

# **Preliminary Annual Report to the Pennsylvania Public Utility Commission**

**Phase III of Act 129**

**Program Year 8**

**(June 1, 2016 – May 31, 2017)**

For Pennsylvania Act 129 of 2008

Energy Efficiency and Conservation Plan

Prepared by Navigant

For

Duquesne Light Company

July 17, 2017

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

## Types of Savings

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

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

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

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

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

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

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

**Program Year Reported to Date (PYRTD):** The reported gross energy and peak demand savings achieved by an EE&C program or portfolio within the current program year. PYRTD 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 (PYRTD). For PY8, the PSA savings will always equal the PYRTD 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 1 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 1: 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 Pennsylvania Public Utility Company (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 PA PUC in 2016.

Implementation of Phase III of Act 129 programs began on June 1, 2016. This report documents the progress and effectiveness of the Phase III EE&C programs for Duquesne Light Company (Duquesne Light) in Program Year 8 (PY8), 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 is ultimately based on verified gross savings. Duquesne Light has retained Navigant as an independent evaluation contractor for Phase III of Act 129. Navigant 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.

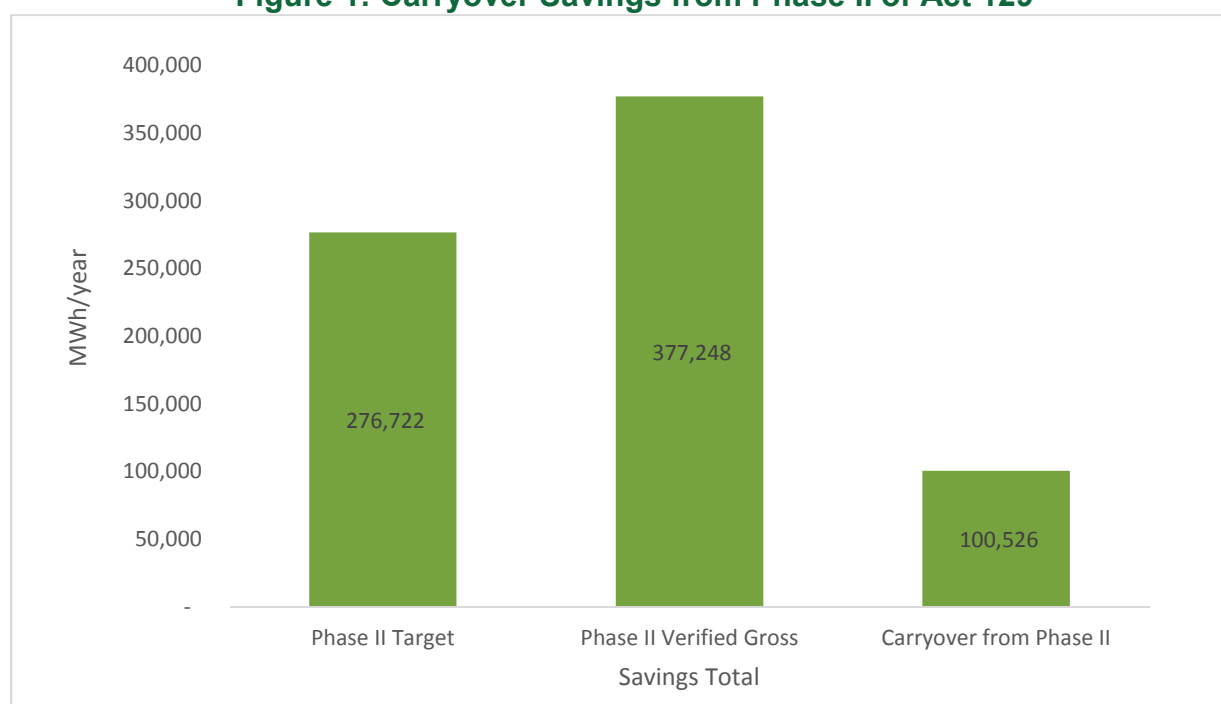
Phase III of Act 129 includes a demand response goal for Duquesne Light. Demand response events are limited to the months of June through September, which are the first four months of the Act 129 program year. Because the demand response season is completed early in the program year, it is possible to complete the independent evaluation of verified gross savings for demand response sooner than is possible for energy efficiency programs. Section 6.2 of this report includes the verified gross demand response impacts for PY8 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

Duquesne Light has a total of 100,526 MWh/year of carryover savings from Phase II. Figure 1 compares Duquesne Light's Phase II verified gross savings total to the Phase II compliance target to illustrate the carryover calculation.

