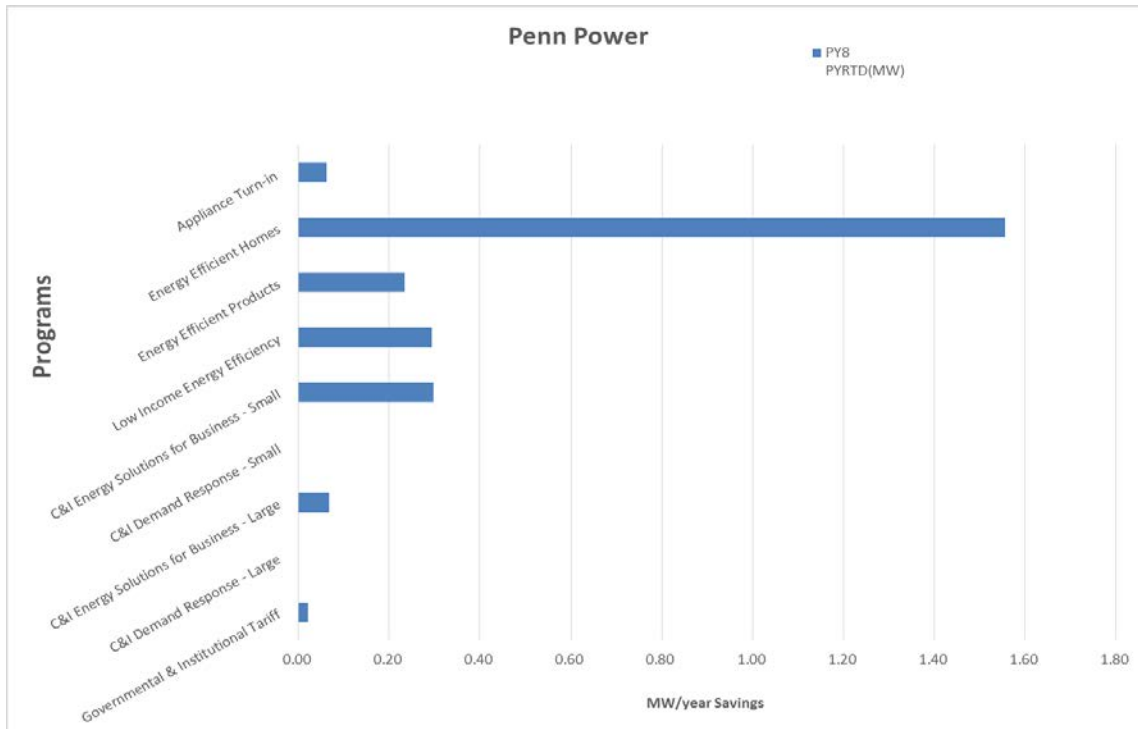
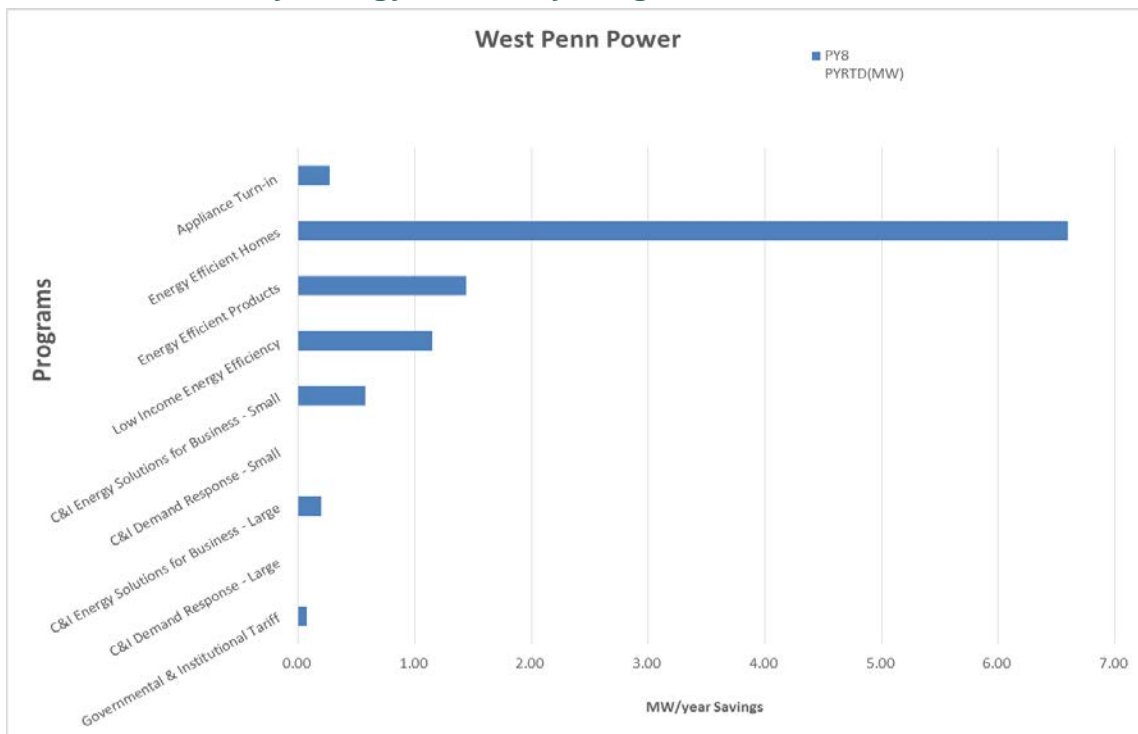


