

# **Quarterly Report to the Pennsylvania Public Utility Commission**

**For the period  
September 1, 2011 to November 30, 2011  
2<sup>nd</sup> Quarter for Program Year 3**

**For Act 129 of 2008  
Energy Efficiency and Conservation Program**

Prepared by Navigant Consulting, Inc.

For

Duquesne Light Company

January 17, 2012

## Table of Contents

<b>1</b>	<b>OVERVIEW OF PORTFOLIO</b> .....	<b>1</b>
1.1	SUMMARY OF PORTFOLIO IMPACTS .....	5
1.2	SUMMARY OF ENERGY IMPACTS BY PROGRAM .....	6
1.3	SUMMARY OF DEMAND IMPACTS BY PROGRAM .....	10
1.4	SUMMARY OF EVALUATION.....	14
1.5	SUMMARY OF FINANCES.....	20
<b>2</b>	<b>PORTFOLIO RESULTS BY SECTOR</b> .....	<b>22</b>
2.1	RESIDENTIAL EE SECTOR.....	25
2.2	RESIDENTIAL LOW-INCOME EE SECTOR .....	28
2.3	SMALL COMMERCIAL & INDUSTRIAL EE SECTOR .....	29
2.4	LARGE COMMERCIAL & INDUSTRIAL EE SECTOR.....	32
2.5	GOVERNMENT & NON-PROFIT EE SECTOR .....	36
<b>3</b>	<b>DEMAND RESPONSE</b> .....	<b>37</b>
<b>4</b>	<b>PORTFOLIO RESULTS BY PROGRAM</b> .....	<b>38</b>
4.1	RESIDENTIAL: ENERGY EFFICIENCY REBATE PROGRAM .....	38
4.2	RESIDENTIAL: SCHOOL ENERGY PLEDGE PROGRAM .....	42
4.3	RESIDENTIAL: APPLIANCE RECYCLING PROGRAM .....	44
4.4	RESIDENTIAL: LOW INCOME ENERGY EFFICIENCY PROGRAM .....	48
4.5	COMMERCIAL SECTOR PROGRAMS .....	50
4.6	INDUSTRIAL SECTOR PROGRAMS .....	57

## Abbreviations

CFL	Compact Fluorescent Lamp
CPITD	Cumulative Program/Portfolio Inception to Date
CSP	Conservation Service Provider
DLC	Duquesne Light Company
EDC	Electric Distribution Company
EE&C	Energy Efficiency & Conservation
EM&V	Evaluation Measurement and Verification
IQ	Incremental Quarter
IR	Installation Rate
kW	Kilowatt
kWh	Kilowatt-hour
LIEEP	Residential Low-Income Energy Efficiency Program
M&V	Measurement and Verification
MW	Megawatt
MWh	Megawatt-hour
NTG	Net-to-Gross
PA	Pennsylvania
PMRS	Program Management and Reporting System
PUC	Public Utility Commission
PY	Program/Portfolio Year
PY3	Program Year 3 (July 2011 to June 2012)
PY3Q2	Program Year 3 Quarter 2 (9/1/2011 to 11/30/2011)
PYTD	Program/Portfolio Year to Date
REEP	Residential Energy Efficiency Rebate Program
RR	Realization Rate
RARP	Residential Appliance Recycling Program
SEP	Residential School Energy Pledge
SWE	Statewide Evaluator
TRC	Total Resource Cost
TRM	Technical Reference Manual
UES	Unit Energy Savings
VR	Verification Rate

## 1 Overview of Portfolio

Act 129, signed October 15<sup>th</sup>, 2008, mandated energy savings and demand reduction goals for the largest electric distribution companies (EDC) in Pennsylvania. Pursuant to their goals, energy efficiency and conservation (EE&C) plans were submitted by each EDC and approved by the Pennsylvania Public Utility Commission (PUC). This quarterly report documents the progress and effectiveness of the EE&C accomplishments for Duquesne Light through the end of Quarter 2 of Program Year 3.

### Compliance goal progress as of the end of the reporting period:

#### Cumulative Portfolio Energy Impacts

- The CPITD reported gross energy savings are 216,751 MWh.
- The CPITD verified energy savings are 168,336 MWh<sup>1</sup>.
- The CPITD unverified energy savings are 44,318 MWh<sup>2</sup>.
- The CPITD committed energy savings are 231,687 MWh<sup>3</sup>.
- The CPITD committed and achieved energy savings represent 54.8% of the 422,565 MWh May 31<sup>st</sup>, 2013 energy savings compliance target<sup>4</sup>.

#### Cumulative Portfolio Demand Reductions

- The CPITD reported gross demand reductions are 22.18 MW.
- The CPITD verified demand reductions are 19.50 MW<sup>5</sup>.
- The CPITD unverified demand reductions are 3.38 MW<sup>6</sup>.
- The CPITD committed demand reductions are 25.0 MW<sup>7</sup>.
- The CPITD committed and achieved demand reductions represent 22.1% of the 113 MW May 31<sup>st</sup>, 2013 demand reductions compliance target<sup>8</sup>.

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<sup>1</sup> CPITD energy savings are verified through PY2.

<sup>2</sup> CPITD unverified energy savings are the gross energy savings of PY3 which have not yet been verified.

<sup>3</sup> CPITD committed energy savings include PY3Q2 projects in progress (14,936 MWh).

<sup>4</sup> Energy savings compliance target as communicated in EM&V plan, section 1.1.2, page 3.

<sup>5</sup> CPITD demand reductions are verified through PY2.

<sup>6</sup> CPITD unverified demand reductions are the gross energy savings of PY3 which have not yet been verified.

<sup>7</sup> CPITD committed demand reductions include PY3Q2 projects in progress (1.03 MW).

<sup>8</sup> Demand reductions compliance targets as communicated in EM&V plan, section 1.1.2, page 3.

### **Low Income Sector**

- The CPITD reported gross energy savings for low-income are 17,010 MWh (including both the low-income portion of the upstream lighting and the low-income programs).
- The CPITD reported gross energy savings from low-income upstream lighting are 14,573 MWh, the remaining low-income programs savings are 2,437 MWh.
- The CPITD verified energy savings for low-income sector programs are 15,646 MWh.<sup>9</sup>
- The CPITD unverified energy savings for low income sector programs are 607 MWh.<sup>10</sup>

### **Government and Non-Profit Sector**

- The CPITD reported gross energy savings for government and non-profit sector programs are 28,229 MWh.
- The CPITD verified energy savings for government and non-profit sector programs are 27,355 MWh<sup>11</sup>.
- The CPITD unverified energy savings for government and non-profit sector programs are 539 MWh<sup>12</sup>.
- The CPITD committed energy savings for government and non-profit sector programs are 28,468 MWh<sup>13</sup>.
- The CPITD committed and achieved energy savings for government and non-profit sector programs represent 67.4% of the 42,257 MWh May 31<sup>st</sup>, 2013 energy savings compliance target.

### **Program Year portfolio highlights as of the end of the reporting period:**

- The PYTD reported gross energy savings are 44,318 MWh.
- The PYTD verified energy savings are 0 MWh<sup>14</sup>.
- The PYTD unverified energy savings are 44,318 MWh<sup>15</sup>.
- The PYTD committed energy savings are 59,253 MWh<sup>16</sup>.
- The PYTD reported gross demand reductions are 3.38 MW.

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<sup>9</sup> CPITD energy savings are verified through PY2.

<sup>10</sup> CPITD unverified energy savings are net of verified savings, not including upstream lighting.

<sup>11</sup> CPITD energy savings are verified through PY2.

<sup>12</sup> CPITD unverified energy savings are net of verified savings.

<sup>13</sup> CPITD committed energy savings include PY3Q2 projects in progress (1 MWh).

<sup>14</sup> PYTD energy savings have not been verified as of PY3Q2.

<sup>15</sup> PYTD unverified energy savings are PY3Q2 reported gross values.

<sup>16</sup> PYTD committed energy savings include PY3Q2 projects in progress (14,936 MWh).

- The PYTD verified demand reductions are 0 MW<sup>17</sup>.
- The PYTD unverified demand reductions are 3.38 MW<sup>18</sup>.
- The PYTD committed demand reductions are 6.18 MW<sup>19</sup>.
- The PYTD reported participation is 14,675 participants<sup>20</sup>.

Duquesne Light filed its EE&C Plan on July 1, 2009 and received Commission conditional approval on October 22, 2009. Many programs were launched on or about December 1, 2009. Duquesne Light's EE&C program accomplishments have been increasing while the ramp-up activities of those programs have been subsiding.

Business process teams have continued to review their processes and make mid course changes while working within the context of the PA PUC approved Plan.

Meetings are held at a minimum monthly with the contracted CSPs for the Large Office and Primary Metals segments, the Small Office and Retail segments and the Mixed Industrial and Chemical segments. Events have been attended to continue the recognition of Watt Choices, which are targeting the Residential and Low Income sectors.

For savings impact evaluation purposes, on December 22, 2011 an evaluation dataset was downloaded directly from PMRS. This dataset contained records of all customer actions taken to implement energy efficiency measures, termed "projects", by Duquesne Light's EE&C Programs during PY3Q2. The program activity for PY3Q2 is summarized in Table 1-1.

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<sup>17</sup> PYTD demand reductions have not been verified as of PY3Q2.

<sup>18</sup> PYTD unverified demand reductions are PY3Q2 reported gross values.

<sup>19</sup> PYTD committed demand reductions include PY3Q2 projects in progress (2.80 MW).

<sup>20</sup> Upstream CFL program participants are reported separately and not included in these program participant numbers.

**Table 1-1: PY3Q2 Program Activity (Gross Reported)<sup>21</sup>**

<b>Program</b>	<b>Participants</b>	<b>Reported Total Energy Savings (kWh)</b>	<b>Reported Total Demand Reduction (kW)</b>
Residential: EE Program (REEP): Rebate Program	5,461	2,439,450	164
Residential: School Energy Pledge	0	0	0
Residential: Appliance Recycling	506	775,845	96
Residential: Low Income EE	650	371,120	33
Commercial Sector Umbrella EE	9	1,275,352	131
Healthcare EE	3	574,727	58
Industrial Sector Umbrella EE	0	0	0
Chemical Products EE	2	264,578	30
Mixed Industrial EE	27	4,391,028	594
Office Building – Large – EE	14	5,829,998	477
Office Building – Small EE	15	392,127	68
Primary Metals EE	7	939,904	105
Public Agency / Non-Profit	9	386,507	83
Retail Stores – Small EE	45	703,935	116
Retail Stores – Large EE	3	95,882	11
Subtotal	6,751	18,440,453	1965
	(CFLs)		
Residential: EE Program (Upstream Lighting)	275,999	13,102,132	608
Residential: Low Income EE (Upstream Lighting)	0	0	0
<b>PY3-Q2 Program Activity (Gross Reported)</b>		<b>31,542,585</b>	<b>2,573</b>

Results of PY3Q2 EM&V will be reported in subsequent quarterly reports.

<sup>21</sup> A portion of Upstream Lighting savings and costs will be allocated to LIEEP at year end, with REEP Upstream Lighting savings and costs reduced accordingly.

## 1.1 Summary of Portfolio Impacts

A summary of the portfolio reported impacts is presented in Table 1-2.

**Table 1-2: EDC Reported Portfolio Impacts through the End of the Reporting Period**

Impact Type	Total Energy Savings (MWh)	Total Demand Reduction (MW)
Reported Gross Impact: Incremental Quarterly	31,543	2.573
Reported Gross Impact: Program Year to Date	44,318	3.376
Reported Gross Impact: Cumulative Portfolio Inception to Date	216,751	22.181
Estimated Impact: PYTD Total Committed	44,318	3.376
Preliminary PYTD Verified Impact <sup>1</sup>	-	-
Preliminary PYTD Net Impact <sup>1</sup>	0	0.000
Verified Savings: Cumulative Portfolio Inception to Date <sup>2</sup>	168,336	19.501
<b>NOTES:</b>		
<sup>1</sup> Verification has not begun for PY3Q2		
<sup>2</sup> Values provided are as of PY2Q4.		

Table 1-3 below is a placeholder for summarizing the total resource summary benefits and costs.

**Table 1-3: Verified Preliminary Portfolio Total Evaluation Adjusted Impacts through the End of the Reporting Period**

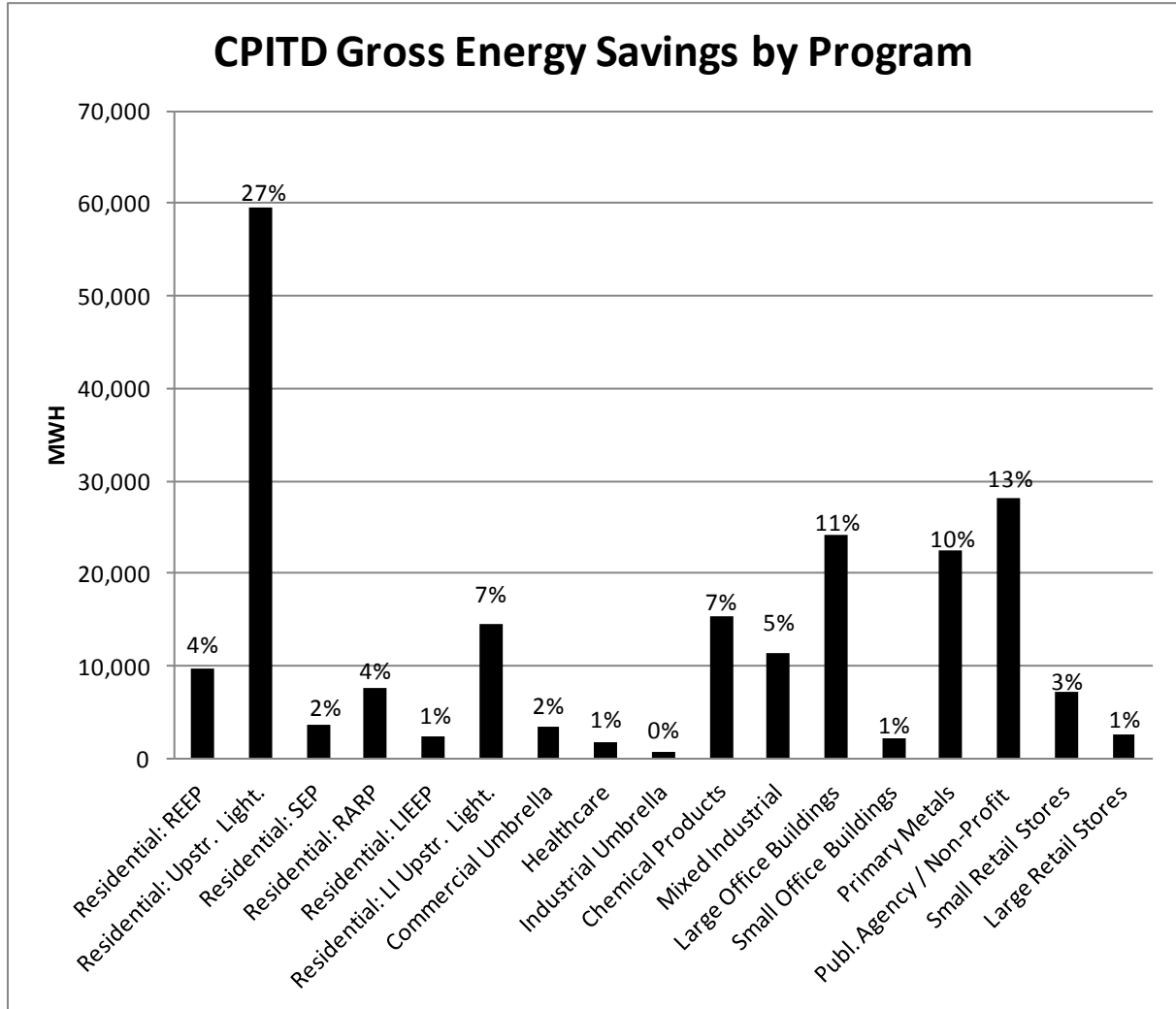
TRC Category	IQ	PYTD	CPITD
TRC Benefits (\$)	N/A	N/A	N/A
TRC Costs (\$)	N/A	N/A	N/A
TRC Benefit-Cost Ratio			N/A
<b>NOTES:</b>			
Per direction from the SWE on 9/13/2010, no TRC values are provided for this report.			