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

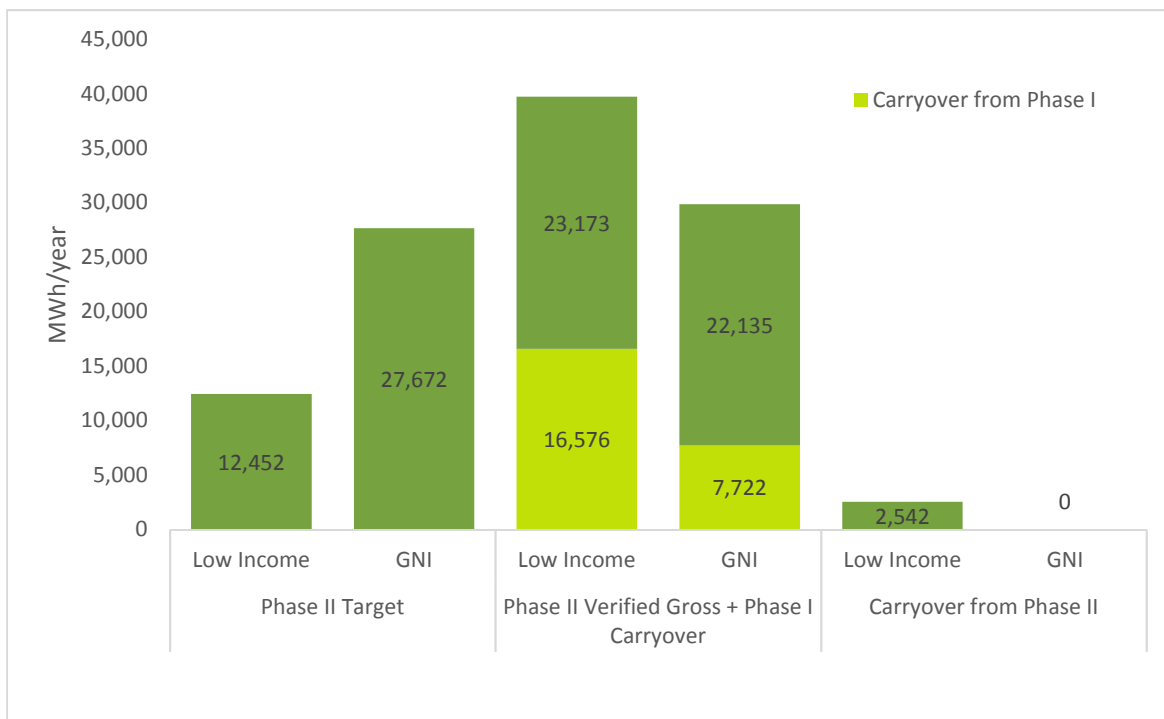


The Commission's Phase III Implementation Order<sup>1</sup> also allowed EDCs to carry over savings in excess of the Phase II low-income and Government, Non-Profit, and Institutional (GNI) customer segment goals. Figure 2 shows the savings goal and the carryover savings for low-income and for GNI.<sup>2</sup>

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

<sup>2</sup> The low-income carryover savings represent the savings as reported in the [Act 129 Statewide Evaluator Phase II Final Report \(which includes the Year 7 Annual Report\)](#), though Duquesne Light has petitioned the PA PUC to reconsider this number.



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

## 2.2 PHASE III ENERGY EFFICIENCY ACHIEVEMENTS TO DATE

Since the beginning of Program Year 8 on June 1, 2016, Duquesne Light has claimed:

- 60,189 MWh/yr of reported gross electric energy savings (PYRTD)
- 6.57 MW/yr of reported gross peak demand savings (PYRTD) originating from energy efficiency programs

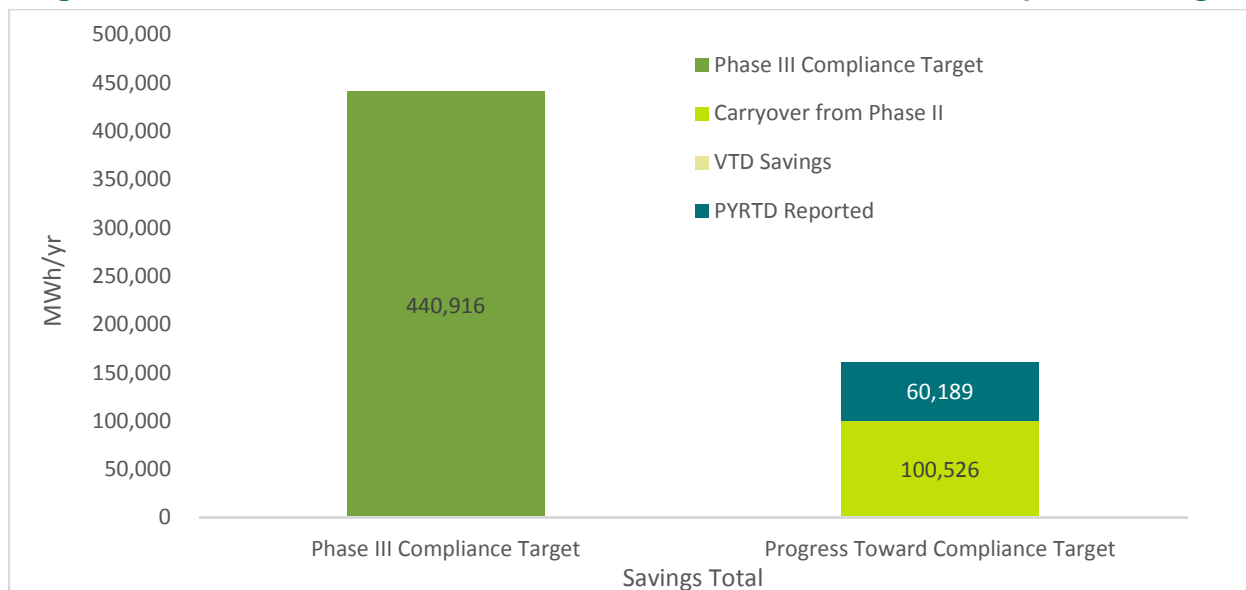
Since the beginning of Phase III of Act 129 on June 1, 2016, Duquesne Light has achieved:

- 60,189 MWh/yr of reported gross electric energy savings (RTD)
- 6.57 MW/yr of reported gross peak demand savings (RTD) from energy efficiency programs
- 60,189 MWh/yr of gross electric energy savings (PSA). This total includes verified gross savings from previous Phase III program years and the PYRTD reported gross savings from PY8.
- 6.57 MW/yr of gross peak demand savings (PSA) from energy efficiency programs

Including carryover savings from Phase II, Duquesne Light has achieved:

- 160,715 MWh/yr of PSA+CO energy savings recorded to date in Phase III
  - This represents 36% percent of the May 31, 2021 energy savings compliance target of 440,916 MWh/yr.

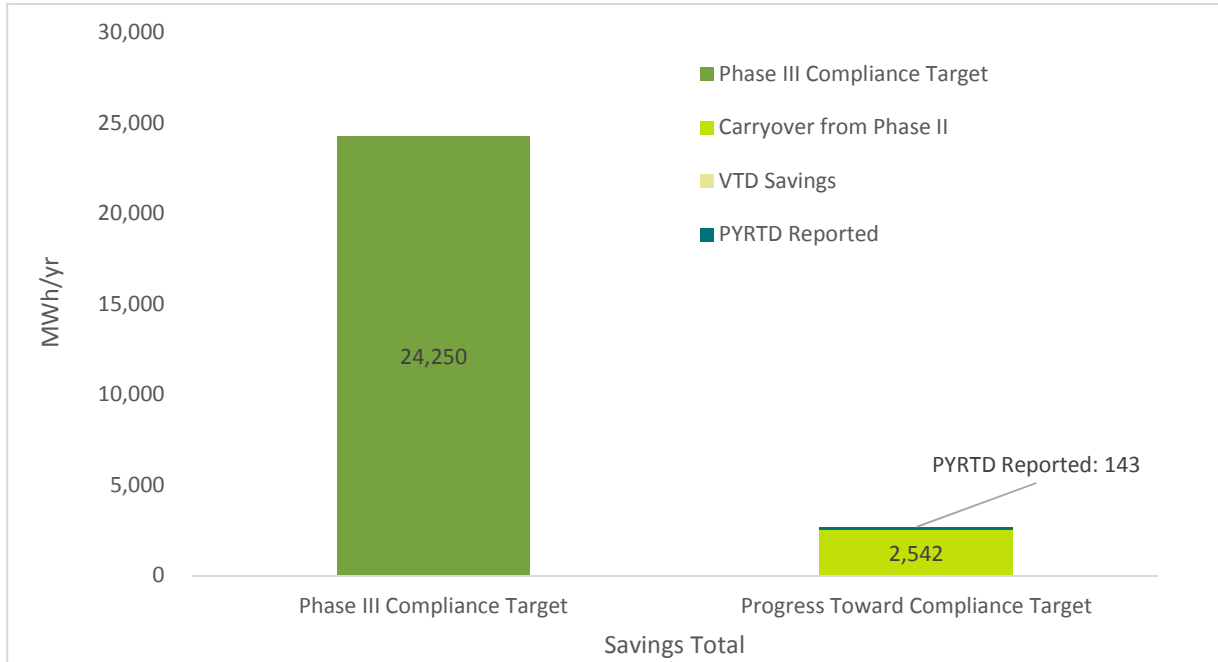
**Figure 3: EE&C Plan Performance Toward Phase III Portfolio Compliance Target**