Figure 8D: PYRTD Gross Demand Savings by Energy Efficiency Program - West Penn Power

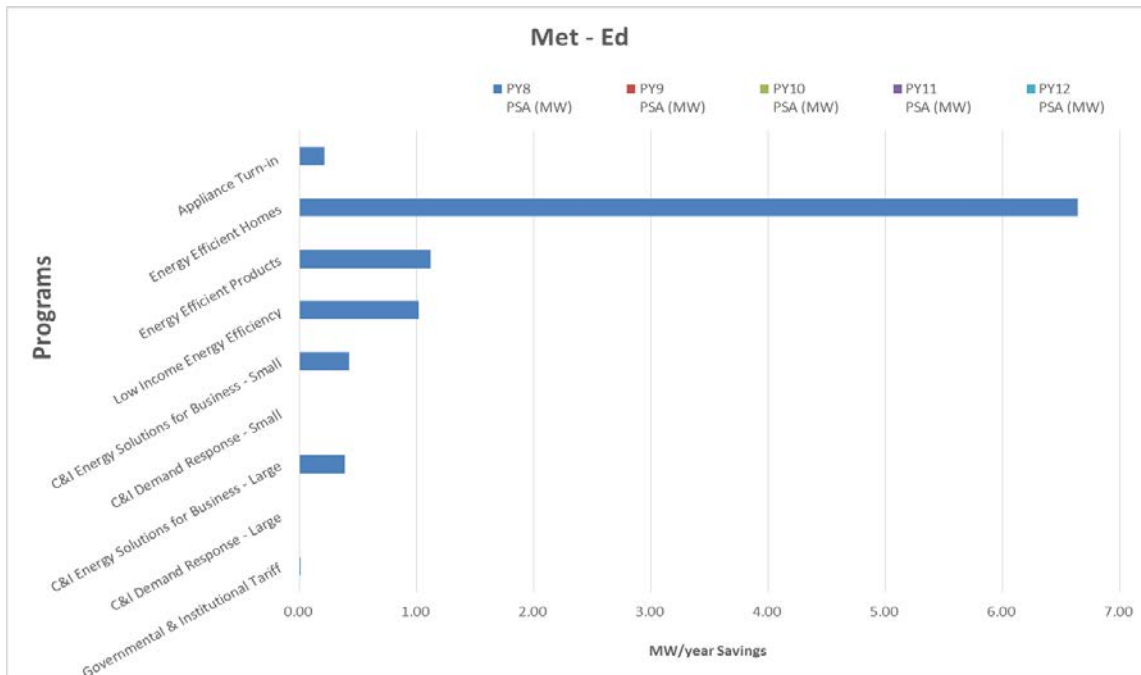


Figures 9A-9D: PSA Demand Savings by Energy Efficiency Program for Phase III present a summary of the PSA gross demand savings by energy efficiency program for Phase III of Act 129⁹.