## 1.2 Summary of Energy Impacts by Program

A summary of the reported energy savings by program is presented in Figure 1-1.

Figure 1-1: CPITD Reported Gross Energy Savings by Program through the End of the Reporting Period



A summary of energy impacts by program through the current quarter of Program Year 3 is presented in Table 1-4 and Table 1-5.

**Table 1-4: EDC Reported Participation and Gross Energy Savings by Program through the End of the Reporting Period**

Program	Participants			Reported Gross Impact (MWh)		
	IQ	PYTD	CPITD	IQ	PYTD	CPITD
Residential: EE Program (REEP): Rebate Program	5,461	12,268	25,444	2,439	5,066	9,709
Residential: EE Program (Upstream Lighting)	N/A	N/A	N/A	13,102	21,508	59,468
Residential: School Energy Pledge	0	0	9,096	0	0	3,698
Residential: Appliance Recycling	506	1,046	4,900	776	1,606	7,674
Residential: Low Income EE	650	1,196	4,467	371	607	2,437
Residential: Low Income EE (Upstream Lighting)	N/A	N/A	N/A	0	0	14,573
Commercial Sector Umbrella EE	9	22	95	1,275	1,308	3,386
Healthcare EE	3	4	13	575	774	1,803
Industrial Sector Umbrella EE	0	0	4	0	0	603
Chemical Products EE	2	2	10	265	265	15,263
Mixed Industrial EE	27	28	66	4,391	4,478	11,377
Office Building – Large – EE	14	15	82	5,830	5,833	24,114
Office Building – Small EE	15	17	85	392	422	2,176
Primary Metals EE	7	7	26	940	940	22,575
Public Agency / Non-Profit	9	15	165	387	539	28,229
Retail Stores – Small EE	45	51	262	704	851	7,150
Retail Stores – Large EE	3	4	51	96	122	2,517
<b>TOTAL PORTFOLIO</b>	<b>6,751</b>	<b>14,675</b>	<b>44,766</b>	<b>31,543</b>	<b>44,318</b>	<b>216,751</b>

**Table 1-5: EDC Reported Gross Energy Savings by Program through the End of the Reporting Period**

<b>Program</b>	<b>Projects in Progress (MWh)</b>	<b>PYTD Total Committed (MWh)</b>	<b>EE&amp;C Plan Estimate for Program Year (MWh)</b>	<b>Percent of Estimate Committed (%)</b>
Residential: EE Program (includes upstream lighting) <sup>1</sup>	0	26,574	32,318	82%
Residential: School Energy Pledge	0	0	1,350	0%
Residential: Appliance Recycling	0	1,606	3,334	48%
Residential: Low Income EE (includes upstream lighting) <sup>1</sup>	0	607	8,587	7%
Commercial Sector Umbrella EE	0	1,308	5,363	24%
Healthcare EE	261	1,035	11,395	9%
Industrial Sector Umbrella EE	0	0	2,515	0%
Chemical Products EE	0	265	6,229	4%
Mixed Industrial EE	4,154	8,632	5,557	155%
Office Building – Large – EE	931	6,763	20,400	33%
Office Building – Small EE	678	1,100	10,635	10%
Primary Metals EE	778	1,718	17,139	10%
Public Agency / Non-Profit	240	778	24,985	3%
Retail Stores – Small EE	4,319	5,170	3,636	142%
Retail Stores – Large EE	3,575	3,697	8,765	42%
<b>TOTAL PORTFOLIO</b>	<b>14,936</b>	<b>59,253</b>	<b>162,208</b>	<b>37%</b>
<b>NOTES:</b>				
<sup>1</sup> Upstream lighting is separated into the REEP and low-income segments for PY2. A similar allocation will occur at the end of PY3.				

A summary of evaluation verified energy impacts by program is presented in Table 1-6.

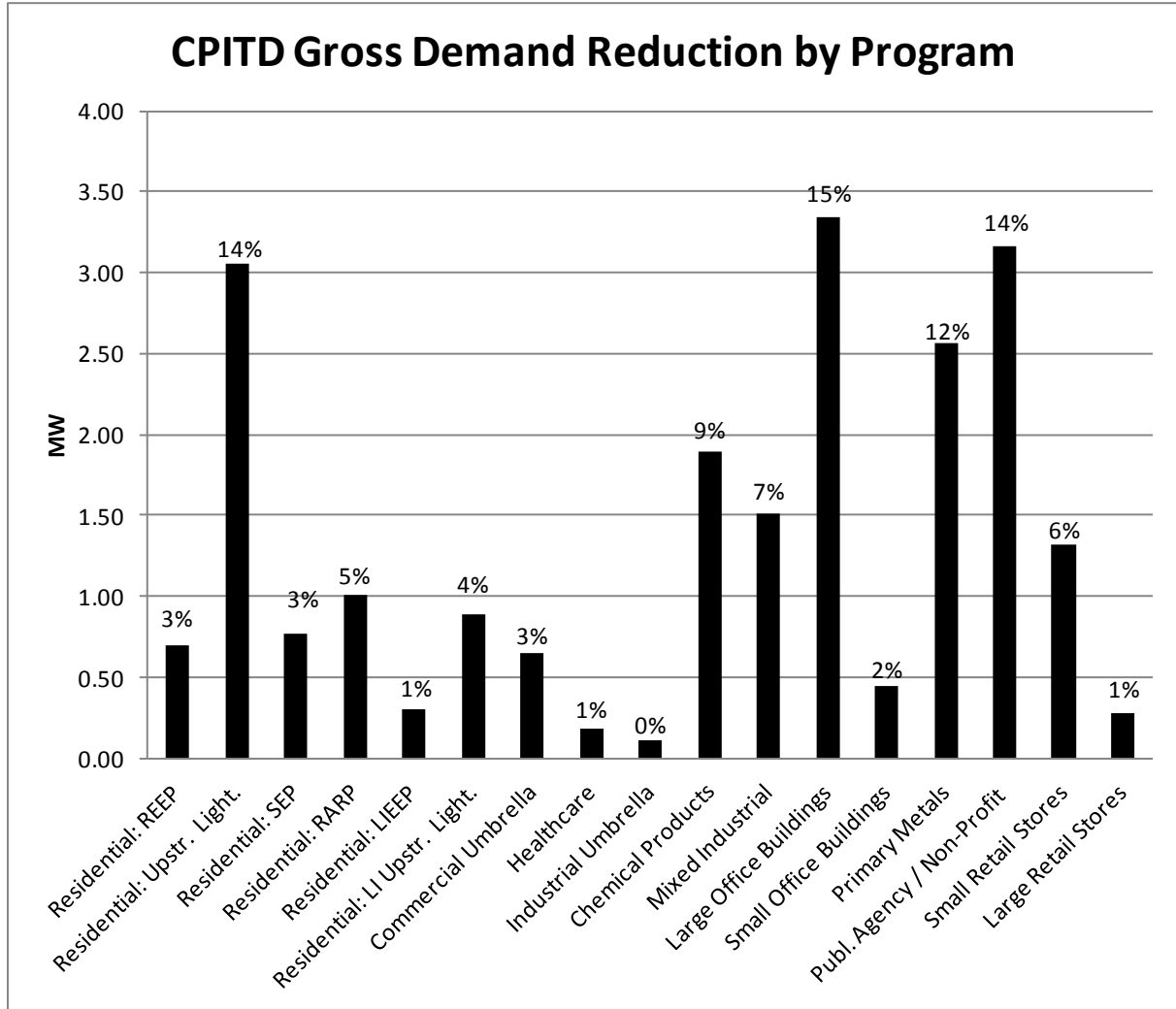
**Table 1-6: Verified Energy Savings by Program through the End of the Reporting Period**

<b>Program</b>	<b>PYTD Reported Gross Impact (MWh)</b>	<b>Preliminary Realization Rate</b>	<b>Preliminary PYTD Verified Impact (MWh) <sup>1</sup></b>	<b>Net-to-Gross Ratio</b>	<b>PYTD Net Impact (MWh) <sup>1</sup></b>
Residential: EE Program (REEP): Rebate Program	5,066	-	-	N/A	-
Residential: EE Program (Upstream Lighting)	21,508	-	-	N/A	-
Residential: School Energy Pledge	0	-	-	N/A	-
Residential: Appliance Recycling	1,606	-	-	N/A	-
Residential: Low Income EE	607	-	-	N/A	-
Residential: Low Income EE (Upstream Lighting)	0	-	-	N/A	-
Commercial Sector Umbrella EE	1,308	-	-	N/A	-
Healthcare EE	774	-	-	N/A	-
Industrial Sector Umbrella EE	0	-	-	N/A	-
Chemical Products EE	265	-	-	N/A	-
Mixed Industrial EE	4,478	-	-	N/A	-
Office Building – Large – EE	5,833	-	-	N/A	-
Office Building – Small EE	422	-	-	N/A	-
Primary Metals EE	940	-	-	N/A	-
Public Agency / Non-Profit	539	-	-	N/A	-
Retail Stores – Small EE	851	-	-	N/A	-
Retail Stores – Large EE	122	-	-	N/A	-
<b>TOTAL PORTFOLIO</b>	<b>44,318</b>	<b>-</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
<b>NOTES:</b>					
<sup>1</sup> Verification has not begun for PY3Q2					

### 1.3 Summary of Demand Impacts by Program

A summary of the reported demand reduction by program is presented in Figure 1-2.

**Figure 1-2: Reported Demand Reduction by Program through the End of the Reporting Period**



A summary of demand reduction impacts by program through PY3Q2 is presented in Table 1-7 and Table 1-8.

**Table 1-7: Participation and Reported Gross Demand Reduction by Program through the End of the Reporting Period**

Program	Participants			Reported Gross Impact (MW)		
	IQ	PYTD	CPITD	IQ	PYTD	CPITD
Residential: EE Program (REEP): Rebate Program	5,461	12,268	25,444	0.164	0.335	0.699
Residential: EE Program (Upstream Lighting)	N/A	N/A	N/A	0.608	0.993	3.057
Residential: School Energy Pledge	0	0	9,096	0.000	0.000	0.774
Residential: Appliance Recycling	506	1,046	4,900	0.096	0.199	1.004
Residential: Low Income EE	650	1,196	4,467	0.033	0.050	0.300
Residential: Low Income EE (Upstream Lighting)	N/A	N/A	N/A	0.000	0.000	0.889
Commercial Sector Umbrella EE	9	22	95	0.131	0.137	0.645
Healthcare EE	3	4	13	0.058	0.085	0.182
Industrial Sector Umbrella EE	0	0	4	0.000	0.000	0.109
Chemical Products EE	2	2	10	0.030	0.030	1.900
Mixed Industrial EE	27	28	66	0.594	0.607	1.517
Office Building – Large – EE	14	15	82	0.477	0.478	3.344
Office Building – Small EE	15	17	85	0.068	0.078	0.442
Primary Metals EE	7	7	26	0.105	0.105	2.560
Public Agency / Non-Profit	9	15	165	0.083	0.129	3.167
Retail Stores – Small EE	45	51	262	0.116	0.138	1.315
Retail Stores – Large EE	3	4	51	0.011	0.014	0.278
<b>TOTAL PORTFOLIO</b>	<b>6,751</b>	<b>14,675</b>	<b>44,766</b>	<b>2.573</b>	<b>3.376</b>	<b>22.181</b>

**Table 1-8: Reported Gross Demand Reduction by Program through the End of the Reporting Period**

<b>Program</b>	<b>Projects in Progress (MW)</b>	<b>PYTD Total Committed (MW)</b>	<b>EE&amp;C Plan Estimate for Program Year (MW)</b>	<b>Percent of Estimate Committed (%)</b>
Residential: EE Program (includes upstream lighting)	0.000	1.327	15.965	8%
Residential: School Energy Pledge	0.000	0.000	1.215	0%
Residential: Appliance Recycling	0.000	0.199	0.831	24%
Residential: Low Income EE (includes upstream lighting)	0.000	0.050	3.501	1%
Commercial Sector Umbrella EE	0.000	0.137	1.150	12%
Healthcare EE	0.031	0.116	2.445	5%
Industrial Sector Umbrella EE	0.000	0.000	0.389	0%
Chemical Products EE	0.000	0.030	0.962	3%
Mixed Industrial EE	0.691	1.299	0.858	151%
Office Building – Large – EE	0.076	0.553	4.400	13%
Office Building – Small EE	0.247	0.325	1.940	17%
Primary Metals EE	0.070	0.174	2.647	7%
Public Agency / Non-Profit	0.092	0.221	7.278	3%
Retail Stores – Small EE	0.901	1.039	0.780	133%
Retail Stores – Large EE	0.701	0.714	1.881	38%
<b>TOTAL PORTFOLIO</b>	<b>2.808</b>	<b>6.184</b>	<b>46.242</b>	<b>13%</b>

A summary of evaluation adjusted demand impacts by program is presented in Table 1-9.

**Table 1-9: Verified Demand Reduction by Program through the End of the Reporting Period**

Program	PYTD Reported Gross Impact (MW)	Preliminary Realization Rate	Preliminary PYTD Verified Impact (MW) <sup>1</sup>	Net-to-Gross Ratio	PYTD Net Impact (MW) <sup>1</sup>
Residential: EE Program (REEP): Rebate Program	0.335	-	-	N/A	-
Residential: EE Program (Upstream Lighting)	0.993	-	-	N/A	-
Residential: School Energy Pledge	0.000	-	-	N/A	-
Residential: Appliance Recycling	0.199	-	-	N/A	-
Residential: Low Income EE	0.050	-	-	N/A	-
Residential: Low Income EE (Upstream Lighting)	0.000	-	-	N/A	-
Commercial Sector Umbrella EE	0.137	-	-	N/A	-
Healthcare EE	0.085	-	-	N/A	-
Industrial Sector Umbrella EE	0.000	-	-	N/A	-
Chemical Products EE	0.030	-	-	N/A	-
Mixed Industrial EE	0.607	-	-	N/A	-
Office Building – Large – EE	0.478	-	-	N/A	-
Office Building – Small EE	0.078	-	-	N/A	-
Primary Metals EE	0.105	-	-	N/A	-
Public Agency / Non-Profit	0.129	-	-	N/A	-
Retail Stores – Small EE	0.138	-	-	N/A	-
Retail Stores – Large EE	0.014	-	-	N/A	-
<b>TOTAL PORTFOLIO</b>	3.376	-	-	N/A	0.000
<b>NOTES:</b>					
<sup>1</sup> Verification has not begun for PY3Q2					



## 1.4 Summary of Evaluation

Realization rates are calculated to adjust reported savings based on statistically significant verified savings measured by independent evaluators. The realization rate is defined as the percentage of reported savings that is achieved, as determined through the independent evaluation review. A realization rate of 1 or 100% indicates no difference between the reported and achieved savings. Realization rates are determined by certain attributes relative to one of three protocol types. Fully deemed TRM measure realization rates are driven by differences in the number of installed measures. Partially deemed TRM measure<sup>22</sup> realization rates are driven by (1) differences in the number of installed measures and (2) differences in TRM savings algorithm input variables (for partially deemed savings measures). Custom measure realization rates are driven by differences in the energy savings established by program implementer measurement and verification (M&V) and savings determined by the independent evaluation contractor (EM&V).

