

PPL Energy Efficiency Update  
PPL Stakeholder Meeting  
July 26, 2018

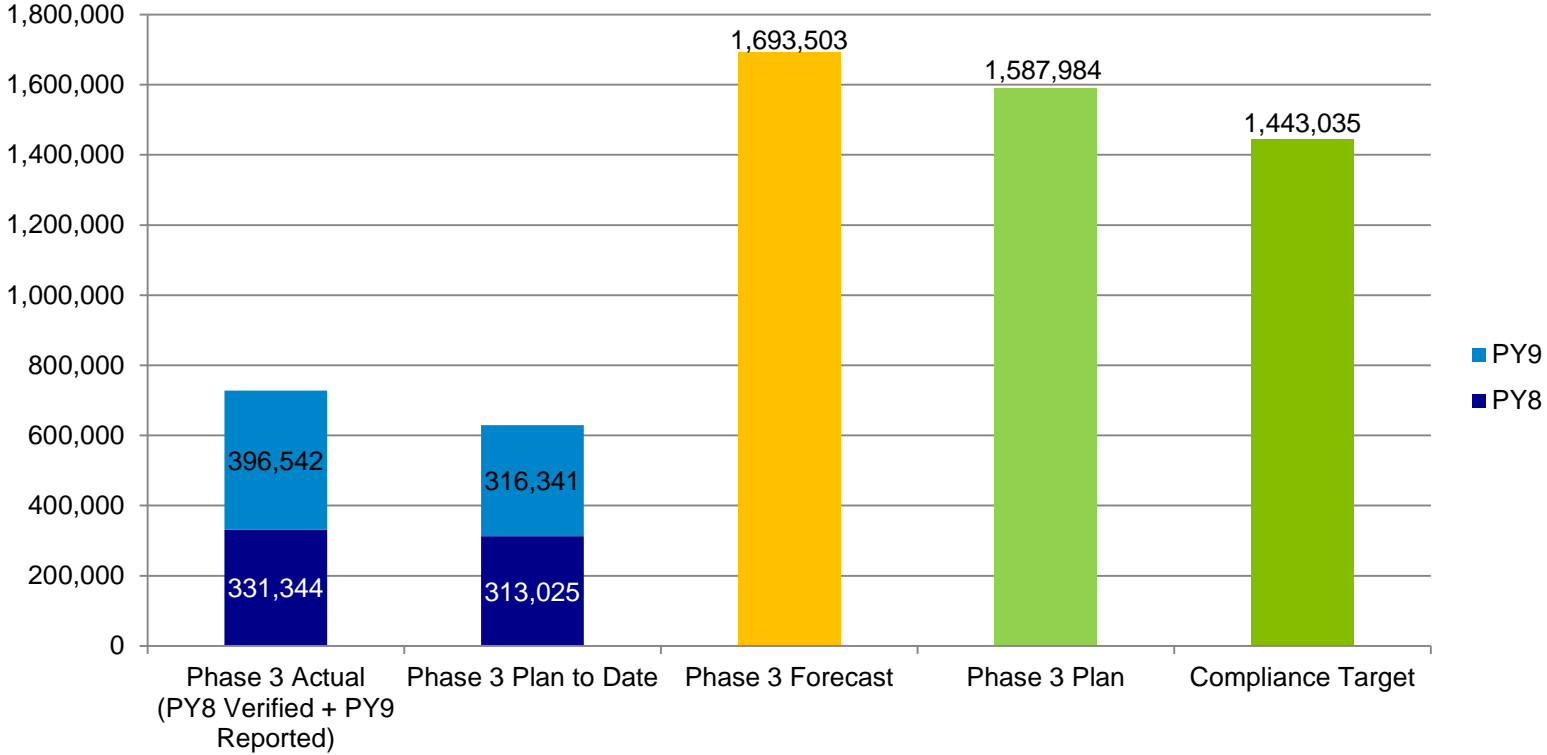
# Agenda

- **Overview:** Dirk Chiles
- **Residential Update:** Mary Ann Kelly-Merenda
- **Low Income Update:** Sean Pressmann
- **Non-Residential Update:** Heather Bash
- **Demand Response Update:** Sean Pressmann
- **Question and Comment Period:** All
- **Closing:** Dirk Chiles