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

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

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



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

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

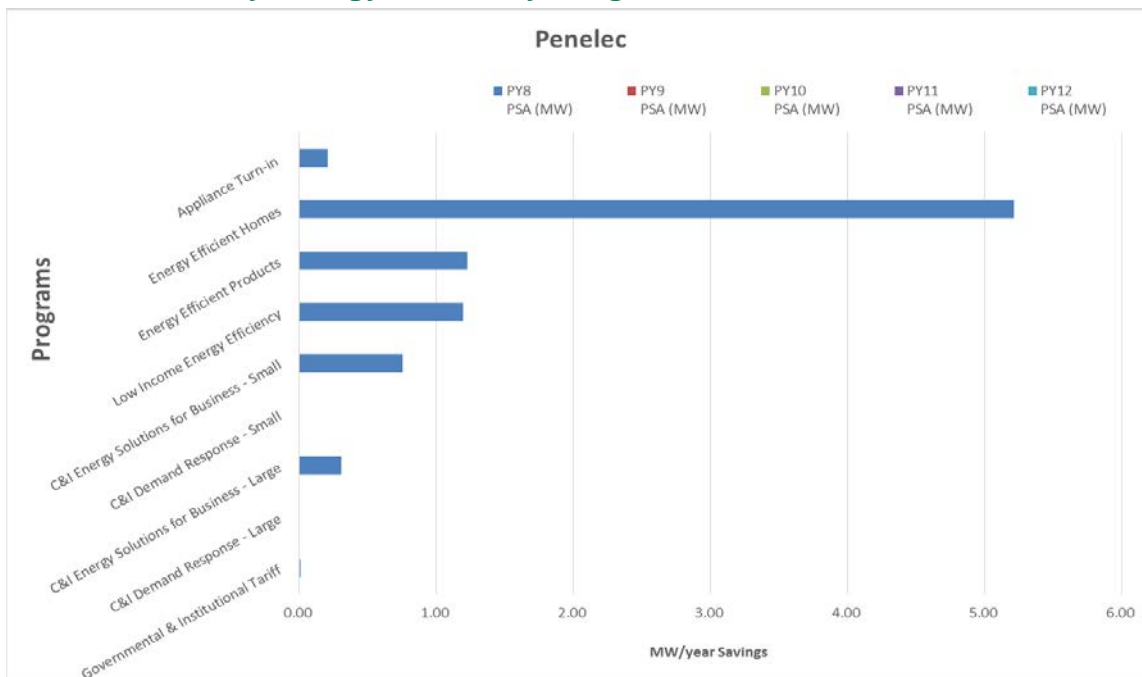
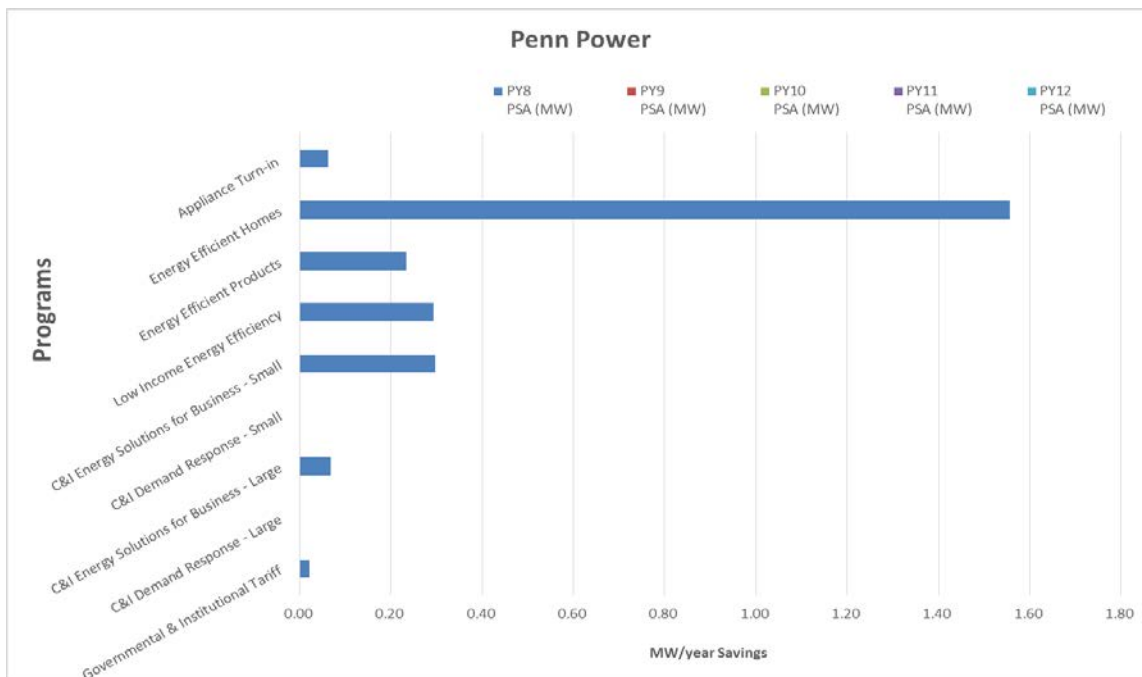
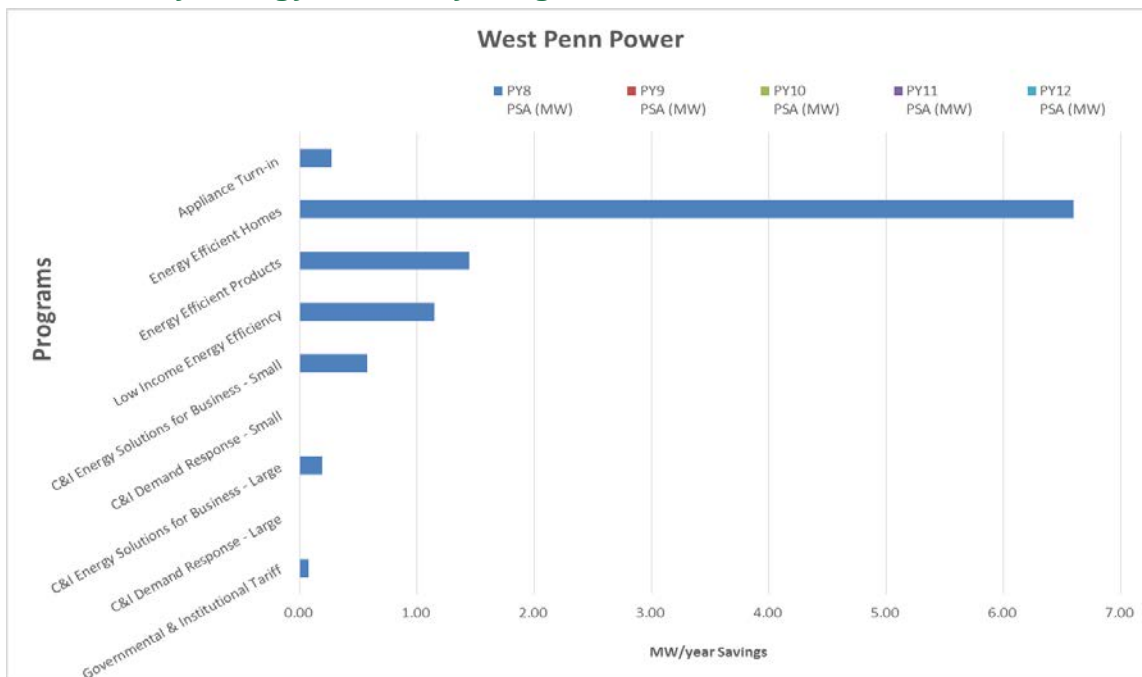


Figure 9C: PSA Demand Savings by Energy Efficiency Program for Phase III – Penn Power