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 Duquesne Light is 8.4%. Duquesne Light is expected to offer a total of 94 EE&C measures to its residential and non-residential customer classes. Based on that measure total, a minimum of 8 measures will be needed to meet the 8.4% minimum. A total of 14 measures were available to the low-income customer segment at no cost to the customer. This represents 14.8% of the total measures to be offered in the EE&C plan and exceeds the proportionate number of measures targeted.

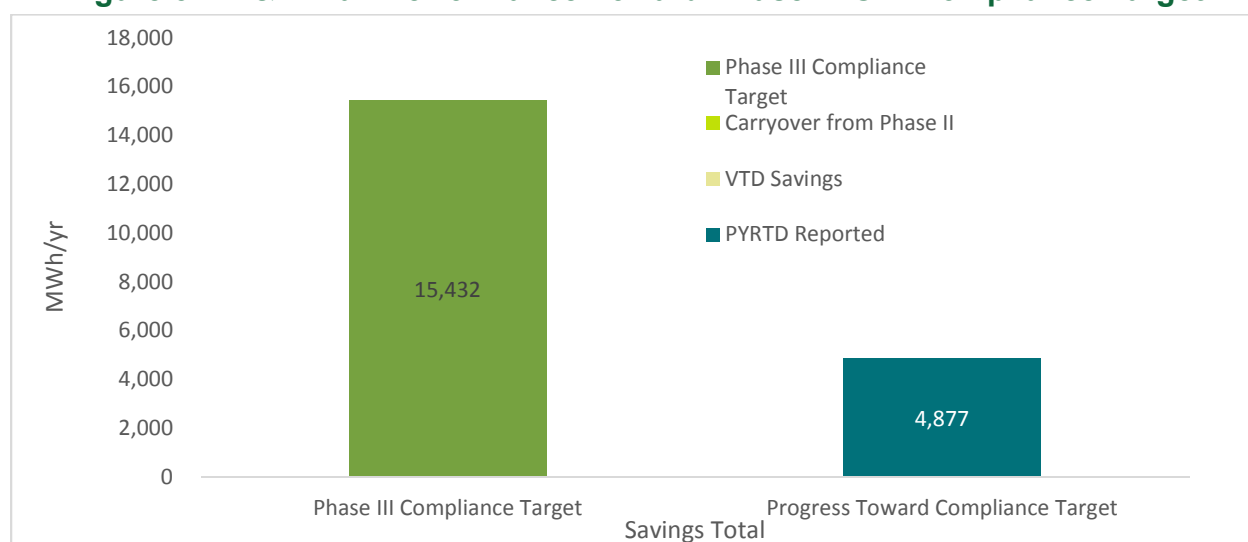
The PA PUC also established a low-income energy savings target of 5.5% of the portfolio savings goal. The low-income savings target for Duquesne Light is 24,250 MWh/yr and is based on verified gross savings. Figure 4 compares the PSA+CO performance to date for the low-income customer segment to the Phase III savings target. As of the end of PY8, Duquesne Light has achieved 11.1% of the Phase III low-income energy savings target, with most savings to date coming from the Phase II carryover.

**Figure 4: EE&C Plan Performance Toward Phase III Low-Income Compliance Target**



The Phase III Implementation Order established a Government, Non-Profit, and Institutional (GNI) energy savings target of 3.5% of the portfolio savings goal. The GNI savings target for Duquesne Light is 15,432 MWh/yr and is based on verified gross savings. Figure 5 compares the PSA+CO performance to date for the GNI customer segment to the Phase III savings target. Based on the latest available information, Duquesne Light has achieved 32% of the Phase III GNI energy savings target.

**Figure 5: EE&C Plan Performance Toward Phase III GNI Compliance Target**



### 2.3 PHASE III DEMAND RESPONSE ACHIEVEMENTS TO DATE

The Phase III demand response performance target for Duquesne Light is 42 MW. The demand response program will begin delivering demand reductions in PY9. No DR achievements are reported within this PY8 report.

### 2.4 PHASE III PERFORMANCE BY SECTOR

Table 2 presents the participation, savings, and spending by customer sector for PY8. The residential, small C&I, and large C&I sectors are defined by EDC tariff, and the residential low-income and GNI sectors 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 includes customers that 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 have been removed from the parent sectors in Table 2.

**Table 2: PY8 Summary Statistics by Customer Segment**

Parameter	Residential (Non-LI)	Residential LI	Small C&I (Non-GNI)	Large C&I (Non-GNI)	GNI
# participants	6,079*	N/A*	136*	21*	54
PYRTD MWh/yr	37,923	143	8,049	9,197	4,877
PYRTD MW (Energy Efficiency)	3.99	0.01	0.98	1.00	0.59
PYRTD MW (Demand Response)	0.00	0.00	0.00	0.00	0.00
Incentives (\$1,000)	\$1,863	\$0.035	\$260	\$445	\$225

\*These counts exclude Upstream Lighting participants where customer participation is not known (for the Residential (Non-LI) and Small C&I (Non-GNI)). These counts also exclude Midstream Lighting participants who will be assigned as Small or Large C&I customers and included in the final report. These counts also exclude any participants who received measures at event giveaways where individual participants are not counted by Duquesne Light (for Residential (Non-LI) and Residential LI).