Quarterly reports may not include realization rates reflecting full program-to-date activities due to ongoing M&V activity. The realization rates for the full program year will be reported in the Program Year 3 final report.

### 1.4.1 Impact Evaluation

#### 1.4.1.1 Evaluation Groups

Per the utility's EM&V Plan<sup>23</sup>, for the purpose of conducting cost-effective EM&V, certain industrial and commercial programs are grouped based on shared characteristics. Commercial sector retail, health care, large and small office and public agency partnership programs are similar enough in structure to be treated as one evaluation group<sup>24</sup>. All industrial programs function in a similar enough manner that they are treated as one evaluation group. Because of their unique program features, each residential program is evaluated independently. This program level EM&V organization results in seven distinct Evaluation Groups<sup>25</sup>, as shown in Table 1-10 below. Note that program theory and logic models have been developed for six of the seven Evaluation Groups.<sup>26</sup>

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<sup>22</sup> TRM measures with stipulated values and variables.

<sup>23</sup> Evaluation Measurement and Verification Plan, 2010-2012 Energy Efficiency & Conservation Programs, July 15, 2010 (EM&V Plan), sections 1.2.6 Program Level EM&V Organization, page 12.

<sup>24</sup> Note that in cases where the programs must be consolidated for practical M&V purposes, the sample data can be used to provide an unbiased estimate of the average savings per project for the program group. While average savings per project can be broken out for each program in the group, the precision will be lower due to the smaller sample sizes.

<sup>25</sup> EM&V Plan Table 1-7: Evaluation Groups, page 13.

<sup>26</sup> Upstream Lighting Program Theory and Logic Model have yet to be developed.

**Table 1-10: Evaluation Groups**

Evaluation Groups	Included Sub Programs
Residential: Appliance Recycling Program (RARP)	Single program group
Residential: Low Income Energy Efficiency Program (LIEEPP)	Single program group
Residential :Energy Efficiency Rebate Program (REEP)	Single program group
Residential: School Energy Pledge Program (SEP)	Single program group
Upstream Lighting Program	Residential Upstream Lighting and Low Income Upstream Lighting
Commercial	Umbrella, Small Office, Large Office, Health Care and Retail, Public Agency Partnerships/Education
Industrial	Umbrella, Primary Metals, Chemical Products and Mixed Industrials

In this section, for the residential, commercial and industrial programs, we describe the sample designs and methods used to produce ex post estimates of energy and demand impacts.

**Residential**

Below, we describe the approach used to produce ex post estimates of gross savings for the four residential programs.

**Estimation Approach**

For deemed measures, the total ex ante gross kWh (or kW) impact for a given Program Management and Reporting System (PMRS) record is defined as the claimed units installed multiplied by the unit energy savings (UES). With the Verification approach for deemed measures, there are two sub-levels of rigor, basic and enhanced. The level of rigor depends on the project size. The basic level of rigor will be used for measures for which the rebate is less than \$2,000. The enhanced level of rigor is reserved for measures for which the rebate is equal to or greater than \$2,000. Basic level of rigor involves verification by telephone survey, and enhanced level of rigor involves on-site verification.

The basic level of verification rigor methods for TRM deemed measures involves two basic steps:

1. Survey a random sample of participants to verify installations and estimate verification rates.
2. The claimed ex ante gross kWh and kW impacts for each PMRS record in the population from which the sample was drawn are then multiplied by this verification rate.

The verification used for TRM deemed measures consists of a six-step process:

**Step 1.** The verification checklist for deemed savings measures includes data downloaded from PMRS and/or taken from hardcopy documentation for each participant installation or can be obtained by telephone or on-site visit. The verification checklist for deemed savings measures includes:

1. Participant has valid utility account number
2. Measure(s) is on approved list and all parameters necessary for calculating savings are present.

3. Proof of purchase identifies qualifying measure and is dated within the program period.
4. Rebate payment date is in the current program period being verified (for residential rebates).
5. Unit kWh and kW are correct for each listed measure.
6. Measure was actually installed at the customer site (telephone survey for basic level of rigor).

**Step 2.** A simple random sample of participants is selected from the PMRS database.

**Step 3.** Relevant documentation for items #1 through #5 from PMRS or other hardcopy documentation is then obtained for each sampled PMRS record.

**Step 4.** Next, with respect to the sixth criterion: (a) for basic verification, telephone interviews are conducted with each sampled customer to confirm that they participated in the program, received the rebate, and purchased and installed the efficient measure(s); and (b) for the enhanced rigor sample, on-site inspections and interviews are completed with each sampled customer to confirm that they participated in the program, received the rebate, and purchased and installed the efficient measure(s).

**Step 5.** Using the data collected from program files and telephone or on-site surveys, a verification rate (VR) is calculated. The VR is calculated by summing the verified (ex post) savings for all sampled participants, summing the reported (ex ante) savings for all sampled participants, and then dividing the total verified savings by the total reported savings. For the REEP and LIEEP programs, which involve stratification by participation type, the verification rate is calculated for each stratum.

**Step 6.** The final step involves multiplying each program's verification rate by the total reported savings in the program tracking system for that program, to obtain a total verified savings. For REEP and LIEEP, the total reported savings for each stratum in the program tracking system are multiplied by the appropriate stratum-specific verification rate.

#### **1.4.1.2 Sample Design: LIEEP, REEP, RARP and SEP**

RARP and SEP use a simple ratio estimator. The reasons for using a simple ratio estimator is that the vast majority of the measures installed in these four residential programs are expected to be TRM deemed. This means that the savings are subjected to the basic level of rigor that involved only the verification of installations. The only changes to the estimated gross savings in PMRS would be due to clerical errors and installation rates, which are expected to be minor. Neither the installation rates nor the rate of clerical errors is expected to vary by measure/end use, making stratification unnecessary. The resulting verification rate (the ratio of the ex post savings to the ex ante savings) is therefore expected to be very high with a very low variance. For REEP and LIEEP, some stratification by measure type is used. Specifically, the installation rate for the items included in energy efficiency kits distributed by the utility is expected to be different from that of efficient equipment that the customer purchases (e.g., an Energy Star refrigerator).

#### **1.4.1.3 Commercial Program Group Sample Design**

The sample design for the Commercial Program Group uses the stratified ratio estimator (Lohr 1999)<sup>27</sup>. As described in the 2010-2012 Energy Efficiency & Conservation Program (EM&V Plan), a stratified ratio

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<sup>27</sup> Lohr, Sharon. *Sampling : Design and Analysis*. Pacific Grove, CA: Duxbury Press, 1999, 69-101.

estimator is used to adjust the ex ante savings contained in PMRS. The approach is similar to that used for the residential programs except that the sample is stratified by ex ante energy savings (kWh) rather than by sub-program. Additionally, unlike with Residential, all strata standard errors were estimated consistent with Lohr (1999) assuming a continuous distribution of the realization rate. The stratified ratio estimation approach takes advantage of information that is reported in the PMRS tracking system for each project in the program. The two key parameters in the stratified ratio estimate are a) the ratio between ex post (denoted as the “Y” variable) and ex ante (denoted as the “X” variable) and b) the standard error of the estimate. The ratio between ex post and ex ante, which is sometimes referred to as the realization rate, measures the accuracy of the tracking estimates from project to project across the sample of projects. The standard error of the ratio estimate is a measure of the variability in the relationship between the ex post and ex ante estimates. Both estimates help to define the relationship (e.g., the ratio as well as the relative precision of the ratio) between the tracking estimates of savings and the actual project savings.

Ratios are calculated within each stratum and strata weights are applied to arrive at a program-level ratio. A stratum is a subset of the projects in the population that are grouped together based on ex ante savings that are known information. In other words, a stratification of the population into strata is a classification of all units in the population into mutually exclusive strata that span the population. Under this design, each stratum is sampled according to simple random sampling protocols and the weighted estimates of parameters can be extrapolated to the entire population.

Per the utility’s EM&V Plan<sup>28</sup>, for measures with rebates less than \$2,000, the basic level of verification rigor is employed. The enhanced level of rigor verification is applied when measure rebates are equal to or greater than \$2,000. The sampling unit for the commercial program is the project, each project having a project ID in the Duquesne tracking system.

Basic Level of Rigor Verification: For Commercial programs, the basic level of verification rigor includes data downloaded from PMRS, and obtaining and analyzing hardcopy and electronic documentation for each participant installation. Interviews are conducted with designated customer contacts, as well as facility managers, program implementers, equipment suppliers and installation contractors, as needed. Where documentation is inadequate, secondary research is conducted to ascertain required pre- and post equipment definition as well as operating conditions. Project planning documentation is compared with applicable TRM deemed and partially deemed measure values and algorithm inputs. Based upon the review of the aforementioned, reported *ex ante* savings are assessed, corroborated or revised to reflect assessment findings.

Enhanced Level of Rigor Verification: Enhanced rigor verification includes an analysis of utility tracking system data, an analysis of project file hardcopy and electronic documentation and site verification of installed equipment. Sample sites are selected for the commercial and industrial sector evaluation groups as described above and in Section 4 Portfolio Results by Program. Where required, equipment is verified on-site by sampling to achieve 90% confidence/20% precision consistent with guidelines prescribed in Audit Plan and Evaluation Framework for PA Act 129 Energy Efficiency and Conservation Programs (Audit Plan)<sup>29</sup>. Interviews are conducted with designated customer contacts, as well as facility

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<sup>28</sup> Evaluation Measurement and Verification Plan, 2010-2012 Energy Efficiency & Conservation Programs, July 15, 2010 (EM&V Plan), sections 2.5 and 2.5.1, pages 21 and 22.

<sup>29</sup> GDS Associates, Inc., Nextant, & Mondre Energy, Audit Plan and Evaluation Framework for Pennsylvania Act 129 Energy Efficiency and Conservation Programs. December 1, 2009.

managers, program implementers, equipment suppliers and installation contractors, as needed. Building configuration and business operations are researched to confirm key savings determinants such as operating hours and the presence or absence of space cooling or refrigeration. Where documentation is inadequate, secondary research is conducted to ascertain required pre- and post equipment definition as well as operating conditions. On-site metering is sometimes used to estimate specific parameters associated with energy or demand savings.

**1.4.1.4 Industrial Program Group Sample Design**

The industrial program group sample design was essentially the same as that used for the commercial program. However, the sampling unit was a project measure, rather than an entire project. The level of verification rigor and estimation of realization rates is the same as for the commercial program group.

**1.4.1.5 Achieved Confidence and Precision**

For the plan year up to and including the second quarter, no verification work has been completed yet. Table 1-11, below, will be completed as data become available.

**Table 1-11: Summary of Realization Rates and Confidence Intervals for kWh and kW**

Program	PYTD Sample Participants	Program Year Sample Participant Target	Preliminary Realization Rate for kWh	Confidence and Precision for kWh	Preliminary Realization Rate for kW	Confidence and Precision for kW
Residential: EE Rebate	0	TBD				
Residential: School Energy Pledge	0	TBD				
Residential: Appliance Recycling	0	TBD				
Residential: Low Income EE	0	TBD				
Commercial Program	0	TBD				
Industrial Program	0	TBD				
TOTAL PORTFOLIO	0	TBD				

**1.4.2 Process Evaluation**

A process evaluation was not conducted for the PY 3 Q2 report.

## 1.5 Summary of Finances

The TRC test demonstrates the cost-effectiveness of a program by comparing the total economic benefits to the total costs. A breakdown of the portfolio finances is presented in Table 1-12.

**Table 1-12: Summary of Portfolio Finances: TRC Test<sup>30</sup>**

	Category	IQ	PYTD	CPITD
A.1	EDC Incentives to Participants	\$1,350,537	\$4,124,260	\$9,963,004
A.2	EDC Incentives to Trade Allies	0	0	91,877
A	<b>Subtotal EDC Incentive Costs</b>	1,350,537	4,124,260	10,054,881
B.1	Design & Development	0	0	3,481,106
B.2	Administration	0	0	0
B.3	Management	2,274,000	5,165,312	11,732,515
B.4	Marketing	251,440	492,953	1,217,314
B.5	Technical Assistance	0	0	0
B	<b>Subtotal EDC Implementation Costs</b>	2,525,440	5,658,265	16,430,935
C	<b>EDC Evaluation Costs</b>	313,448	578,084	1,033,300
D	<b>SWE Audit Costs</b>	250,000	500,000	1,291,879
E	<b>Participant Costs</b>	0	0	0
	<b>Total Costs</b>	4,439,425	10,860,609	28,810,995
F	<b>Annualized Avoided Supply Costs*</b>	0	0	0
G	<b>Lifetime Avoided Supply Costs*</b>	0	0	0
	<b>Total Lifetime Economic Benefits*</b>	0	0	0
	<b>Portfolio Benefit-to-Cost Ratio*</b>	0	0	0
<b>NOTES:</b>				
Per Secretarial letter dated 5-25-2011, TRC costs will be reported on the final report to be submitted 11-15-2012				

<sup>30</sup> Definitions for terms in following table are subject to TRC Order. Various cost and benefit categories are subject to change pending the outcome of TRC Technical Working Group discussions.

The TRC for each program will be completed at year end in Table 1-13.

**Table 1-13: Summary of Portfolio Budget by Program**

<b>Program</b>	<b>TRC Benefits (\$)</b>	<b>TRC Costs (\$)</b>	<b>TRC Benefit-Cost Ratio</b>
Residential: EE Rebate*			
Residential: School Energy Pledge*			
Residential: Refrigerator Recycling*			
Residential: Low Income EE*			
Commercial Sector Umbrella EE*			
Office Building – Small EE*			
Retail Stores EE*			
<b>Portfolio</b>			
<b>NOTES:</b>			

*\*Per direction from the SWE on 9-13-2010, no TRC values are provided for the PY3Q2 report.*



## 2 Portfolio Results by Sector

The EE&C Implementation Order issued on January 15<sup>th</sup>, 2009 states requirements for specific sectors on page 11. In order to comply with these requirements, each program has been categorized into one of the following sectors:

1. Residential EE (excluding Low-Income)
2. Residential Low-Income EE
3. Small Commercial & Industrial EE
4. Large Commercial & Industrial EE
5. Government & Non-Profit EE

A summary of portfolio gross energy savings and gross demand reduction by sector is presented in Figure 2-1 and Figure 2-2.