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



6.2 DEMAND RESPONSE

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

Section 7 Summary of Finances

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

7.1 PROGRAM FINANCIALS

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

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

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

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

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

Program	Incentives to Participants and Trade Allies	EDC Materials, Labor, and Administration	ICSP Materials, Labor, and Administration	EM&V	Total EDC Cost
<i>Appliance Turn-in</i>	\$87,450	\$30,029	\$184,152	\$1,960	\$303,591
<i>Energy Efficient Homes</i>	\$1,119,213	\$130,288	\$1,678,583	\$3,717	\$2,931,802
<i>Energy Efficient Products</i>	\$510,795	\$16,082	\$346,983	\$3,722	\$877,583
<i>Low Income Energy Efficiency</i>	\$274,393	\$142,325	\$986,025	\$2,593	\$1,405,336
<i>C&I Energy Solutions for Business - Small</i>	\$151,772	\$81,016	\$321,679	\$2,135	\$556,602
<i>C&I Demand Response - Small</i>	\$0	\$6,957	\$0	\$110	\$7,067
<i>C&I Energy Solutions for Business - Large</i>	\$178,781	\$46,894	\$372,607	\$7,266	\$605,548
<i>C&I Demand Response - Large</i>	\$0	\$62,332	\$0	\$983	\$63,314
<i>Governmental & Institutional Tariff</i>	\$167	(\$2,783)	\$16,278	\$1,626	\$15,287
Common Portfolio Costs					
Total Portfolio	\$2,322,571	\$513,139	\$3,906,308	\$24,112	\$6,766,130
SWE Costs	\$0	\$0	\$0	\$0	\$320,000
Total	\$2,322,571	\$513,139	\$3,906,308	\$24,112	\$7,086,130

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

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

Program	Incentives to Participants and Trade Allies	EDC Materials, Labor, and Administration	ICSP Materials, Labor, and Administration	EM&V	Total EDC Cost
<i>Appliance Turn-in</i>	\$82,900	\$33,869	\$221,639	\$2,142	\$340,551
<i>Energy Efficient Homes</i>	\$1,067,578	\$130,417	\$1,659,135	\$3,140	\$2,860,269
<i>Energy Efficient Products</i>	\$529,114	\$22,148	\$363,555	\$3,932	\$918,749
<i>Low Income Energy Efficiency</i>	\$460,403	\$178,727	\$1,021,899	\$2,662	\$1,663,690
<i>C&I Energy Solutions for Business - Small</i>	\$295,425	\$108,431	\$349,682	\$2,356	\$755,895
<i>C&I Demand Response - Small</i>	\$0	\$0	\$0	\$0	\$0
<i>C&I Energy Solutions for Business - Large</i>	\$118,828	\$51,160	\$303,830	\$6,751	\$480,569
<i>C&I Demand Response - Large</i>	\$0	\$0	\$0	\$0	\$0
<i>Governmental & Institutional Tariff</i>	\$1,095	\$4,181	\$25,066	\$2,787	\$33,129
<i>Common Portfolio Costs</i>					
<i>Total Portfolio</i>	\$2,555,342	\$528,933	\$3,944,805	\$23,770	\$7,052,851
<i>SWE Costs</i>	\$0	\$0	\$0	\$0	\$290,000
<i>Total</i>	\$2,555,342	\$528,933	\$3,944,805	\$23,770	\$7,342,851

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>	\$28,375	\$7,903	\$84,809	\$479	\$121,566
<i>Energy Efficient Homes</i>	\$398,734	\$62,638	\$384,655	\$1,449	\$847,476
<i>Energy Efficient Products</i>	\$127,496	(\$4,660)	\$54,222	\$769	\$177,825
<i>Low Income Energy Efficiency</i>	\$92,620	\$56,093	\$255,646	\$725	\$405,084
<i>C&I Energy Solutions for Business - Small</i>	\$133,293	\$18,715	\$100,079	\$569	\$252,658
<i>C&I Demand Response - Small</i>	\$0	\$2,504	\$0	\$38	\$2,542
<i>C&I Energy Solutions for Business - Large</i>	\$27,319	\$10,981	\$69,968	\$1,473	\$109,741
<i>C&I Demand Response - Large</i>	\$0	\$22,416	\$0	\$339	\$22,755
<i>Governmental & Institutional Tariff</i>	\$15,644	\$584	\$15,241	\$592	\$32,060
<i>Common Portfolio Costs</i>					
<i>Total Portfolio</i>	\$823,480	\$177,174	\$964,621	\$6,432	\$1,971,707
<i>SWE Costs</i>	\$0	\$0	\$0	\$0	\$90,000
<i>Total</i>	\$823,480	\$177,174	\$964,621	\$6,432	\$2,061,707