Table 3 summarizes plan performance by sector since the beginning of Phase III.

**Table 3: Phase III Summary Statistics by Customer Segment**

Parameter	Residential (Non-LI)	Residential LI	Small C&I (Non-GNI)	Large C&I (Non-GNI)	GNI
# participants	6,079*	N/A*	136*	21*	54
PSA MWh/yr	37,923	143	8,049	9,197	4,877
PSA MW (Energy Efficiency)	3.99	0.01	0.98	1.00	0.59
Phase III MW (Demand Response)	0.00	0.00	0.00	0.00	0.00
Incentives (\$1,000)	\$1,863	\$0.035	\$260	\$445	\$225

\*These counts exclude Upstream Lighting participants where customer participation is not known (for the Residential (Non-LI) and Small C&I (Non-GNI)). These counts also exclude Midstream Lighting participants who will be identified as Small or Large C&I and included in the final report. These counts also exclude Midstream Lighting participants who will be assigned as Small or Large C&I customers and included in the final report. These counts also exclude any participants who received measures at event giveaways where individual participants are not counted by Duquesne Light (for Residential (Non-LI) and Residential LI).

## Section 3 Updates and Findings

### 3.1 IMPLEMENTATION UPDATES AND FINDINGS

Duquesne Light has made no substantive changes to its Phase III EE&C Plan portfolio during PY8. In the four quarters of PY8 that are the subject of this report, participation has occurred for the following programs:

- REEP: Residential Energy Efficiency
- REEP: Residential Energy Efficiency (Upstream Lighting)
- Residential Appliance Recycling
- Low Income Energy Efficiency
- Express Efficiency
- Small/Medium Midstream Lighting
- Small Commercial Direct Install
- Multifamily Housing Retrofits
- Commercial Efficiency
- Large Midstream Lighting
- Industrial Efficiency
- Public Agency Partnership
- Community Education

Duquesne Light and its CSP commenced activities for the Residential Whole House Retrofit (i.e., Whole House Energy Audit Program (WHEAP)) in Q4 of PY8, but project completion and associated savings are not anticipated until Q1 of PY9. Residential Behavioral Savings program savings are excluded from this report. The program is active, but savings estimates will be developed, verified, and reported in the Final Annual report for PY8.

### 3.2 EVALUATION UPDATES AND FINDINGS

Duquesne Light's progress on the Phase III evaluation effort for this semi-annual period is summarized below.

- CSP (Navigant) finalized and the statewide evaluator (SWE) approved the Phase III evaluation plan.
- Navigant finalized and the SWE approved the Phase III sampling plan.
- WHEAP program market activities did not get underway until very late in PY8, and therefore no savings are reported for PY8. As a result, Navigant will not be conducting any verification activities for this program as part of the PY8 evaluation. However, Navigant anticipates conducting the planned evaluation activities during PY9.

- Navigant is continuing its review of Duquesne Light's PMRS database and vetting it for accuracy and comprehensiveness, including comparing tracking system values against TRM values.
- Navigant identified recycled refrigerators, a measure within the Residential Appliance Recycling program (RARP), as a high impact measure (HIM) for PY8. Navigant plans to oversample participants who recycled refrigerators during PY8 to enhance the precision of net to gross (NTG) research being conducted for the measure.
- Navigant drafted and submitted the Appliance Recycling program participant survey instrument to the SWE for review. The SWE has approved the instrument. Surveying is anticipated to commence in July and end in August. The survey instrument will be used for impact and process evaluation purposes.
- Navigant is completing in-depth interviews with residential and non-residential program managers/coordinators, as well as program CSPs.

## Section 4 Summary of Participation by Program

Participation is defined differently for different 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 Table 4, and Table 5 provides the current participation totals for PY8 and Phase III.

**Table 4: Program Participation Definitions**

Programs	Component	Definition
REEP: Residential Energy Efficiency	Downstream/ Midstream Rebates	A participant is a customer participating in the given program within a given reporting period (e.g., Q1 through Q4 for PY8), represented by a unique participant account number within the tracking system. The counts appearing in Table 5, below, represent the summations of the unique customer participant account numbers in the tracking system for the given program in each of the periods represented (i.e., PYRTD or P3TD). Customers participating in a program more than once within a reporting period (i.e., PYRTD) are counted once; customers participating more than once but in different annual periods or programs are counted more than once (once in each period and/or program).
Residential Appliance Recycling		
Express Efficiency		
Small/Medium Midstream Lighting		
Small Commercial Direct Install		
Multifamily Housing Retrofits		
Commercial Efficiency		
Large Midstream Lighting		
Industrial Efficiency		
Public Agency Partnership		
REEP: Residential Energy Efficiency (Upstream Lighting)	Upstream rebates for lamp sales	Participation is not defined because reported program data tracks lamp sales activities and not individual participating customer activities.
REEP: Residential Energy Efficiency	Giveaways	A portion of REEP program savings result from giveaways during events in which the utility has participated (event giveaways). Duquesne Light tracks events and the measures given away and not the individual participants who receive the measures.
Low Income Energy Efficiency	Giveaways	All program savings reported to date stem from event giveaways. Duquesne Light tracks events and the measures given away and not the individual participants who receive the measures.

Participation for the following programs will be defined in subsequent compliance reports once activities are reported by Duquesne Light for Phase III.

- Whole House Energy Audit Program
- Large Curtailable Load Program



Table 5: EE&amp;C Participation by Program

Program	PYRTD Participation	P3TD Participation
REEP: Residential Energy Efficiency	4,928	4,928
REEP: Residential Energy Efficiency (Upstream Lighting)	N/A	N/A
Residential Appliance Recycling	1,151	1,151
Residential Behavioral Savings	0	0
Residential Whole House Retrofit	0	0
Low Income Energy Efficiency	N/A	N/A
Express Efficiency	94	94
Small/Medium Midstream Lighting*	0	0
Small Commercial Direct Install	38	38
Multifamily Housing Retrofit	4	4
Commercial Efficiency	10	10
Large Midstream Lighting*	0	0
Industrial Efficiency	11	11
Public Agency Partnership	41	41
Community Education	13	13
Large C&I Demand Response Curtailable	0	0
<b>Portfolio Total</b>	<b>6,290</b>	<b>6,290</b>

\* Midstream Lighting participants will be assigned as Small or Large C&I customers and included in the final report.