**Figure 2-1: PYTD Reported Gross Energy Savings by Sector**

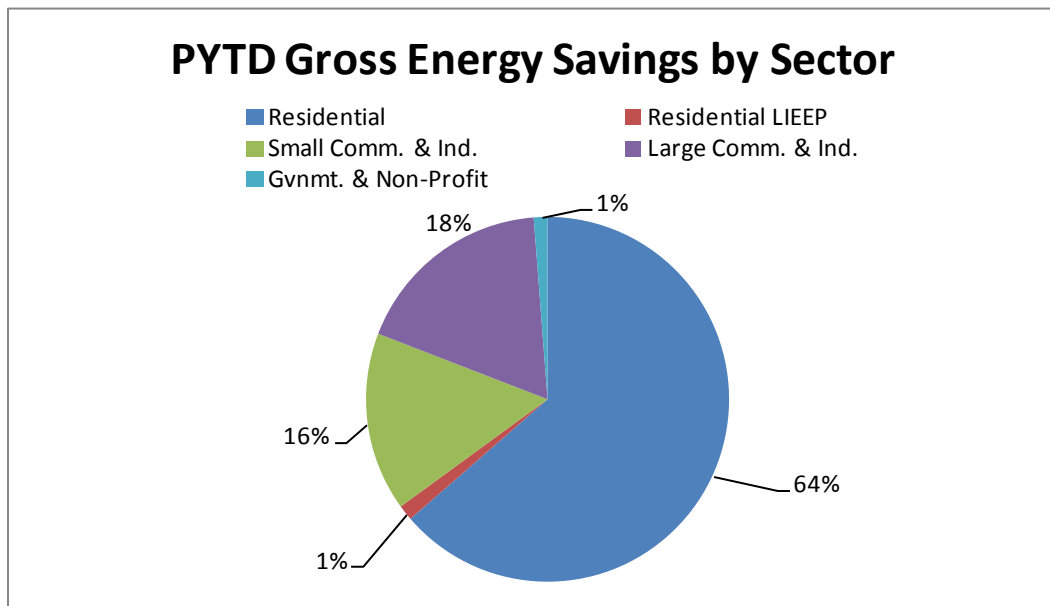
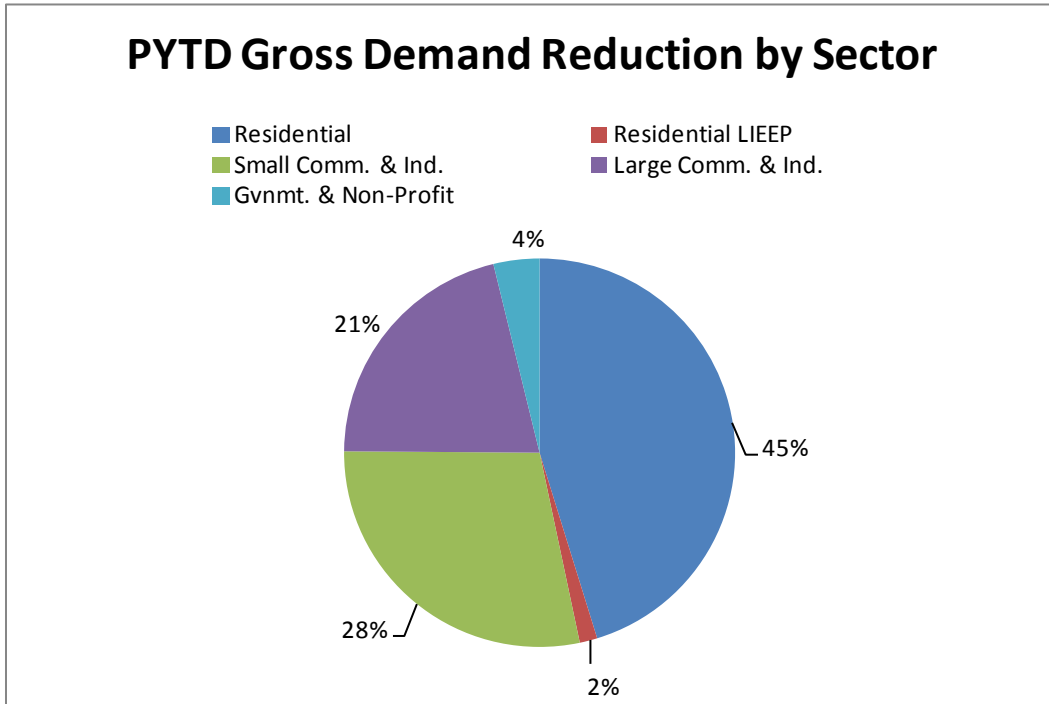


Figure 2-2: PYTD Reported Gross Demand Reduction by Sector



Energy savings by sector are presented in Table 2-1.

**Table 2-1: Reported Gross Energy Savings by Sector through the End of the Reporting Period**

Market Sector	Reported Gross Impact (MWh)			Projects in Progress	Total Committed
	IQ	PYTD	CPITD		
Residential EE	16,317	28,180	80,549	0	80,549
Residential Low-Income EE	371	607	17,010	0	17,010
Small Commercial & Industrial EE	6,762	7,058	24,691	9,151	33,842
Large Commercial & Industrial EE	7,705	7,933	66,272	5,545	71,817
Government & Non-Profit EE	387	539	28,229	240	28,468
<b>TOTAL PORTFOLIO</b>	<b>31,543</b>	<b>44,318</b>	<b>216,751</b>	<b>14,936</b>	<b>231,687</b>

Demand reductions by sector are presented in Table 2-2.

**Table 2-2: Reported Gross Demand Reduction by Sector through the End of the Reporting Period**

Market Sector	Reported Gross Impact (MW)			Projects in Progress	Total Committed
	IQ	PYTD	CPITD		
Residential EE	0.867	1.527	5.534	0.000	5.534
Residential Low-Income EE	0.033	0.050	1.189	0.000	1.189
Small Commercial & Industrial EE	0.909	0.960	4.027	1.839	5.867
Large Commercial & Industrial EE	0.681	0.711	8.264	0.877	9.141
Government & Non-Profit EE	0.083	0.129	3.167	0.092	3.259
<b>TOTAL PORTFOLIO</b>	<b>2.573</b>	<b>3.376</b>	<b>22.181</b>	<b>2.808</b>	<b>24.989</b>

## 2.1 Residential EE Sector

The annual sector target for Plan Year 3 energy savings is 37,002 MWh and the sector target for annual peak demand reduction is 18.0 MW.

A sector summary of results by program is presented in Table 2-3 and Table 2-4.

**Table 2-3: Summary of Residential EE Sector Incremental Impacts by Program through the End of the Reporting Period**

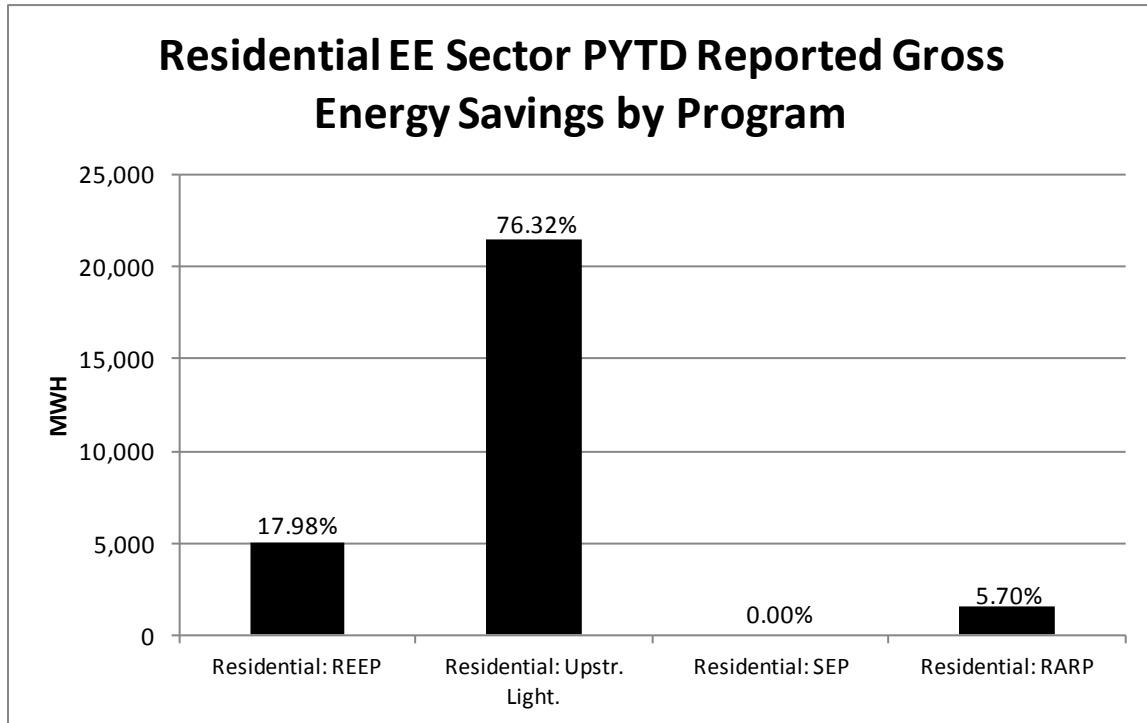
Residential EE Sector	IQ Participants	IQ Reported Gross Energy Savings (MWh)	IQ Reported Gross Demand Reduction (MW)
Residential: EE Program (REEP): Rebate Program	5,461	2,439	0.164
Residential: EE Program (Upstream Lighting)	N/A	13,102	0.608
Residential: School Energy Pledge	0	0	0.000
Residential: Appliance Recycling	506	776	0.096
<b>Sector Total</b>	<b>5,967</b>	<b>16,317</b>	<b>0.867</b>
<b>NOTES:</b>			
275,999 CFLs were distributed under the upstream lighting program in PY3 Q2.			

**Table 2-4: Summary of Residential EE Sector PYTD Impacts by Program through the End of the Reporting Period**

Residential EE Sector	PYTD Participants	PYTD Reported Gross Energy Savings (MWh)	PYTD Reported Gross Demand Reduction (MW)
Residential: EE Program (REEP): Rebate Program	12,268	5,066	0.335
Residential: EE Program (Upstream Lighting)	N/A	21,508	0.993
Residential: School Energy Pledge	0	0	0.000
Residential: Appliance Recycling	1,046	1,606	0.199
<b>Sector Total</b>	<b>13,314</b>	<b>28,180</b>	<b>1.527</b>

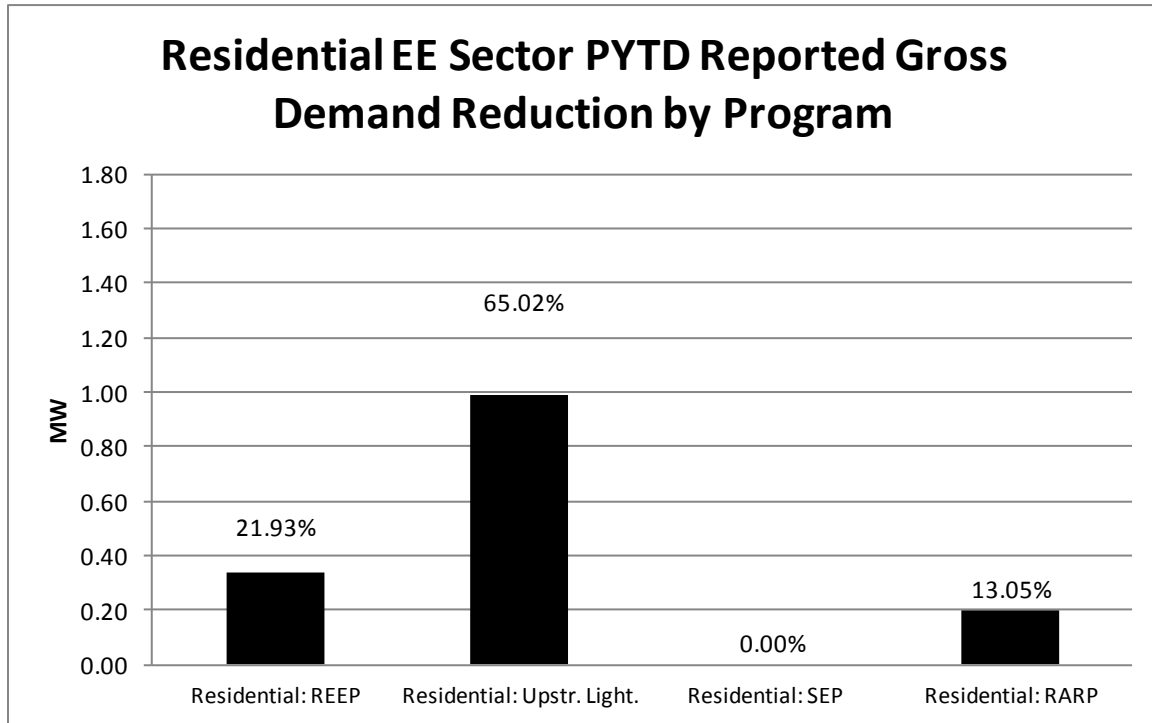
A summary of the sector energy savings by program is presented in Figure 2-3.

**Figure 2-3: Summary of Residential EE Sector PYTD Reported Gross Energy Savings by Program**



A summary of the sector demand reduction by program is presented in Figure 2-4.

**Figure 2-4: Summary of Residential EE Sector PYTD Reported Demand Reduction by Program**



## 2.2 Residential Low-Income EE Sector

The annual sector target for Plan Year 3 energy savings is 8,587 MWh and the sector target for annual peak demand reduction is 3.5 MW.

A sector summary of results by program is presented in Table 2-5 and Table 2-6.

**Table 2-5: Summary of Residential Low-Income EE Sector Incremental Impacts by Program through the End of the Reporting Period**

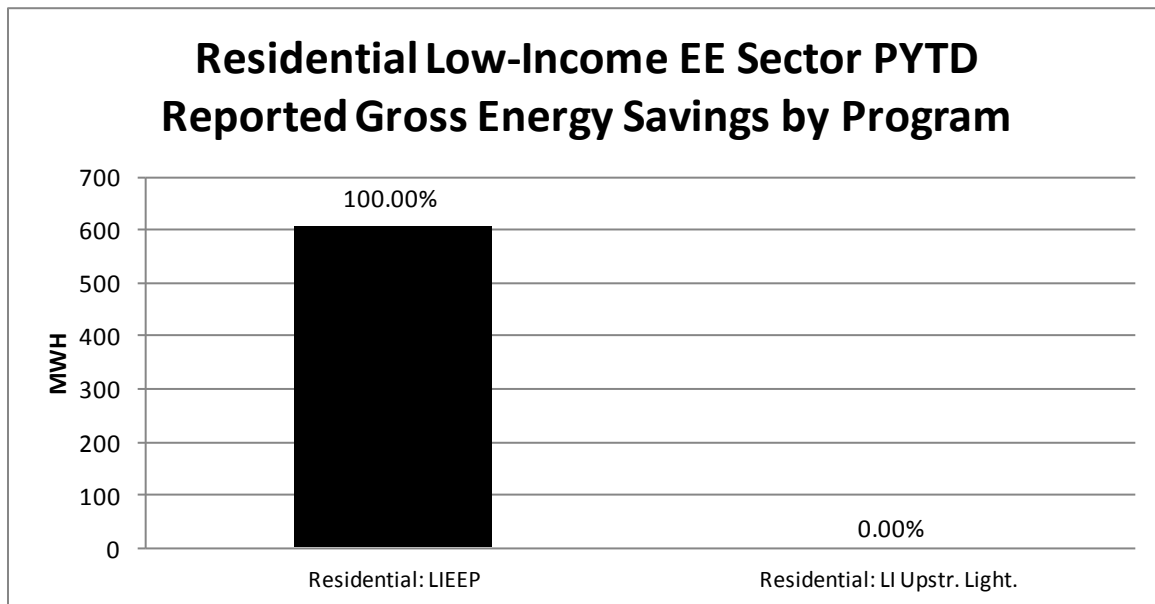
Residential Low-Income EE Sector	IQ Participants	IQ Reported Gross Energy Savings (MWh)	IQ Reported Gross Demand Reduction (MW)
Residential: Low Income EE	650	371	0.033
Residential: Low Income EE (Upstream Lighting)	N/A	0	0.000
<b>Sector Total</b>	650	371	0.033