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>	\$113,900	\$32,623	\$288,762	\$1,910	\$437,194
<i>Energy Efficient Homes</i>	\$841,169	\$146,288	\$1,711,874	\$3,683	\$2,703,014
<i>Energy Efficient Products</i>	\$592,340	\$49,631	\$446,321	\$3,605	\$1,091,897
<i>Low Income Energy Efficiency</i>	\$341,303	\$135,926	\$1,200,513	\$2,363	\$1,680,105
<i>C&I Energy Solutions for Business - Small</i>	\$224,653	\$93,685	\$364,371	\$2,147	\$684,856
<i>C&I Demand Response - Small</i>	\$0	\$8,363	\$0	\$129	\$8,492
<i>C&I Energy Solutions for Business - Large</i>	\$118,273	\$41,542	\$286,565	\$5,952	\$452,332
<i>C&I Demand Response - Large</i>	\$0	\$75,319	\$0	\$1,165	\$76,484
<i>Governmental & Institutional Tariff</i>	\$62,847	\$3,145	\$50,706	\$2,204	\$118,902
<i>Common Portfolio Costs</i>					
<i>Total Portfolio</i>	\$2,294,485	\$586,522	\$4,349,112	\$23,158	\$7,253,276
<i>SWE Costs</i>	\$0	\$0	\$0	\$0	\$300,000
<i>Total</i>	\$2,294,485	\$586,522	\$4,349,112	\$23,158	\$7,553,276

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

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

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

Program	Incentives to Participants and Trade Allies	EDC Materials, Labor, and Administration	ICSP Materials, Labor, and Administration	EM&V	Total EDC Cost
<i>Appliance Turn-in</i>	\$87,450	\$30,029	\$184,152	\$1,960	\$303,591
<i>Energy Efficient Homes</i>	\$1,119,213	\$130,288	\$1,678,583	\$3,717	\$2,931,802
<i>Energy Efficient Products</i>	\$510,795	\$16,082	\$346,983	\$3,722	\$877,583
<i>Low Income Energy Efficiency</i>	\$274,393	\$142,325	\$986,025	\$2,593	\$1,405,336
<i>C&I Energy Solutions for Business - Small</i>	\$151,772	\$81,016	\$321,679	\$2,135	\$556,602
<i>C&I Demand Response - Small</i>	\$0	\$6,957	\$0	\$110	\$7,067
<i>C&I Energy Solutions for Business - Large</i>	\$178,781	\$46,894	\$372,607	\$7,266	\$605,548
<i>C&I Demand Response - Large</i>	\$0	\$62,332	\$0	\$983	\$63,314
<i>Governmental & Institutional Tariff</i>	\$167	(\$2,783)	\$16,278	\$1,626	\$15,287
Common Portfolio Costs					
Total Portfolio	\$2,322,571	\$513,139	\$3,906,308	\$24,112	\$6,766,130
SWE Costs	\$0	\$0	\$0	\$0	\$320,000
Total	\$2,322,571	\$513,139	\$3,906,308	\$24,112	\$7,086,130