## Section 5 Summary of Energy Impacts by Program

Figure 6 presents a summary of the PYRTD 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.

**Figure 6: PYRTD Reported Gross Energy Savings by Program**

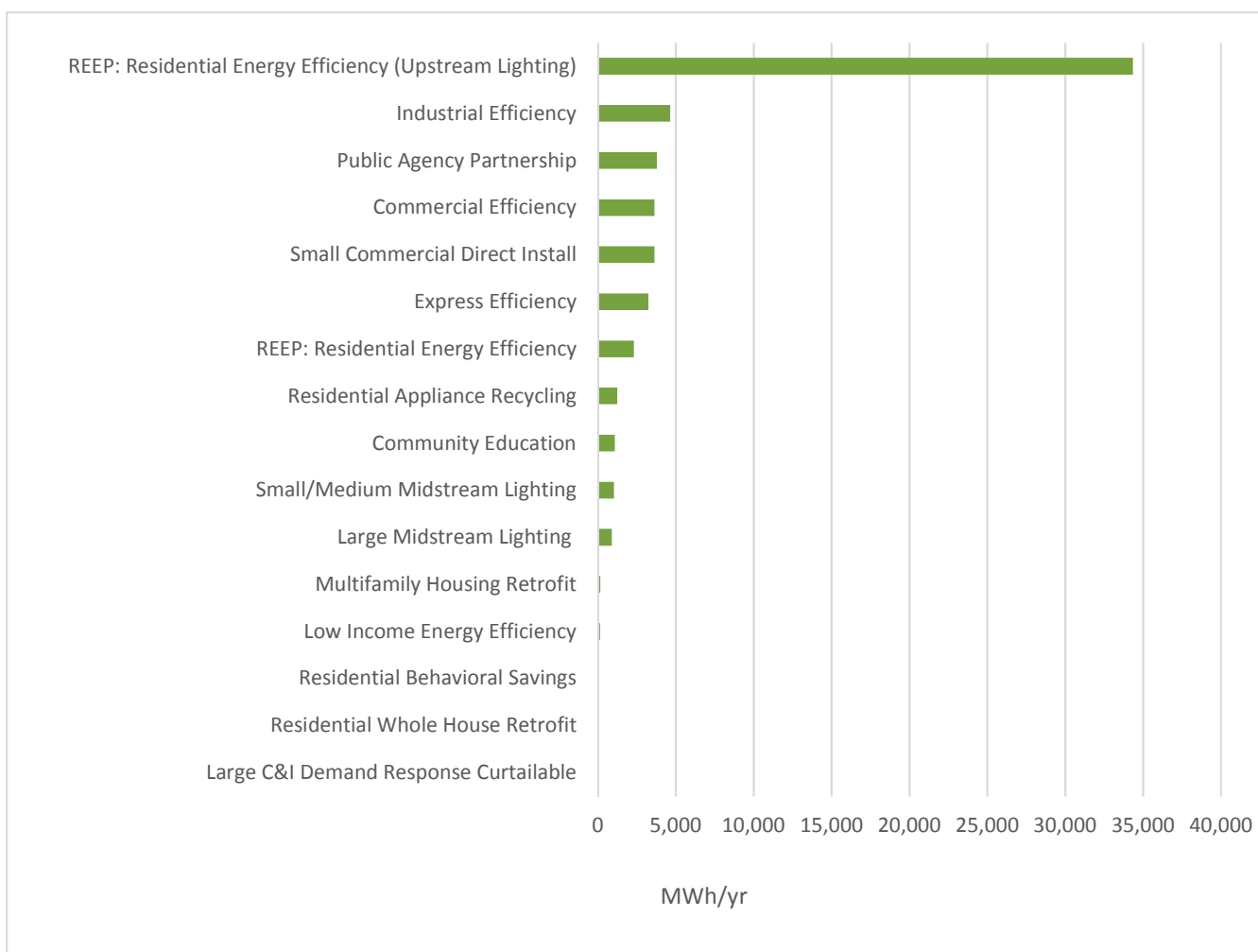
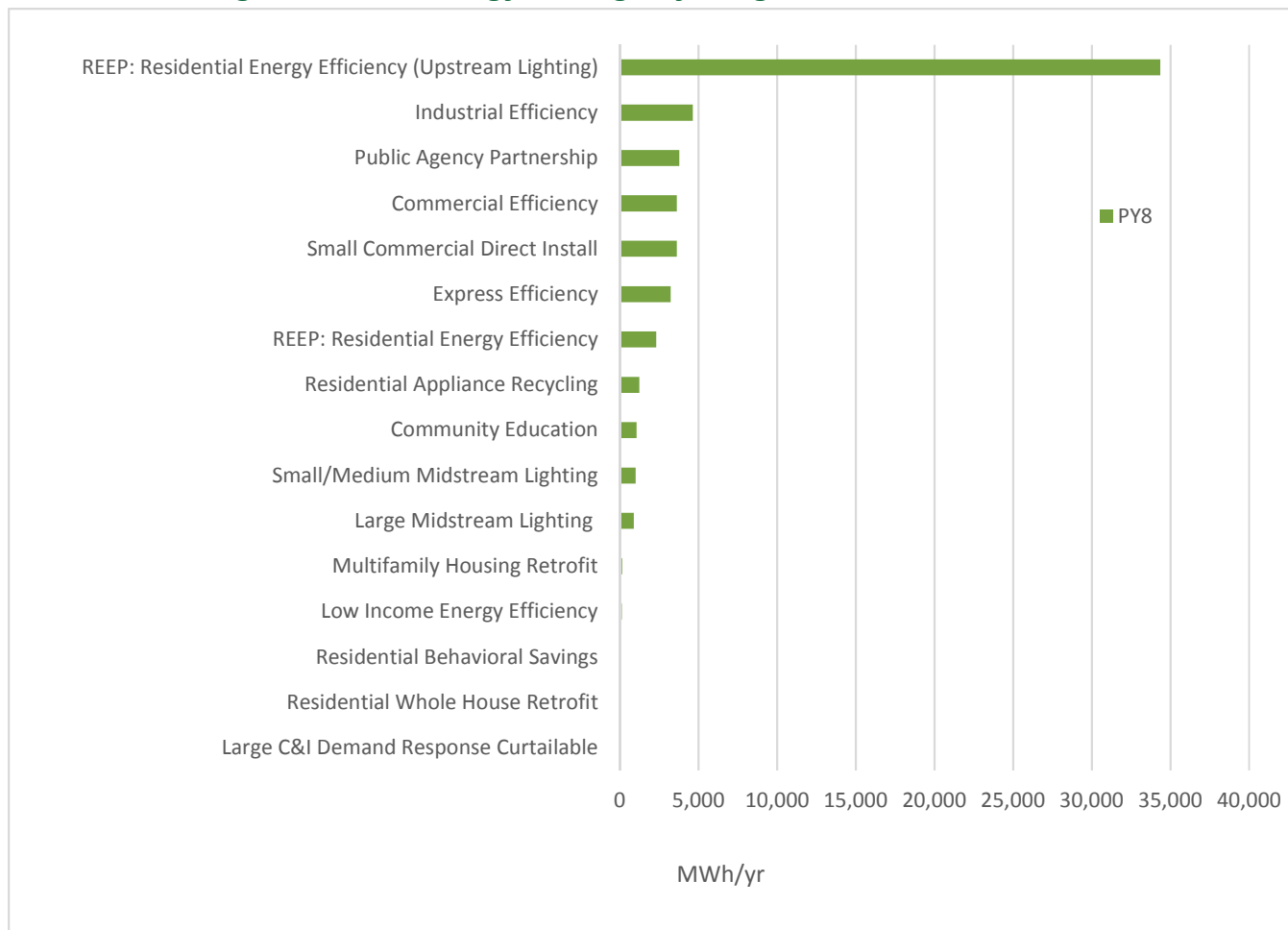