**Table 2-6: Summary of Residential Low-Income EE Sector Low-Income PYTD Impacts by Program through the End of the Reporting Period**

Residential Low-Income EE Sector	PYTD Participants	PYTD Reported Gross Energy Savings (MWh)	PYTD Reported Gross Demand Reduction (MW)
Residential: Low Income EE	1,196	607	0.050
Residential: Low Income EE (Upstream Lighting)	N/A	0	0.000
<b>Sector Total</b>	1,196	607	0.050

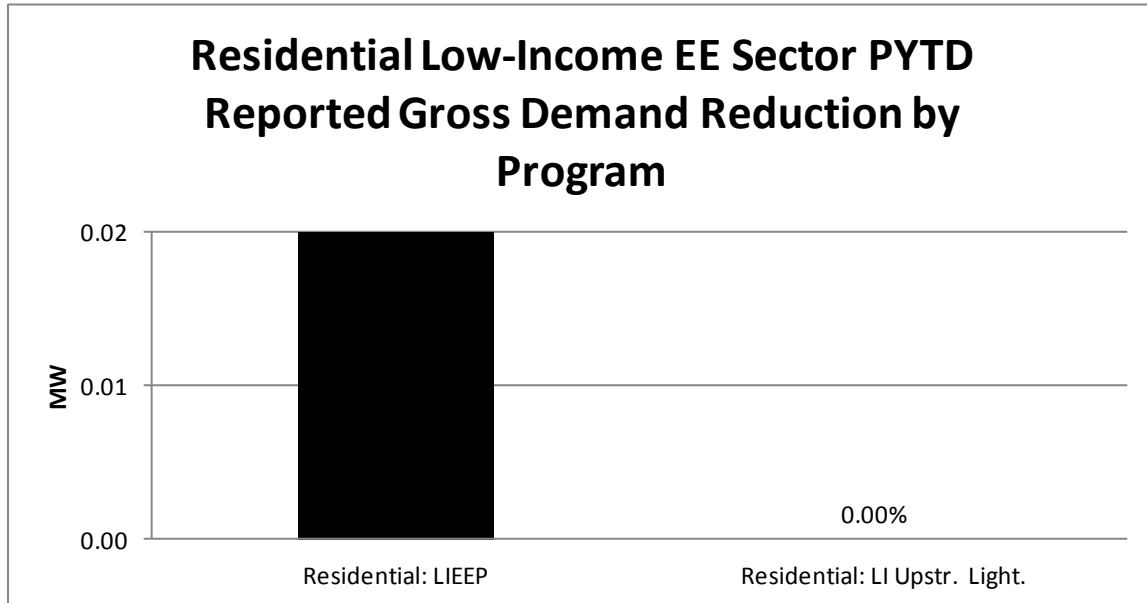
A summary of the sector energy savings by program is presented in Figure 2-5.

**Figure 2-5: Summary of Residential Low-Income EE Sector PYTD Reported Gross Energy Savings by Program**



A summary of the sector demand reduction by program is presented in Figure 2-6.

**Figure 2-6: Summary of Residential Low-Income EE Sector PYTD Reported Demand Reduction by Program**



### 2.3 Small Commercial & Industrial EE Sector

The annual sector target for Plan Year 3 energy savings is 27,705 MWh and the sector target for annual peak demand reduction is 5.1 MW.

A sector summary of results by program is presented in Table 2-7 and Table 2-8.

**Table 2-7: Summary of Small Commercial & Industrial EE Sector Incremental Impacts by Program through the End of the Reporting Period**

Small Commercial & Industrial Sector	IQ Participants	IQ Reported Gross Energy Savings (MWh)	IQ Reported Gross Demand Reduction (MW)
Commercial Sector Umbrella EE	9	1,275	0.131
Industrial Sector Umbrella EE	0	0	0.000
Mixed Industrial EE	27	4,391	0.594
Office Building – Small EE	15	392	0.068
Retail Stores – Small EE	45	704	0.116
<b>Sector Total</b>	<b>96</b>	<b>6,762</b>	<b>0.909</b>

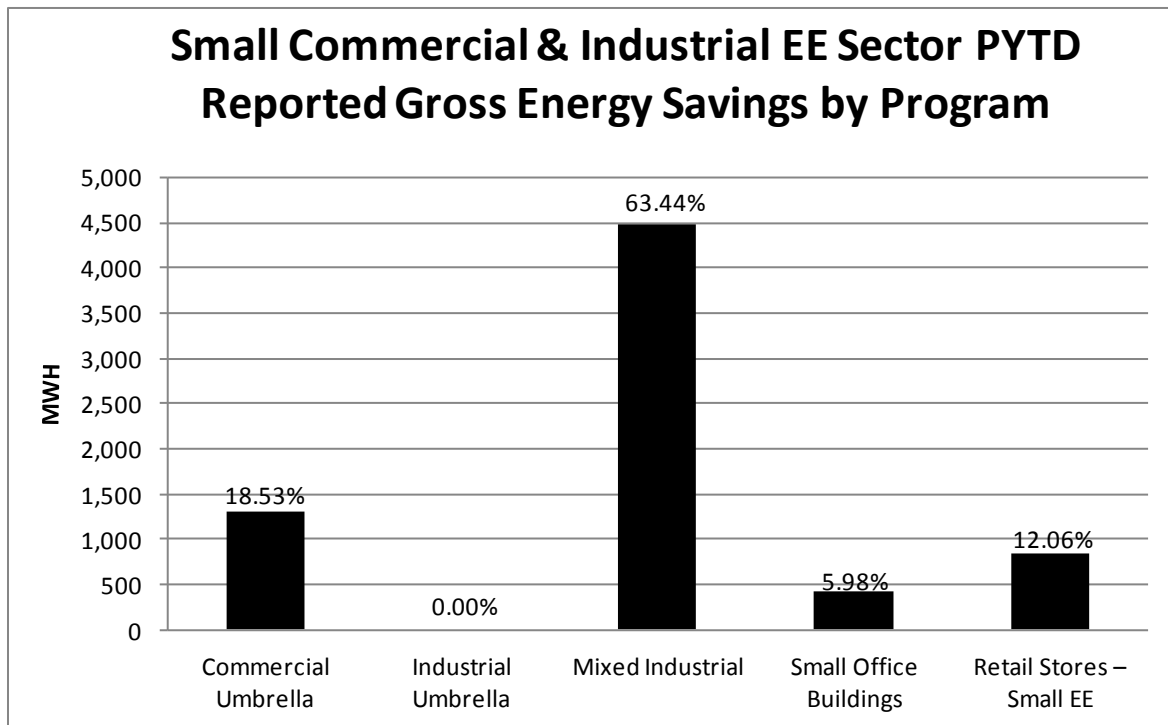


**Table 2-8: Summary of Small Commercial & Industrial EE Sector PYTD Impacts by Program through the End of the Reporting Period**

Small Commercial & Industrial EE Sector	PYTD Participants	PYTD Reported Gross Energy Savings (MWh)	PYTD Reported Gross Demand Reduction (MW)
Commercial Sector Umbrella EE	22	1,308	0.137
Industrial Sector Umbrella EE	0	0	0.000
Mixed Industrial EE	28	4,478	0.607
Office Building – Small EE	17	422	0.078
Retail Stores – Small EE	51	851	0.138
<b>Sector Total</b>	<b>118</b>	<b>7,058</b>	<b>0.960</b>

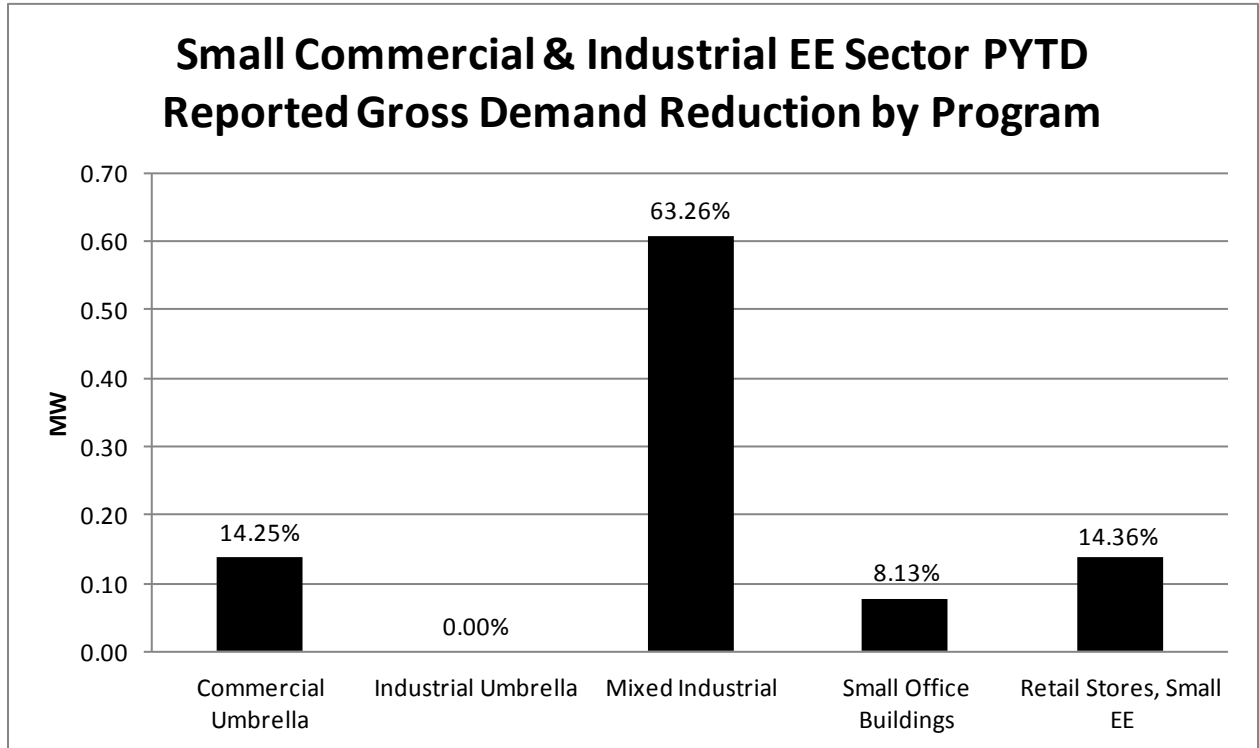
A summary of the sector energy savings by program is presented in Figure 2-5.

**Figure 2-5: Summary of Small Commercial & Industrial EE Sector PYTD Reported Gross Energy Savings by Program**



A summary of the sector demand reduction by program is presented in Figure 2-6.

**Figure 2-6: Summary of Small Commercial & Industrial EE Sector PYTD Reported Demand Reduction by Program**



## 2.4 Large Commercial & Industrial EE Sector

The annual sector target for Plan Year 3 energy savings is 63,928 MWh and the sector target for annual peak demand reduction is 12.3 MW.

A sector summary of results by program is presented in Table 2-9 and Table 2-10.

**Table 2-9: Summary of Large Commercial & Industrial EE Sector Incremental Impacts by Program through the End of the Reporting Period**

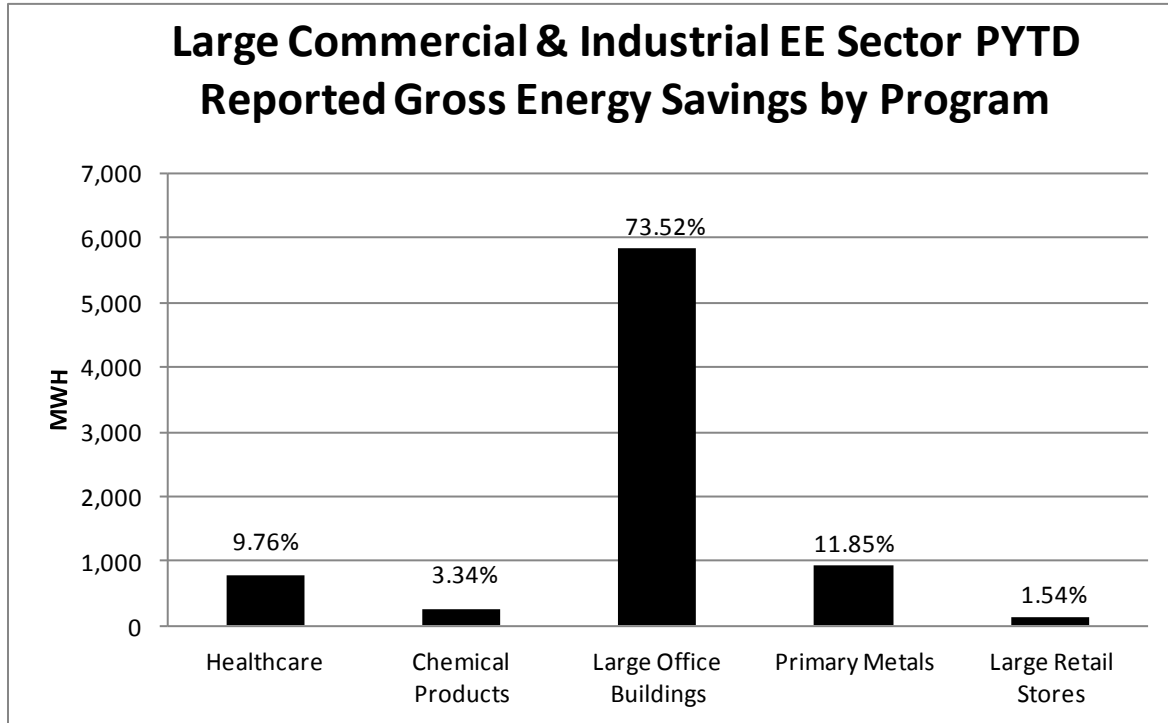
Large Commercial & Industrial Sector	IQ Participants	IQ Reported Gross Energy Savings (MWh)	IQ Reported Gross Demand Reduction (MW)
Healthcare EE	3	575	0.058
Chemical Products EE	2	265	0.030
Office Building – Large – EE	14	5,830	0.477
Primary Metals EE	7	940	0.105
Retail Stores – Large EE	3	96	0.011
<b>Sector Total</b>	<b>29</b>	<b>7,705</b>	<b>0.681</b>

**Table 2-10: Summary of Large Commercial & Industrial EE Sector PYTD Impacts by Program through the End of the Reporting Period**

Large Commercial & Industrial Sector	PYTD Participants	PYTD Reported Gross Energy Savings (MWh)	IQ Reported Gross Demand Reduction (MW)
Healthcare EE	4	774	0.085
Chemical Products EE	2	265	0.030
Office Building – Large – EE	15	5,833	0.478
Primary Metals EE	7	940	0.105
Retail Stores – Large EE	4	122	0.014
<b>Sector Total</b>	<b>32</b>	<b>7,933</b>	<b>0.711</b>

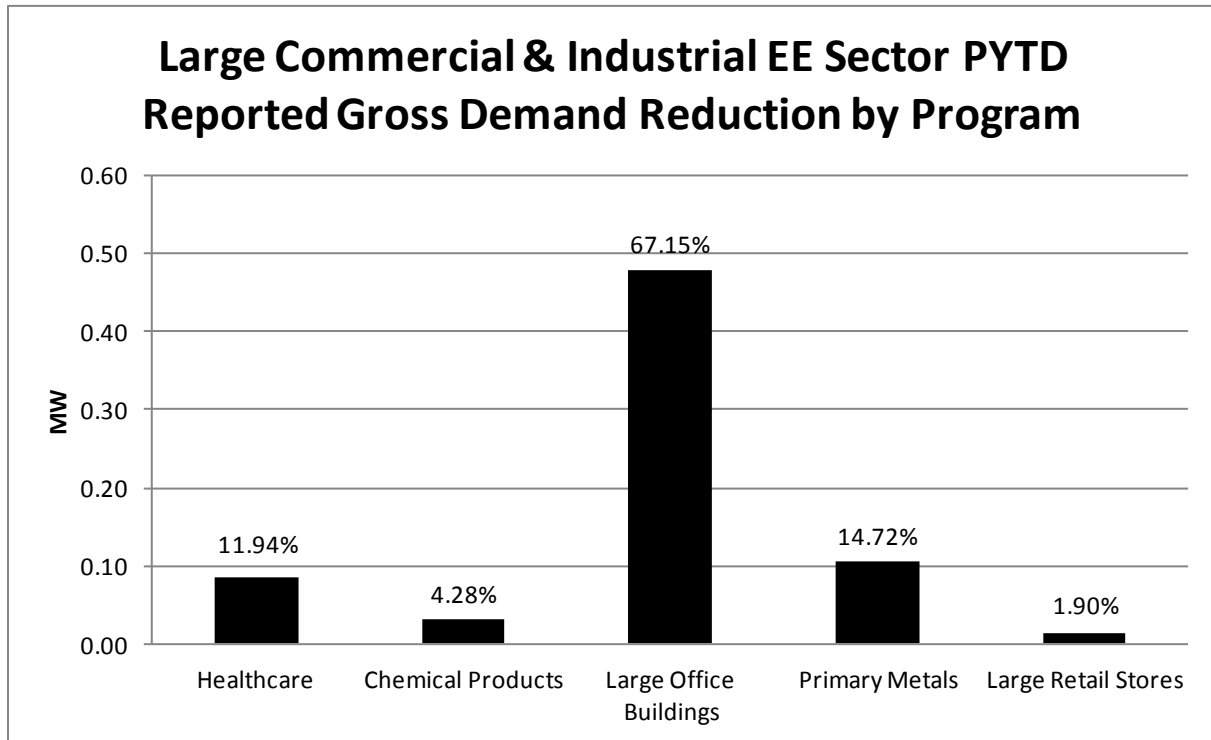
A summary of the sector energy savings by program is presented in Figure 2-7.