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

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

Program	Incentives to Participants and Trade Allies	EDC Materials, Labor, and Administration	ICSP Materials, Labor, and Administration	EM&V	Total EDC Cost
<i>Appliance Turn-in</i>	\$82,900	\$33,869	\$221,639	\$2,142	\$340,551
<i>Energy Efficient Homes</i>	\$1,067,578	\$130,417	\$1,659,135	\$3,140	\$2,860,269
<i>Energy Efficient Products</i>	\$529,114	\$22,148	\$363,555	\$3,932	\$918,749
<i>Low Income Energy Efficiency</i>	\$460,403	\$178,727	\$1,021,899	\$2,662	\$1,663,690
<i>C&I Energy Solutions for Business - Small</i>	\$295,425	\$108,431	\$349,682	\$2,356	\$755,895
<i>C&I Demand Response - Small</i>	\$0	\$0	\$0	\$0	\$0
<i>C&I Energy Solutions for Business - Large</i>	\$118,828	\$51,160	\$303,830	\$6,751	\$480,569
<i>C&I Demand Response - Large</i>	\$0	\$0	\$0	\$0	\$0
<i>Governmental & Institutional Tariff</i>	\$1,095	\$4,181	\$25,066	\$2,787	\$33,129
<i>Common Portfolio Costs</i>					
<i>Total Portfolio</i>	\$2,555,342	\$528,933	\$3,944,805	\$23,770	\$7,052,851
<i>SWE Costs</i>	\$0	\$0	\$0	\$0	\$290,000
<i>Total</i>	\$2,555,342	\$528,933	\$3,944,805	\$23,770	\$7,342,851

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>	\$28,375	\$7,903	\$84,809	\$479	\$121,566
<i>Energy Efficient Homes</i>	\$398,734	\$62,638	\$384,655	\$1,449	\$847,476
<i>Energy Efficient Products</i>	\$127,496	(\$4,660)	\$54,222	\$769	\$177,825
<i>Low Income Energy Efficiency</i>	\$92,620	\$56,093	\$255,646	\$725	\$405,084
<i>C&I Energy Solutions for Business - Small</i>	\$133,293	\$18,715	\$100,079	\$569	\$252,658
<i>C&I Demand Response - Small</i>	\$0	\$2,504	\$0	\$38	\$2,542
<i>C&I Energy Solutions for Business - Large</i>	\$27,319	\$10,981	\$69,968	\$1,473	\$109,741
<i>C&I Demand Response - Large</i>	\$0	\$22,416	\$0	\$339	\$22,755
<i>Governmental & Institutional Tariff</i>	\$15,644	\$584	\$15,241	\$592	\$32,060
<i>Common Portfolio Costs</i>					
<i>Total Portfolio</i>	\$823,480	\$177,174	\$964,621	\$6,432	\$1,971,707
<i>SWE Costs</i>	\$0	\$0	\$0	\$0	\$90,000
<i>Total</i>	\$823,480	\$177,174	\$964,621	\$6,432	\$2,061,707

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>	\$113,900	\$32,623	\$288,762	\$1,910	\$437,194
<i>Energy Efficient Homes</i>	\$841,169	\$146,288	\$1,711,874	\$3,683	\$2,703,014
<i>Energy Efficient Products</i>	\$592,340	\$49,631	\$446,321	\$3,605	\$1,091,897
<i>Low Income Energy Efficiency</i>	\$341,303	\$135,926	\$1,200,513	\$2,363	\$1,680,105
<i>C&I Energy Solutions for Business - Small</i>	\$224,653	\$93,685	\$364,371	\$2,147	\$684,856
<i>C&I Demand Response - Small</i>	\$0	\$8,363	\$0	\$129	\$8,492
<i>C&I Energy Solutions for Business - Large</i>	\$118,273	\$41,542	\$286,565	\$5,952	\$452,332
<i>C&I Demand Response - Large</i>	\$0	\$75,319	\$0	\$1,165	\$76,484
<i>Governmental & Institutional Tariff</i>	\$62,847	\$3,145	\$50,706	\$2,204	\$118,902
<i>Common Portfolio Costs</i>					
<i>Total Portfolio</i>	\$2,294,485	\$586,522	\$4,349,112	\$23,158	\$7,253,276
<i>SWE Costs</i>	\$0	\$0	\$0	\$0	\$300,000
<i>Total</i>	\$2,294,485	\$586,522	\$4,349,112	\$23,158	\$7,553,276

Cost-effectiveness testing for Act 129 EE&C programs is performed using the TRC Test. Benefit cost modeling is conducted annually using verified gross and verified net savings once the results of the independent impact evaluation are completed. TRC test results for PY8 will be presented in the final annual report to the PA PUC on November 15, 2017 along with a more granular breakdown of portfolio costs.