Figure 7 presents a summary of the PSA gross energy savings by program for Phase III of Act 129. PSA savings include verified gross savings from previous program years and the PYRTD savings from the current program year.

**Figure 7: PSA Energy Savings by Program for Phase III**



A summary of energy impacts by program through the current reporting period is presented in Table 6.

**Table 6: Energy Savings by Program (MWh/Year)**

<b>Program</b>	<b>PYRTD</b>	<b>RTD</b>	<b>VTD</b>	<b>PSA</b>
REEP: Residential Energy Efficiency	2,317	2,317	0	2,317
REEP: Residential Energy Efficiency (Upstream Lighting)	34,358	34,358	0	34,358
Residential Appliance Recycling	1,249	1,249	0	1,249
Residential Behavioral Savings	*	*	0	*
Residential Whole House Retrofit	0	0	0	0
Low Income Energy Efficiency	143	143	0	143
Express Efficiency	3,239	3,239	0	3,239
Small/Medium Midstream Lighting	1,025	1,025	0	1,025
Small Commercial Direct Install	3,626	3,626	0	3,626
Multifamily Housing Retrofit	159	159	0	159
Commercial Efficiency	3,642	3,642	0	3,642
Large Midstream Lighting	904	904	0	904
Industrial Efficiency	4,651	4,651	0	4,651
Public Agency Partnership	3,793	3,793	0	3,793
Community Education	1,084	1,084	0	1,084
Large C&I Demand Response Curtailable	0	0	0	0
<b>Portfolio Total</b>	<b>60,189</b>	<b>60,189</b>	<b>0</b>	<b>60,189</b>

\*Reported and verified savings for this program will appear in the Final PY8 report.

## Section 6 Summary of Demand Impacts by Program

Peak demand reductions can be achieved 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. Figure 8 presents a summary of the PYRTD reported gross peak demand savings by energy efficiency program for Program Year 8.