**Figure 2-7: Summary of Large Commercial & Industrial EE Sector PYTD Reported Gross Energy Savings by Program**



A summary of the sector demand reduction by program is presented in Figure 2-8.

**Figure 2-8: Summary of Large Commercial & Industrial EE Sector PYTD Reported Demand Reduction by Program**



The large commercial and industrial sector includes an overall umbrella program structure and specialized programs designed to promote specific technologies or target specific market segments while incorporating the umbrella program savings impacts and incentive levels.

The large commercial and industrial programs are designed to provide a comprehensive approach to energy savings and permanent demand reduction, and address a full range of efficiency opportunities (from low cost improvements to entire system upgrades) with Duquesne Light customers. Each sub-program provides the following services:

1. Targeted and comprehensive on-site walk-through assessments and professional grade audits to identify energy savings opportunities.
2. Efficiency studies/reports that detail process and equipment upgrades that present the greatest potential for energy/cost savings.
3. Support to access rebates and incentives available across electric measures designed to help defray upfront costs of installing the equipment.
4. Coordination with local chapters of key industry associations to promote energy efficiency improvements through trusted sources and encourage market-transforming practices among equipment vendors and purchasers.

Duquesne Light has chosen the following Conservation Service Providers (CSPs) to implement large commercial and industrial sector programs:

1. Primary Metals and Large Offices: Roth Bros, Inc. and Enerlogics Networks, Inc.
2. Chemical Products: Global Energy Partners, LLC
3. Mixed Industrial: Global Energy Partners, LLC
4. Large Retail: All Facilities Energy Group

## 2.5 Government & Non-Profit EE Sector

The annual sector target for Plan Year 3 energy savings is 24,985 MWh and the sector target for annual peak demand reduction is 7.3 MW.

A sector summary of results by program is presented in Table 2-11 and Table 2-12.

**Table 2-11: Summary of Government & Non-Profit EE Sector Incremental Impacts by Program through the End of the Reporting Period**

Governmental/Non-Profit EE Sector	IQ Participants	IQ Reported Gross Energy Savings (MWh)	IQ Reported Gross Demand Reduction (MW)
Public Agency / Non-Profit	9	387	0.083
<b>Sector Total</b>	9	387	0.083

**Table 2-12: Summary of Government & Non-Profit EE Sector PYTD Impacts by Program through the End of the Reporting Period**

Governmental/Non-Profit EE Sector	PYTD Participants	PYTD Reported Gross Energy Savings (MWh)	PYTD Reported Gross Demand Reduction (MW)
Public Agency / Non-Profit	15	539	0.129
<b>Sector Total</b>	15	539	0.129

A visual summary chart of the sector energy savings and demand reduction by program is not warranted because only one program exists within the sector.

The Public Agency Partnerships program targets federal, state and local governments, including municipalities, school districts, institutions of higher education and nonprofits (per Act 129).

Local Government Partnerships were established through execution of a memorandum of understanding (MOU) by and between Duquesne and selected local governmental agencies. The MOU established working groups comprised of Duquesne and agency representatives and: identifies project areas within agency departments (and jurisdictional agencies); defines project scopes of service; and establishes project agreements to co-fund agreed-to projects. Partnership agreements have been structured with Allegheny County and the City of Pittsburgh.

Bi-monthly meetings have been occurring with the officials from Allegheny County and Duquesne Light which have partnered to provide over 100 municipalities the opportunity to have audits performed in their county facilities and provide opportunities to take action to save energy, money and the environment by participating in Watt Choices.

In addition, several institutions of higher education have executed MOUs and have been involved in discussions and currently there are dozens of projects being evaluated as a result of these types of partnerships.

### **3 Demand Response**

Duquesne Light has proceeded with agreements to implement demand response programs approved by the Commission. The order was issued on October 14, 2011 in response to the Duquesne Light “Petition for Approval of Modifications to the Demand Response Program.”

Duquesne Light now has an agreement with Converge, Inc. to implement a direct load control program for central air conditioners and electric water heaters for residential homeowners. Converge is also implementing a direct load control program targeted at small and mid-sized commercial and industrial facilities for air conditioner cycling. Residential installations began during the quarter with 668 units deployed by November 30, 2011. The target is for up to 1,500 units installed by the summer of 2012 for the entire direct load control program.

The Curtailable Load Program was launched in November 2011 under an agreement with EnerNOC, Inc. The program will target 40 megawatts (MW) of curtailable load from large commercial and industrial facilities to be called upon during the summer of 2012. Facilities are eligible if their peak demands exceed 300 kilowatts (kW). No participants had been enrolled as of November 30, 2011.



## **4 Portfolio Results by Program**

Duquesne Light prepared a comprehensive Evaluation Measurement and Verification Plan for its 2010-2012 Energy Efficiency & Conservation Programs (EM&V Plan). This EM&V Plan was reviewed by the Statewide Evaluator (SWE) and serves as the basis for EM&V performed of its Act 129 Programs. Additionally, Duquesne Light prepared a PY 2009 EM&V Report that was submitted and reviewed by the SWE. Both the EM&V Plan and PY 2009 EM&V Report went through a comment process with the SWE, whereby final comments were received and incorporated on August 31, 2010. These SWE reviewed and approved documents serve as the basis for EM&V activity performed and are referred to in the following sections.

### **4.1 Residential: Energy Efficiency Rebate Program**

The Residential Energy Efficiency Rebate Program (REEP) is designed to encourage customers to make an energy efficient choice when purchasing and installing household appliance and equipment measures by offering customers educational materials on energy efficiency options and rebate incentive offerings. Program educational materials and rebates are provided in conjunction with an on-line survey. REEP also provides energy efficiency measures in the form of energy efficiency kits provided free of charge to Duquesne Light customers attending targeted community outreach events.

An upstream/midstream CFL program was initiated July 2010 with several targeted area retail establishments. This program provides point of purchase discounts for customers as well as an incentive for participation by the retail store. This is a more streamlined approach to discounting and is more readily engaged by customers because no rebate forms are necessary and processing costs for those forms are non-existent. In addition, events are held monthly within some of the stores to educate consumers on energy efficiency products as well as providing a platform to more broadly educate on other programs within the Watt Choices offerings. As summarized in Table 4.1, fifteen retailers with 137 stores are participating in the program.

**Table 4-1: Participants in ECOVA Upstream/Midstream Program**

<b>Retailer</b>	<b>Total Stores</b>	<b>Status</b>
ACE	2	Active
Cardello	2	Active
Costco	2	Active
Do It Best	8	Active
Dollar General	28	Active
Dollar Tree	16	Active
Family Dollar	37	Active
Goodwill Industries	7	Active
Independent Hardware Store	6	Active
Lowe's	7	Active
Sam's Club	3	Active
Techni-Art Online	1	Active
The Home Depot	9	Active
True Value	4	Active
Wal-Mart	5	Active
<b>Total Active</b>	<b>137</b>	
CVS	29	Non-Active
Giant Eagle	29	Non-Active
<b>Walgreens</b>	<b>19</b>	<b>Non-Active</b>
<b>Total Non-Active</b>	<b>77</b>	
<b>Grand Total</b>	<b>214</b>	

Per Duquesne Light’s approved EM&V Plan, Section 2.7,<sup>31</sup> no verification activity is performed for the Upstream Lighting component of REEP with respect to leakage outside the territory or installation rates. However, CFL counts and costs shown in CFL CSP invoices are compared to data in Duquesne’s PMRS, to ensure that these data elements have been recorded accurately. Further, savings associated with CFLs invoiced are checked to ensure that they conform to Technical Reference Manual values.

**4.1.1 Program Logic**

Program Theories, Logic Models & Performance Indicators are provided in the EM&V Plan at Section 1.2.5. Program logic diagrams are provided in EM&V Plan Appendix E, Figure E-2 for the Residential Energy Efficiency Rebate Program.

**4.1.2 Program M&V Methodology**

The program’s M&V approach is laid out in Section 1.4 above.

<sup>31</sup> Evaluation Measurement and Verification Plan, 2010-2012 Energy Efficiency & Conservation Programs, July 15, 2010 (EM&V Plan), Section 2.7, pg. 33.

Consistent with Duquesne Light's EM&V Plan Sections 2.5 and 2.5.1, the basic level of verification rigor will be used for TRM deemed savings measures and measures with rebates less than \$2,000 consisting of the six-step process identified in Section 1.4. REEP program specific variances from Section 1.4 and program specific information are outlined below.

**Step 1 – Verification Checklist:** No variances from Section 1.4.

**Step 2 – Random Sampling:** This section will be updated with program specific information in later quarterly reports.

**Step 3 – Measure/Project Qualification:** This section will be updated with program specific information in later quarterly reports.

**Step 4 – Deemed Savings Verification:** No variances from Section 1.4.

**Step 5 – Participation and Installation Verification:** Telephone interviews of each sampled customer confirm participation in the program, receipt of a rebate or EE Kit, and installation of the energy saving measure(s). If the TRM includes deemed savings values and/or protocols incorporating in-service rates (ISR), verification surveys confirm program participation and participant purchase or otherwise receipt of subject energy efficiency products (i.e., in the case of EE kits provided participants at no cost). Telephone surveys are tailored to the product promotion and include questions designed to verify that participants obtained and installed the EE products.

**Step 6 – Program Realization Rate:** This section will be updated with program specific information in later quarterly reports.

#### **4.1.3 Program Sampling**

Program sampling is described above in Section 1.4.

#### **4.1.4 Process Evaluation**

A process evaluation was not conducted for the PY3Q2 report.

#### **4.1.5 Program Partners and Trade Allies**

Duquesne Light continues to work through local government partnerships with the City of Pittsburgh as well as Allegheny and Beaver Counties to coordinate delivery of its Act 129 program services.

ECOVA is the implementation contractor for the upstream/midstream program and has enrolled 15 retailers with 137 store locations into the program.

#### **4.1.6 Program Finances**

A summary of the project finances are presented in Table 4-2.

**Table 4-2: Summary of Program Finances: TRC Test (REEP)<sup>32</sup>**

	<b>Category</b>	<b>IQ</b>	<b>PYTD</b>	<b>CPITD</b>
A.1	EDC Incentives to Participants	\$364,631	\$575,281	\$1,612,443
A.2	EDC Incentives to Trade Allies	0	0	0
A	<b>Subtotal EDC Incentive Costs</b>	364,631	575,281	1,612,443
B.1	Design & Development	0	0	540,966
B.2	Administration	0	0	0
B.3	Management	940,708	1,614,240	3,226,073
B.4	Marketing	44,808	87,847	220,102
B.5	Technical Assistance	0	0	0
B	<b>Subtotal EDC Implementation Costs</b>	985,516	1,702,087	3,987,141
C	<b>EDC Evaluation Costs</b>	55,857	103,017	219,839
D	<b>SWE Audit Costs</b>	44,551	89,102	231,850
E	<b>Participant Costs</b>	0	0	0
	<b>Total Costs</b>	1,450,555	2,469,487	6,051,273
F	<b>Annualized Avoided Supply Costs*</b>	0	0	0
G	<b>Lifetime Avoided Supply Costs*</b>	0	0	0
	<b>Total Lifetime Economic Benefits*</b>	0	0	0
	<b>Portfolio Benefit-to-Cost Ratio*</b>			

\* Per direction from the SWE, no TRC values are provided for the PY3Q2 report.

<sup>32</sup> Definitions for terms in following table are subject to TRC Order.

## 4.2 Residential: School Energy Pledge Program

The School Energy Pledge (SEP) program is designed to teach students about energy efficiency, have them participate in a school fundraising drive, and help their families to implement energy-saving measures at home. Energy efficiency impacts take place in student homes when families adopt energy efficiency measures that students learn about at school. Through the SEP, families complete a pledge form wherein they commit to install energy efficiency measures provided in an SEP Energy Efficiency Tool Kit (SEP EE Kit) provided free of charge. In return for a family's commitment to install, the participating school receives an incentive of \$25.

Because the SEP program involves contacts with schools and presentations at schools prior to participation occurring, formal participation in the program has not yet begun for Program Year 3.

### 4.2.1 Program Logic

Program Theories, Logic Models & Performance Indicators are provided in the EM&V Plan at Section 1.2.5. Program logic diagrams are provided in EM&V Plan Appendix E, Figure E-3 for the Residential School Energy Pledge Program.

### 4.2.2 Program M&V Methodology

The program's M&V approach is laid out above in section 1.4.

Consistent with Duquesne Light's EM&V Plan Sections 2.5 and 2.5.1, the basic level of verification rigor will be used for TRM deemed savings measures and measures with rebates less than \$2,000 consisting of the six-step process identified in Section 1.4. SEP program specific variances from Section 1.4 and program specific information are outlined below.

**Step 1 – Verification Checklist:** No variances from Section 1.4.

**Step 2 – Random Sampling:** This section will be updated with program specific information in later quarterly reports.

**Step 3 – Measure/Project Qualification:** This section will be updated with program specific information in later quarterly reports.

**Step 4 – Deemed Savings Verification:** No variances from Section 1.4.

**Step 5 – Participation and Installation Verification:** Telephone interviews of each sampled customer confirmed participation in the program, receipt of the SEP EE Kit, and installation of the energy saving measures. Telephone surveys are tailored to the product promotion and include questions designed to verify participants obtained the EE products.