7.2 COST RECOVERY

Act 129 allows Pennsylvania EDCs to recover EE&C plan costs through a cost-recovery mechanism. FirstEnergy's cost-recovery charges are organized separately by five customer sectors to ensure that the electric rate classes that finance the programs are the rate

classes that receive the direct energy and conservation benefits. Cost-recovery is necessarily tied to the way customers are metered and charges for electric service. Readers should be mindful of the differences between Table 2-7 Section 2.4 and Tables 7-3A-7-3D EE&C Plan Expenditures by Cost-Recovery Category. For example, the low-income customer segment is a subset of the FirstEnergy EDC's residential tariff(s) and therefore not listed in Tables 7-3A to 7-3D Plan Expenditures by Cost-Recovery Category.

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

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

Operating Company	Cost Recovery Sector	Rate Classes Included	PYTD \$ Spending (\$1,000)	P3TD \$ Spending (\$1,000)
Met-Ed	Residential (incl. Low Income)	Rate RS	\$5,793,116	\$5,793,116
	Small C&I	Rate GS-Small, Rate GS-Medium, and Outdoor Lighting Service	\$597,687	\$597,687
	Large C&I	Rate GS-Large, Rate GP and Rate TP	\$675,509	\$675,509
	Street Lighting	Street Lighting Service, LED Street Lighting Service and Ornamental Street Lighting Service	\$4,523	\$4,523
	Government & Non-Profit Tariff	Rate GS - Volunteer Fire Company, and Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate and Rate MS	\$15,295	\$15,295
Portfolio Total			\$7,086,130	\$7,086,130

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

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

Operating Company	Cost Recovery Sector	Rate Classes Included	PYTD \$ Spending (\$1,000)	P3TD \$ Spending (\$1,000)
Penelec	Residential (incl. Low Income)	Rate RS	\$6,042,887	\$6,042,887
	Small C&I	Rate GS-Small, Rate GS-Medium, and Outdoor Lighting Service	\$779,815	\$779,815
	Large C&I	Rate GS-Large, Rate GP, and Rate LP	\$481,833	\$481,833
	Street Lighting	Street Lighting Service, LED Street Lighting Service, and Ornamental Street Lighting Service	\$5,286	\$5,286
	Government & Non-Profit Tariff	Rate GS – Volunteer Fire Company, and Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate and Rate H	\$33,030	\$33,030
Portfolio Total			\$7,342,851	\$7,342,851

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

Operating Company	Cost Recovery Sector	Rate Classes Included	PYTD \$ Spending (\$1,000)	P3TD \$ Spending (\$1,000)
Penn Power	Residential (incl. Low Income)	Rate RS	\$1,666,917	\$1,666,917
	Small C&I	Rate GS, GS Special Rider GSDS, Rate GM, Rate GS-Large and POL	\$251,065	\$251,065
	Large C&I	Rate GP, and Rate GT	\$111,058	\$111,058
	Street Lighting	Rate Schedules SV, SVD, SM and LED	\$25,956	\$25,956
	Government & Non-Profit Tariff	Rate GS – Volunteer Fire Company, and Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate and Rate PNP	\$6,709	\$6,709
Portfolio Total			\$2,061,707	\$2,061,707

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

Operating Company	Cost Recovery Sector	Rate Classes Included	PYTD \$ Spending (\$1,000)	P3TD \$ Spending (\$1,000)
West Penn Power	Residential (incl. Low Income)	Rate 10	\$6,175,551	\$6,175,551
	Small C&I	Rates GS 20, GS 30	\$729,891	\$729,891
	Large C&I	Rates GS 35, 40, 44, 46, and Tariff No. 38	\$515,247	\$515,247
	Street Lighting	Rate Schedules 51 through 58, 71, 72	\$97,082	\$97,082
	Government & Non-Profit Tariff	Rate GS 20 – Volunteer Fire Company, and Non-Profit Ambulance Service, Rescue Squad and Senior Center Service Rate	\$35,506	\$35,506
Portfolio Total			\$7,553,276	\$7,553,276