**Figure 8: PYRTD Gross Demand Savings by Energy Efficiency Program**

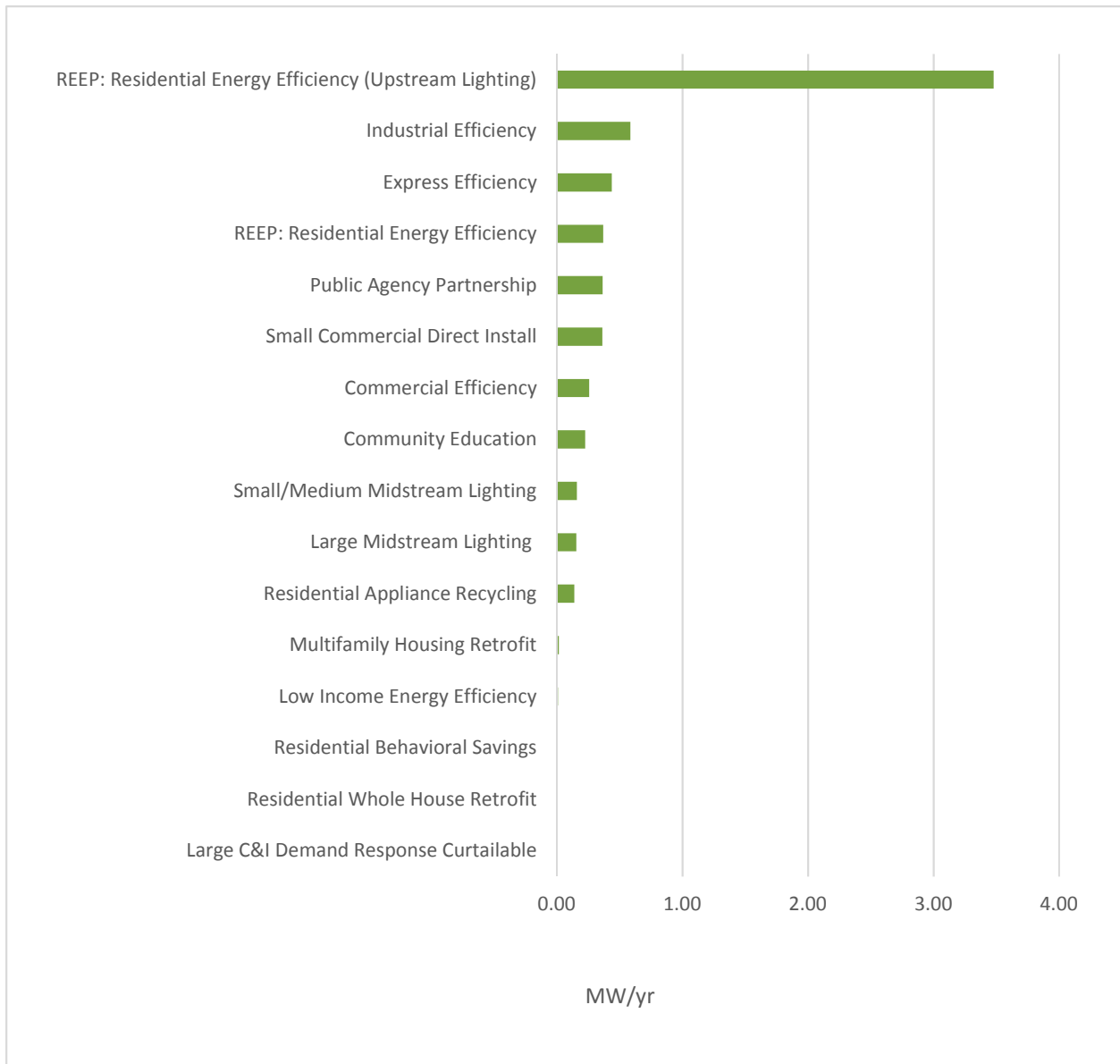
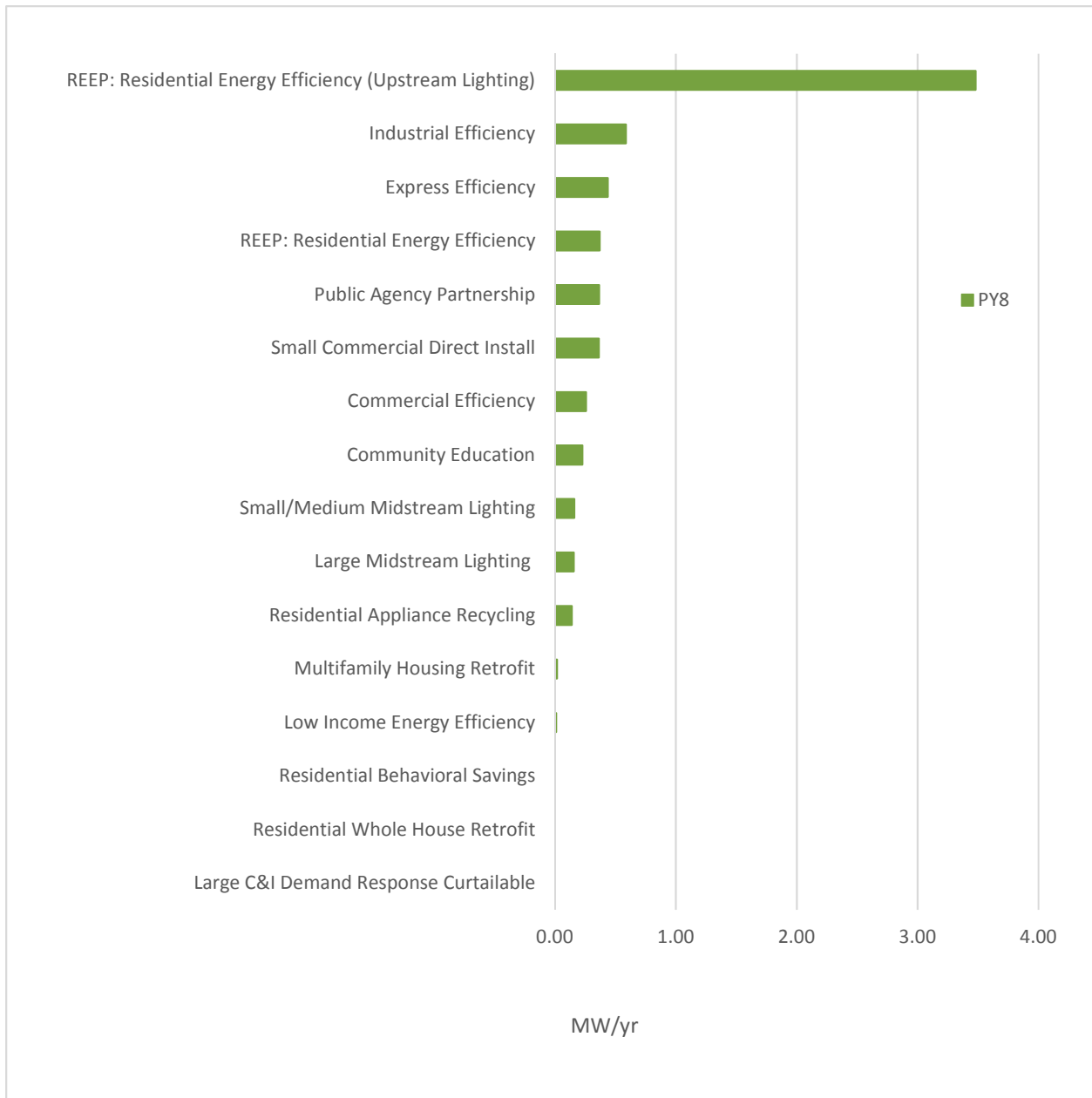


Figure 9 presents a summary of the PSA gross demand savings by energy efficiency program for Phase III of Act 129.

**Figure 9: PSA Demand Savings by Energy Efficiency Program for Phase III**



A summary of the peak demand impacts by energy efficiency program through the current reporting period are presented in Table 7.

**Table 7: Peak Demand Savings by Program (MW/Year)**

Program	PYRTD	RTD	VTD	PSA
REEP: Residential Energy Efficiency	0.37	0.37	0.00	0.37
REEP: Residential Energy Efficiency (Upstream Lighting)	3.48	3.48	0.00	3.48
Residential Appliance Recycling	0.14	0.14	0.00	0.14
Residential Behavioral Savings	*	*	0.00	*
Residential Whole House Retrofit	0.00	0.00	0.00	0.00
Low Income Energy Efficiency	0.01	0.01	0.00	0.01
Express Efficiency	0.44	0.44	0.00	0.44
Small/Medium Midstream Lighting	0.16	0.16	0.00	0.16
Small Commercial Direct Install	0.36	0.36	0.00	0.36
Multifamily Housing Retrofit	0.02	0.02	0.00	0.02
Commercial Efficiency	0.26	0.26	0.00	0.26
Large Midstream Lighting	0.15	0.15	0.00	0.15
Industrial Efficiency	0.59	0.59	0.00	0.59
Public Agency Partnership	0.36	0.36	0.00	0.36
Community Education	0.23	0.23	0.00	0.23
Large C&I Demand Response Curtailable	0.00	0.00	0.00	0.00
<b>Portfolio Total</b>	<b>6.57</b>	<b>6.57</b>	<b>0.00</b>	<b>6.57</b>

\*Reported and verified savings for this program will appear in the Final PY8 report.