**Step 6 – Program Realization Rate:** This section will be updated with program specific information in later quarterly reports.

#### 4.2.3 Program Sampling

Program sampling is described above in Section 1.4.

#### 4.2.4 Process Evaluation

A process evaluation was not conducted for the PY3Q2 report.

#### 4.2.5 Program Partners and Trade Allies

The School Energy Pledge Program is implemented as a partnership between Duquesne Light and regional elementary schools. Duquesne Light also partners with participating student families that “pledge” to install energy efficient products in return for a \$25 donation to their child’s school.

#### 4.2.6 Program Finances

A summary of the project finances are presented in Table 4-3.

**Table 4-3: Summary of Program Finances: TRC Test (SEP)<sup>33</sup>**

	Category	IQ	PYTD	CPITD
A.1	EDC Incentives to Participants	\$0	\$0	\$163,750
A.2	EDC Incentives to Trade Allies	0	0	91,877
A	<b>Subtotal EDC Incentive Costs</b>	0	0	255,627
B.1	Design & Development	0	0	372,464
B.2	Administration	0	0	0
B.3	Management	55,903	80,394	611,314
B.4	Marketing	6,542	12,826	34,174
B.5	Technical Assistance	0	0	0
B	<b>Subtotal EDC Implementation Costs</b>	62,445	93,220	1,017,952
C	<b>EDC Evaluation Costs</b>	8,157	15,043	34,556
D	<b>SWE Audit Costs</b>	6,505	13,010	37,340
E	<b>Participant Costs</b>	0	0	0
	<b>Total Costs</b>	77,107	121,273	1,345,475
F	<b>Annualized Avoided Supply Costs*</b>	0	0	0
G	<b>Lifetime Avoided Supply Costs*</b>	0	0	0
	<b>Total Lifetime Economic Benefits*</b>	0	0	0
	<b>Portfolio Benefit-to-Cost Ratio*</b>			

\* Per direction from the SWE, no TRC values are provided for the PY3Q2 report.

<sup>33</sup> Definitions for terms in following table are subject to TRC Order.

### 4.3 Residential: Appliance Recycling Program

The Residential Appliance Recycling Program (RARP) seeks to produce cost-effective, long-term, coincident peak demand reduction and annual energy savings in residential market sector by removing operable, inefficient, primary and secondary refrigerators and freezers from the power grid in an environmentally safe manner.

To stimulate participation, RARP offers incentives (\$35) for eligible refrigerators and freezers. In addition, the program collaborates with other utility programs such Low Income Energy Efficiency Program, the Public Agency Partnership Program and is implemented in a manner consistent with appliance recycling programs across Pennsylvania by using a common implementation contractor (JACO).

#### 4.3.1 Program Logic

Program Theories, Logic Models & Performance Indicators are provided in the EM&V Plan at Section 1.2.5. Program logic diagrams are provided in EM&V Plan Appendix E.

#### 4.3.2 Program M&V Methodology

The program's M&V approach is laid out above in section 1.4.

Consistent with Duquesne Light's EM&V Plan Sections 2.5 and 2.5.1, the basic level of verification rigor used for TRM deemed savings measures and measures with rebates less than \$2,000 consists of a six-step process identified in Section 1.4. RARP program specific variances from Section 1.4 and program specific information are outlined below.

**Step 1 – Verification Checklist:** No variances from Section 1.4.

**Step 2 – Random Sampling:** This section will be updated with program specific information in later quarterly reports.

**Step 3 – Measure/Project Qualification:** This section will be updated with program specific information in later quarterly reports.

**Step 4 - Deemed Savings Verification:** All energy efficiency measures delivered by the RARP have deemed savings specified in the current TRM. Beginning June 1, 2011, the Commission approved new refrigerator/freezer protocols as described in the 2011 TRM. These provide a value of 1,659 kWh for refrigerators/freezers that have been retired and a value of 1,205 kWh for refrigerators/freezers that have been retired and replaced with ENERGY STAR appliances.<sup>34</sup> The fifth checklist criterion described under Step 1 in Section 1.4 is addressed through comparison of PMRS tracking system unit kWh and kW with TRM or interim TRM update deemed savings values. Under the TRM Refrigerator/Freezer Retirement is treated as the one measure where the number of units is multiplied by specified savings per unit, depending on the type of replacement appliance, if any. Unit savings are defined as below:

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<sup>34</sup> See pages 91-95 of the 2011 Technical Reference Manual at Commission Docket No. M-00051865, entered February 28, 2011.

**Table 4-4: Refrigerator/Freezer Recycling – References**

Component	kWh Savings	kW Savings	Coincidence Factor
Retirement	1,659	0.2057	0.62
Replaced with Energy Star	1,205	0.1494	0.62
Replaced with Non-Energy Star	1,091	0.1353	0.62

The change in measure savings occurred after the measures were entered into the PMRS database for PY3Q2. In order to account for the revised savings, Navigant created an adjusted savings per unit for each RARP measure. Based on data collected by JACO at the time of appliance pickup, Navigant identified the participants who recycled primary versus secondary units, as well as the number of appliances reported as replaced or retired. For primary units, it is assumed that every unit is replaced (100%). For secondary units, Navigant used JACO database data to determine whether the participant replaced their unit or not. Data from the PY2Q4 telephone verification surveys were used to find the percentage of participants who replaced their refrigerator or freezer with an Energy Star model (87%) versus a standard efficiency unit. For replacement refrigerators, Navigant used the weighted average energy savings of replacing with an Energy Star unit or a Standard unit, or  $(87\% \times 1,205 + 13\% \times 1,091) = 1,190$  kWh. Table 4-5 shows the energy savings assigned to each participant based on the type of unit recycled and the replacement action.

**Table 4-5: Refrigerator/Freezer Recycling – References**

Unit	Action	Replacement Type	kWh Savings per unit	kW Savings per Unit
Primary Unit	Replace	Energy Star (87%)	$(0.87 * 1,205) + (0.13 * 1,091) =$ <b>1,190</b>	$(0.87 * 0.1494) + (0.13 * 0.1353) =$ <b>0.1476</b>
		Standard (13%)		
Secondary Unit	Replace	Energy Star (87%)	<b>1,190</b>	<b>0.1476</b>
		Standard (13%)		
	Retire	<b>1,659</b>	<b>0.2057</b>	

Using this methodology, Navigant matched each participant in PY3Q2 with their responses in the JACO database. If a participant recycled a primary unit, their energy savings is 1,190 kWh and 0.1476 kW. If a participant recycled a secondary unit and said that they replaced it, their energy savings is also 1,190 kWh and 0.1476 kW. If a participant recycled a secondary unit and said that they retired (did not replace) it, their energy savings is 1,659 kWh and 0.2057 kW.

**Step 5 – Participation and Installation Verification:** Telephone surveys are employed for impact verification of measures receiving basic level of rigor verification (i.e., deemed savings measures with rebates less than \$2000). RARP telephone interview surveys will be performed for each sampled customer to confirm participation in the program and that the unit was picked up for recycling.



**Step 6 – Program Verification Rate:** This section will be updated with program specific information in later quarterly reports.

**4.3.3 Program Sampling**

Program sampling is described above in Section 1.4.

**4.3.4 Process Evaluation**

A process evaluation was not conducted for the PY3Q2 report.

**4.3.5 Program Partners and Trade Allies**

The program implementer (JACO) is implementing similar programs for the other Pennsylvania EDCs, promoting consistent regional treatment, increasing efficiencies and reducing customer confusion.

### 4.3.6 Program Finances

A summary of the project finances are presented in Table 4-5.

**Table 4-6: Summary of Program Finances: TRC Test (RARP) <sup>35</sup>**

	Category	IQ	PYTD	CPITD
A.1	EDC Incentives to Participants	\$18,060	\$37,730	\$177,415
A.2	EDC Incentives to Trade Allies	0	0	0
A	<b>Subtotal EDC Incentive Costs</b>	18,060	37,730	177,415
B.1	Design & Development	0	0	97,413
B.2	Administration	0	0	0
B.3	Management	197,278	339,647	738,537
B.4	Marketing	6,172	12,100	30,320
B.5	Technical Assistance	0	0	0
B	<b>Subtotal EDC Implementation Costs</b>	203,450	351,747	866,270
C	<b>EDC Evaluation Costs</b>	7,694	14,189	29,957
D	<b>SWE Audit Costs</b>	6,136	12,272	31,327
E	<b>Participant Costs</b>	0	0	0
	<b>Total Costs</b>	235,340	415,938	1,104,969
F	<b>Annualized Avoided Supply Costs*</b>	0	0	0
G	<b>Lifetime Avoided Supply Costs*</b>	0	0	0
	<b>Total Lifetime Economic Benefits*</b>	0	0	0
	<b>Portfolio Benefit-to-Cost Ratio*</b>			

*\*Per direction from the SWE, no TRC values are provided for the PY3Q2 report.*

<sup>35</sup> Definitions for terms in following table are subject to TRC Order.

## 4.4 Residential: Low Income Energy Efficiency Program

The Low-Income Energy Efficiency Program (LIEEP) is designed as an income-qualified program providing services to assist low-income households to conserve energy and reduce electricity costs. The objective of this program is to increase qualifying customers' comfort while reducing their energy consumption, costs, and economic burden.

In PY3Q2, the LIEEP savings by income qualifying customers were delivered by the Residential Energy Efficiency Program (REEP) and the Residential Refrigerator/Freezer Recycling Program (RARP), as well as partnerships with county housing authorities and other agencies serving low-income customers.

### 4.4.1 Program Logic

Program Theories, Logic Models & Performance Indicators are provided in the EM&V Plan at Section 1.2.5. Program logic diagrams are provided in EM&V Plan Appendix E, Figure E-1 for the Residential Low Income Program.

### 4.4.2 Program M&V Methodology

The program's M&V approach is laid out above in section 1.4.

Consistent with Duquesne Light's EM&V Plan Sections 2.5 and 2.5.1, the basic level of verification rigor will be used for TRM deemed savings measures and measures with rebates less than \$2,000 consisting of the six-step process identified in Section 1.4. LIEEP Program specific variances from Section 1.4 and program specific information are outlined below.

**Step 1 – Verification Checklist:** No variances from Section 1.4.

**Step 2 – Random Sampling:** This section will be updated with program specific information in later quarterly reports.

**Step 3 – Measure/Project Qualification:** This section will be updated with program specific information in later quarterly reports.

**Step 4 - Deemed Savings Verification:** This section will be updated with program specific information in later quarterly reports.

**Step 5 – Participation and Installation Verification:** This section will be updated with program specific information in later quarterly reports.

**Step 6 – Program Verification Rate:** This section will be updated with program specific information in later quarterly reports.

#### 4.4.3 Program Sampling

Program sampling is described above in Section 1.4.

#### 4.4.4 Process Evaluation

A process evaluation was not conducted for the PY3Q2 report.

#### 4.4.5 Program Partners and Trade Allies

Consistent with its filed program plan, LIEEP will be delivered through Public Agency Partnership arrangements whereby Duquesne Light partners with local government (cities and counties and their jurisdictional agencies) to deliver program services. This program design leverages program resources and enables it to reach a greater number of participants while retaining its status as a cost-effective resource program.

#### 4.4.6 Program Finances

A summary of the project finances are presented in Table 4-6.

**Table 4-7: Summary of Program Finances (LIEEP Program)**

	Category	IQ	PYTD	CPITD
A.1	EDC Incentives to Participants	\$1,486	\$3,467	\$470,875
A.2	EDC Incentives to Trade Allies	0	0	0
A	<b>Subtotal EDC Incentive Costs</b>	1,486	3,467	470,875
B.1	Design & Development	0	0	152,764
B.2	Administration	0	0	0
B.3	Management	146,825	178,621	417,970
B.4	Marketing	15,826	31,027	75,832
B.5	Technical Assistance	0	0	0
B	<b>Subtotal EDC Implementation Costs</b>	162,651	209,648	646,566
C	<b>EDC Evaluation Costs</b>	19,729	36,385	77,342
D	<b>SWE Audit Costs</b>	15,735	31,470	81,016
E	<b>Participant Costs</b>	0	0	0
	<b>Total Costs</b>	199,601	280,970	1,275,799
F	<b>Annualized Avoided Supply Costs*</b>	0	0	0
G	<b>Lifetime Avoided Supply Costs*</b>	0	0	0
	<b>Total Lifetime Economic Benefits*</b>	0	0	0
	<b>Portfolio Benefit-to-Cost Ratio*</b>			

*\*Per direction from the SWE, no TRC values are provided for the PY3Q2 report.*

## **4.5 Commercial Sector Programs**

### **4.5.1 Commercial Overview**

The Commercial Sector includes an overall umbrella program structure and four specialized programs that address the following market segments: Small Office, Large Office, Public Agency, Retail, and Healthcare. Under the overarching umbrella program, the specialized programs promote specific technologies or target specific market segments while incorporating the umbrella program savings impacts and incentive levels.

The commercial programs are designed to help commercial customers assess the potential for energy-efficiency gains, implement projects to achieve energy savings, and verify that the savings occurred. The following program services are provided in each sub-program:

- Auditing of building energy use
- Provision of targeted incentives
- Project support for retrofit measures
- Project qualification due diligence
- Training, and technical assistance

The following organizations are responsible for implementing the commercial sector programs:

- Large Office: Roth Bros, Inc. and Enerlogics Networks, Inc.
- Small Office: AllFacilities Energy Group
- Retail: AllFacilities Energy Group
- Healthcare: Duquesne Light
- Governmental and Non-Profit Programs: Duquesne Light and Governmental Partners including: Allegheny County, Allegheny County Economic Development, Allegheny County Housing Authority, City of Pittsburgh and Beaver County Housing Authority

### **4.5.2 Program Logic**

Program Theories, Logic Models & Performance Indicators are provided in the EM&V Plan at Section 1.2.5. Program logic diagrams are provided in EM&V Plan Appendix E.

### **4.5.3 Program EM&V Methodology**

The program's M&V approach is laid out above in section 1.4. Program verification results will be provided in later quarterly reports.

### **4.5.4 Commercial Sector Evaluation Group Impact Evaluation**

Per the utility's EM&V Plan, for the purpose of conducting cost-effective EM&V, certain industrial and commercial programs were grouped based on shared characteristics. Commercial sector retail, healthcare, large and small office and public agency partnership programs were similar enough in structure to be treated as one evaluation group. In PY3Q2, the Commercial

Sector Evaluation Group program activity subject to EM&V is summarized by program in Section 1.4.

**4.5.5 Process Evaluation**

A process evaluation was not conducted for the PY3Q2 report.

**4.5.6 Program Partners and Trade Allies**

In addition to the implementation contractors noted above, Duquesne Light continues to work through local government partnerships with the City of Pittsburgh, Allegheny and Beaver Counties as well as major universities and healthcare providers to coordinate delivery of its Act 129 program services.

**4.5.7 Program Finances**

A summary of the project finances are presented in Tables 4-7 through 4-12.