## 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 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 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 losses. Duquesne Light uses the following line loss percentages/multipliers by sector:

- Residential = 1.074
- Small C&I = 1.074
- Large C&I = 1.074

No DR achievements are reported within this PY8 report. There are no DR achievements to-date for Phase III.

## Section 7 Summary of Finances

Section 7 provides an overview of the expenditures associated with Duquesne Light's portfolio and the recovery of those costs from ratepayers.

### 7.1 PROGRAM FINANCIALS

Program-specific and portfolio total finances for PY8 are shown in Table 8. The columns in Table 8 and Table 9 are adapted from the 'Direct Program Cost' categories in the Commission's EE&V Plan template<sup>3</sup> for Phase III. EDC Materials, Labor, and Administration includes costs associated with Duquesne Light's own employees. ICSP Materials, Labor, and Administration includes both the program implementation contractor costs and the costs of other outside vendors employed by Duquesne Light to support program delivery.

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<sup>3</sup> Available at <http://www.puc.pa.gov/pcdocs/1372426.doc>, at Section 10.

**Table 8: Program Year to Date Financials (\$1,000)**

Program	Incentives to Participants and Trade Allies	EDC Materials, Labor, and Admin.	ICSP Materials, Labor, and Admin.	EM&V	Total Cost
REEP: Residential Energy Efficiency <sup>4</sup>	\$1,826	\$112	\$2,539	\$34	\$4,511
Residential Appliance Recycling	\$38	\$26	\$173	\$3	\$240
Residential Behavioral Savings	\$0	\$29	\$107	\$4	\$140
Residential Whole House Retrofit	\$0	\$21	\$32	\$3	\$56
Low Income Energy Efficiency	\$0.035	\$29	\$256	\$13	\$298
Express Efficiency	\$139	\$25	\$530	\$17	\$711
Small/Medium Midstream Lighting	\$87	\$27	\$4	\$6	\$124
Small Commercial Direct Install	\$0	\$25	\$924	\$10	\$959
Multifamily Housing Retrofit	\$33	\$25	\$150	\$9	\$217
Commercial Efficiency	\$179	\$26	\$522	\$20	\$747
Large Midstream Lighting	\$109	\$27	\$293	\$14	\$443
Industrial Efficiency	\$156	\$26	\$628	\$33	\$843
Public Agency Partnership	\$149	\$24	\$816	\$18	\$1,007
Community Education	\$77	\$8	\$140	\$4	\$229
Large C&I Demand Response Curtailable	\$0	\$8	\$377	\$21	\$406
<b>Common Portfolio Costs<sup>5</sup></b>					
<b>Portfolio Total</b>	<b>\$2,793</b>	<b>\$438</b>	<b>\$7,491</b>	<b>\$209</b>	<b>\$10,931</b>
<b>SWE Costs<sup>6</sup></b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>\$700</b>
<b>Total</b>	<b>\$2,793</b>	<b>\$438</b>	<b>\$7,491</b>	<b>\$209</b>	<b>\$11,631</b>

Program-specific and portfolio total finances since the inception of Phase III are shown in Table 9.

<sup>4</sup> Duquesne Light combines financial related information here for the two programs 1) REEP: Residential Energy Efficiency and 2) REEP: Residential Energy Efficiency (Upstream Lighting) under REEP: Residential Energy Efficiency. Otherwise, energy and demand impacts are reported separately for these two programs.

<sup>5</sup> Common Portfolio Costs include costs associated with program tracking data management, support (legal, IT), and portfolio level marketing. These costs have been allocated to the various programs.

<sup>6</sup> Statewide Evaluation costs are outside of the 2% spending cap

**Table 9: Phase III to Date Financials (\$1,000)**

Program	Incentives to Participants and Trade Allies	EDC Materials, Labor, and Admin.	ICSP Materials, Labor, and Admin.	EM&V	Total Cost
REEP: Residential Energy Efficiency <sup>7</sup>	\$1,826	\$112	\$2,539	\$34	\$4,511
Residential Appliance Recycling	\$38	\$26	\$173	\$3	\$240
Residential Behavioral Savings	\$0	\$29	\$107	\$4	\$140
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Public Agency Partnership	\$149	\$24	\$816	\$18	\$1,007
Community Education	\$77	\$8	\$140	\$4	\$229
Large C&I Demand Response Curtailable	\$0	\$8	\$377	\$21	\$406
<b>Common Portfolio Costs<sup>8</sup></b>					
<b>Portfolio Total</b>	<b>\$2,793</b>	<b>\$438</b>	<b>\$7,491</b>	<b>\$209</b>	<b>\$10,931</b>
<b>SWE Costs<sup>9</sup></b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>\$700</b>
<b>Total</b>	<b>\$2,793</b>	<b>\$438</b>	<b>\$7,491</b>	<b>\$209</b>	<b>\$11,631</b>

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. Duquesne Light's cost-recovery charges organized separately by five customer sectors to ensure that those 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

<sup>7</sup> Duquesne Light combines financial related information here for the two programs 1) REEP: Residential Energy Efficiency and 2) REEP: Residential Energy Efficiency (Upstream Lighting) under REEP: Residential Energy Efficiency. Otherwise, energy and demand impacts are reported separately for these two programs.

<sup>8</sup> Common Portfolio Costs include costs associated with program tracking data management, support (legal, IT), and portfolio level marketing. These costs have been allocated to the various programs.

<sup>9</sup> Statewide Evaluation costs are outside of the 2% spending cap

differences between Table 10 and Section 2.4. For example, the low-income customer segment is a subset of Duquesne Light’s residential tariff(s) and therefore is not listed in Table 10.

**Table 10: EE&C Plan Expenditures by Cost-Recovery Category<sup>10</sup>**

Cost Recovery Sector	Rate Classes Included	PYRTD Spending (\$1,000)	P3TD Spending (\$1,000)
Residential	RS, RH, RA	\$5,432	\$5,432
Small/Medium Commercial	GS, GM, GMH	\$2,137	\$2,137
Small/Medium Industrial	GM, GMH	\$259	\$259
Large Commercial	GL, GLH, L	\$2,234	\$2,234
Large Industrial	GL, GLH, L, HVPS	\$1,569	\$1,569
<b>Portfolio Total</b>		<b>\$11,631</b>	<b>\$11,631</b>

<sup>10</sup> Includes SWE costs