**Table 4-8: Summary of Program Finances: TRC Test (Commercial Umbrella, Small and Large)**

	Category	IQ	PYTD	CPITD
A.1	EDC Incentives to Participants	\$71,232	\$82,966	\$323,293
A.2	EDC Incentives to Trade Allies	0	0	0
A	<b>Subtotal EDC Incentive Costs</b>	71,232	82,966	323,293
B.1	Design & Development	0	0	90,956
B.2	Administration	0	0	0
B.3	Management	18,957	56,380	173,142
B.4	Marketing	6,748	13,228	32,877
B.5	Technical Assistance	0	0	0
B	<b>Subtotal EDC Implementation Costs</b>	25,705	69,608	296,975
C	<b>EDC Evaluation Costs</b>	8,411	15,513	25,409
D	<b>SWE Audit Costs</b>	6,708	13,416	34,280
E	<b>Participant Costs</b>	0	0	0
	<b>Total Costs</b>	112,056	181,503	697,957
F	<b>Annualized Avoided Supply Costs*</b>	0	0	0
G	<b>Lifetime Avoided Supply Costs*</b>	0	0	0
	<b>Total Lifetime Economic Benefits*</b>	0	0	0
	<b>Portfolio Benefit-to-Cost Ratio*</b>			

*\*Per direction from the SWE, no TRC values are provided for the PY3Q2 report.*

**Table 4-9: Summary of Program Finances: TRC Test (Office- Small)**

	<b>Category</b>	<b>IQ</b>	<b>PYTD</b>	<b>CPITD</b>
A.1	EDC Incentives to Participants	\$39,840	\$101,777	\$168,155
A.2	EDC Incentives to Trade Allies	0	0	0
A	<b>Subtotal EDC Incentive Costs</b>	39,840	101,777	168,155
B.1	Design & Development	0	0	180,345
B.2	Administration	0	0	0
B.3	Management	81,839	123,366	318,288
B.4	Marketing	12,377	24,265	60,945
B.5	Technical Assistance	0	0	0
B	<b>Subtotal EDC Implementation Costs</b>	94,216	147,631	559,578
C	<b>EDC Evaluation Costs</b>	15,428	28,456	46,963
D	<b>SWE Audit Costs</b>	12,306	24,612	65,002
E	<b>Participant Costs</b>	0	0	0
	<b>Total Costs</b>	161,790	302,476	839,698
F	<b>Annualized Avoided Supply Costs*</b>	0	0	0
G	<b>Lifetime Avoided Supply Costs*</b>	0	0	0
	<b>Total Lifetime Economic Benefits*</b>	0	0	0
	<b>Portfolio Benefit-to-Cost Ratio*</b>			

*\*Per direction from the SWE, no TRC values are provided for the PY3Q2 report.*

**Table 4-10: Summary of Program Finances: TRC Test (Office - Large)**

	<b>Category</b>	<b>IQ</b>	<b>PYTD</b>	<b>CPITD</b>
A.1	EDC Incentives to Participants	\$287,001	\$721,119	\$1,349,229
A.2	EDC Incentives to Trade Allies	0	0	0
A	<b>Subtotal EDC Incentive Costs</b>	287,001	721,119	1,349,229
B.1	Design & Development	0	0	342,546
B.2	Administration	0	0	0
B.3	Management	65,705	452,580	870,343
B.4	Marketing	25,481	49,956	122,133
B.5	Technical Assistance	0	0	0
B	<b>Subtotal EDC Implementation Costs</b>	91,186	502,536	1,335,022
C	<b>EDC Evaluation Costs</b>	31,764	58,581	95,934
D	<b>SWE Audit Costs</b>	25,335	50,670	129,315
E	<b>Participant Costs</b>	0	0	0
	<b>Total Costs</b>	435,286	1,332,906	2,909,500
F	<b>Annualized Avoided Supply Costs*</b>	0	0	0
G	<b>Lifetime Avoided Supply Costs*</b>	0	0	0
	<b>Total Lifetime Economic Benefits*</b>	0	0	0
	<b>Portfolio Benefit-to-Cost Ratio*</b>			

*\*Per direction from the SWE, no TRC values are provided for the PY3Q2 report.*



**Table 4-11: Summary of Program Finances: TRC Test (Retail)**

	<b>Category</b>	<b>IQ</b>	<b>PYTD</b>	<b>CPITD</b>
A.1	EDC Incentives to Participants	\$88,694	\$440,935	\$632,414
A.2	EDC Incentives to Trade Allies	0	0	0
A	<b>Subtotal EDC Incentive Costs</b>	88,694	440,935	632,414
B.1	Design & Development	0	0	210,296
B.2	Administration	0	0	0
B.3	Management	169,292	288,935	780,140
B.4	Marketing	15,270	29,936	74,130
B.5	Technical Assistance	0	0	0
B	<b>Subtotal EDC Implementation Costs</b>	184,562	318,871	1,064,566
C	<b>EDC Evaluation Costs</b>	19,035	35,106	57,621
D	<b>SWE Audit Costs</b>	15,182	30,364	78,280
E	<b>Participant Costs</b>	0	0	0
	<b>Total Costs</b>	307,473	825,276	1,832,881
F	<b>Annualized Avoided Supply Costs*</b>	0	0	0
G	<b>Lifetime Avoided Supply Costs*</b>	0	0	0
	<b>Total Lifetime Economic Benefits*</b>	0	0	0
	<b>Portfolio Benefit-to-Cost Ratio*</b>			

*\*Per direction from the SWE, no TRC values are provided for the PY3Q2 report.*

**Table 4-12: Summary of Program Finances: TRC Test (Government/Non-Profit)**

	<b>Category</b>	<b>IQ</b>	<b>PYTD</b>	<b>CPITD</b>
A.1	EDC Incentives to Participants	\$55,057	\$1,030,443	\$2,489,064
A.2	EDC Incentives to Trade Allies	0	0	0
A	<b>Subtotal EDC Incentive Costs</b>	55,057	1,030,443	2,489,064
B.1	Design & Development	0	0	579,197
B.2	Administration	0	0	0
B.3	Management	88,298	311,973	546,649
B.4	Marketing	42,086	82,511	203,534
B.5	Technical Assistance	0	0	0
B	<b>Subtotal EDC Implementation Costs</b>	130,384	394,484	1,329,380
C	<b>EDC Evaluation Costs</b>	52,465	96,759	158,803
D	<b>SWE Audit Costs</b>	41,845	83,690	215,690
E	<b>Participant Costs</b>	0	0	0
	<b>Total Costs</b>	279,751	1,605,376	4,192,937
F	<b>Annualized Avoided Supply Costs*</b>	0	0	0
G	<b>Lifetime Avoided Supply Costs*</b>	0	0	0
	<b>Total Lifetime Economic Benefits*</b>	0	0	0
	<b>Portfolio Benefit-to-Cost Ratio*</b>			

*\*Per direction from the SWE, no TRC values are provided for the PY3Q2 report.*

**Table 4-13: Summary of Program Finances: TRC Test (Healthcare)**

	<b>Category</b>	<b>IQ</b>	<b>PYTD</b>	<b>CPITD</b>
A.1	EDC Incentives to Participants	\$34,486	\$68,426	\$101,899
A.2	EDC Incentives to Trade Allies	0	0	0
A	<b>Subtotal EDC Incentive Costs</b>	34,486	68,426	101,899
B.1	Design & Development	0	0	93,248
B.2	Administration	0	0	0
B.3	Management	28,362	66,389	230,727
B.4	Marketing	14,100	27,643	68,103
B.5	Technical Assistance	0	0	0
B	<b>Subtotal EDC Implementation Costs</b>	42,462	94,032	392,078
C	<b>EDC Evaluation Costs</b>	17,577	32,417	53,183
D	<b>SWE Audit Costs</b>	14,019	28,038	72,137
E	<b>Participant Costs</b>	0	0	0
	<b>Total Costs</b>	108,544	222,913	619,297
F	<b>Annualized Avoided Supply Costs*</b>	0	0	0
G	<b>Lifetime Avoided Supply Costs*</b>	0	0	0
	<b>Total Lifetime Economic Benefits*</b>	0	0	0
	<b>Portfolio Benefit-to-Cost Ratio*</b>			

*\*Per direction from the SWE, no TRC values are provided for the PY3Q2 report.*

## **4.6 Industrial Sector Programs**

### **4.6.1 Industrial Sector Overview**

The Industrial Sector includes an overall umbrella program structure and three specialized sub-programs designed to address known barriers to efficiency improvements in the following market segments: primary metals, chemical products and mixed industrials. Under the overarching umbrella program, specialized programs are designed to promote specific technologies or target specific market segments while incorporating the umbrella program savings impacts and incentive levels. In this manner, all industrial programs present a consistent and common offering.

The industrial programs are intended to provide a comprehensive approach to energy savings and permanent demand reduction, and address a full range of efficiency opportunities from low cost improvements to entire system upgrades. Each program provides the following services:

- Targeted and comprehensive on-site walk-through assessments and professional grade audits to identify energy savings opportunities.
- Efficiency studies/reports that detail process and equipment upgrades that present the greatest potential for energy/cost savings.
- Support to access rebates and incentives available across electric measures designed to help defray upfront costs of installing the equipment.
- Coordination with local chapters of key industry associations to promote energy efficiency improvements through trusted sources and encourage market-transforming practices among equipment vendors and purchasers

Duquesne Light has chosen the following Conservation Service Providers (CSPs) to implement industrial sector programs:

- Primary Metals Program: Roth Bros, Inc. and Enerlogics Networks, Inc.
- Chemical Products: Global Energy Partners, LLC
- Mixed Industrial: Global Energy Partners, LLC

### **4.6.2 Program Logic**

Program Theories, Logic Models & Performance Indicators are provided in the EM&V Plan at Section 1.2.5. Program logic diagrams are provided in EM&V Plan Appendix E.

### **4.6.3 Program EM&V Methodology**

The program's M&V approach is laid out above in Section 1.4

### **4.6.4 Industrial Sector Evaluation Group Impact Evaluation**

As related in the previous section, per the utility's EM&V Plan, for the purpose of conducting cost-effective EM&V, certain industrial and commercial programs are grouped based on shared characteristics. Industrial sector umbrella, primary metals, chemical products and mixed

industrial product energy efficiency programs are similar enough in structure to be treated as one evaluation group.

**4.6.5 Process Evaluation**

A process evaluation was not conducted for the PY3Q2 report.

**4.6.6 Program Partners and Trade Allies**

Duquesne Light continues to work through its CSPs and relationships with local trade allies to coordinate delivery of its Act 129 program services in the industrial sector.

**4.6.7 Program Finances**

A summary of the project finances is presented in Tables 4-13 to 4-16.

**Table 4-14: Summary of Program Finances: TRC Test (Industrial Umbrella, Small and Large)**

	<b>Category</b>	<b>IQ</b>	<b>PYTD</b>	<b>CPITD</b>
A.1	EDC Incentives to Participants	\$0	\$0	\$45,162
A.2	EDC Incentives to Trade Allies	0	0	0
A	<b>Subtotal EDC Incentive Costs</b>	0	0	45,162
B.1	Design & Development	0	0	38,548
B.2	Administration	0	0	0
B.3	Management	13,609	26,712	66,319
B.4	Marketing	3,939	7,723	20,490
B.5	Technical Assistance	0	0	0
B	<b>Subtotal EDC Implementation Costs</b>	17,548	34,435	125,357
C	<b>EDC Evaluation Costs</b>	4,910	9,056	15,094
D	<b>SWE Audit Costs</b>	3,917	7,834	21,580
E	<b>Participant Costs</b>	0	0	0
	<b>Total Costs</b>	26,375	51,325	207,193
F	<b>Annualized Avoided Supply Costs*</b>	0	0	0
G	<b>Lifetime Avoided Supply Costs*</b>	0	0	0
	<b>Total Lifetime Economic Benefits*</b>	0	0	0
	<b>Portfolio Benefit-to-Cost Ratio*</b>			

*\*Per direction from the SWE, no TRC values are provided for the PY3Q2 report.*

**Table 4-15: Summary of Program Finances: TRC Test (Mixed Industrials)**

	<b>Category</b>	<b>IQ</b>	<b>PYTD</b>	<b>CPITD</b>
A.1	EDC Incentives to Participants	\$298,887	\$562,672	\$728,661
A.2	EDC Incentives to Trade Allies	0	0	0
A	<b>Subtotal EDC Incentive Costs</b>	298,887	562,672	728,661
B.1	Design & Development	0	0	39,333
B.2	Administration	0	0	0
B.3	Management	325,475	625,143	929,754
B.4	Marketing	8,397	16,462	43,227
B.5	Technical Assistance	0	0	0
B	<b>Subtotal EDC Implementation Costs</b>	333,872	641,605	1,012,314
C	<b>EDC Evaluation Costs</b>	10,466	19,303	32,296
D	<b>SWE Audit Costs</b>	8,349	16,698	46,764
E	<b>Participant Costs</b>	0	0	0
	<b>Total Costs</b>	651,574	1,240,278	1,820,035
F	<b>Annualized Avoided Supply Costs*</b>	0	0	0
G	<b>Lifetime Avoided Supply Costs*</b>	0	0	0
	<b>Total Lifetime Economic Benefits*</b>	0	0	0
	<b>Portfolio Benefit-to-Cost Ratio*</b>			

*\*Per direction from the SWE, no TRC values are provided for the PY3Q2 report.*

**Table 4-16: Summary of Program Finances: TRC Test (Chemical Products)**

	<b>Category</b>	<b>IQ</b>	<b>PYTD</b>	<b>CPITD</b>
A.1	EDC Incentives to Participants	\$13,176	\$129,092	\$669,323
A.2	EDC Incentives to Trade Allies	0	0	0
A	<b>Subtotal EDC Incentive Costs</b>	13,176	129,092	669,323
B.1	Design & Development	0	0	130,281
B.2	Administration	0	0	0
B.3	Management	35,003	188,367	1,051,228
B.4	Marketing	9,410	18,449	45,559
B.5	Technical Assistance	0	0	0
B	<b>Subtotal EDC Implementation Costs</b>	44,413	206,816	1,227,068
C	<b>EDC Evaluation Costs</b>	11,731	21,635	35,527
D	<b>SWE Audit Costs</b>	9,356	18,712	48,348
E	<b>Participant Costs</b>	0	0	0
	<b>Total Costs</b>	78,676	376,255	1,980,266
F	<b>Annualized Avoided Supply Costs*</b>	0	0	0
G	<b>Lifetime Avoided Supply Costs*</b>	0	0	0
	<b>Total Lifetime Economic Benefits*</b>	0	0	0
	<b>Portfolio Benefit-to-Cost Ratio*</b>			

*\*Per direction from the SWE, no TRC values are provided for the PY3Q2 report.*

**Table 4-17: Summary of Program Finances: TRC Test (Primary Metals)**

	<b>Category</b>	<b>IQ</b>	<b>PYTD</b>	<b>CPITD</b>
A.1	EDC Incentives to Participants	\$77,988	\$370,354	\$970,930
A.2	EDC Incentives to Trade Allies	0	0	0
A	<b>Subtotal EDC Incentive Costs</b>	77,988	370,354	970,930
B.1	Design & Development	0	0	429,684
B.2	Administration	0	0	0
B.3	Management	80,488	757,576	1,712,828
B.4	Marketing	25,530	50,052	131,467
B.5	Technical Assistance	0	0	0
B	<b>Subtotal EDC Implementation Costs</b>	106,018	807,628	2,273,979
C	<b>EDC Evaluation Costs</b>	31,825	58,694	98,359
D	<b>SWE Audit Costs</b>	25,384	50,768	143,130
E	<b>Participant Costs</b>	0	0	0
	<b>Total Costs</b>	241,215	1,287,444	3,486,398
F	<b>Annualized Avoided Supply Costs*</b>	0	0	0
G	<b>Lifetime Avoided Supply Costs*</b>	0	0	0
	<b>Total Lifetime Economic Benefits*</b>	0	0	0
	<b>Portfolio Benefit-to-Cost Ratio*</b>			

*\*Per direction from the SWE, no TRC values are provided for the PY3Q2 report.*