# Overview: Portfolio Savings



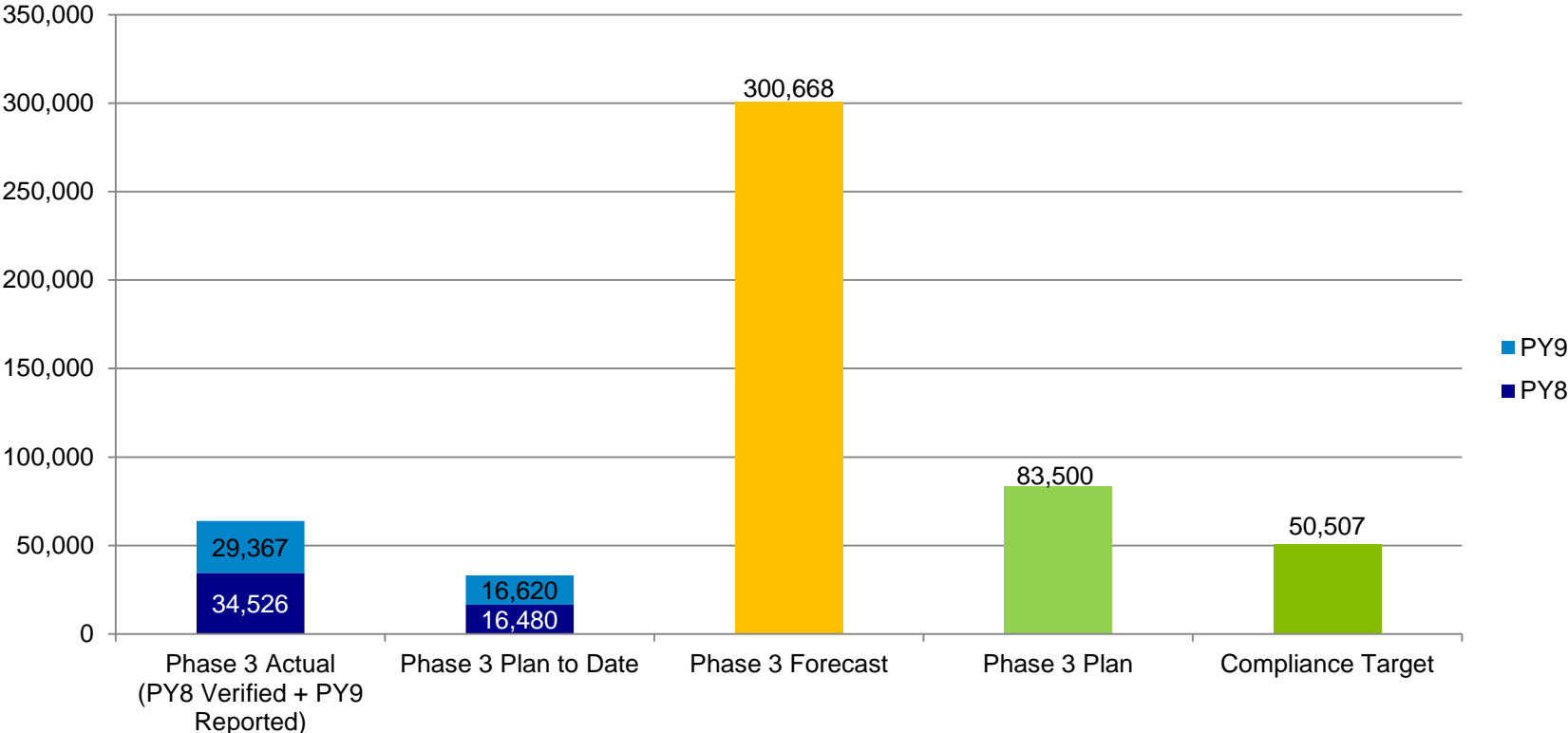
Portfolio Savings (MWh/yr)



# Overview: GNE Savings

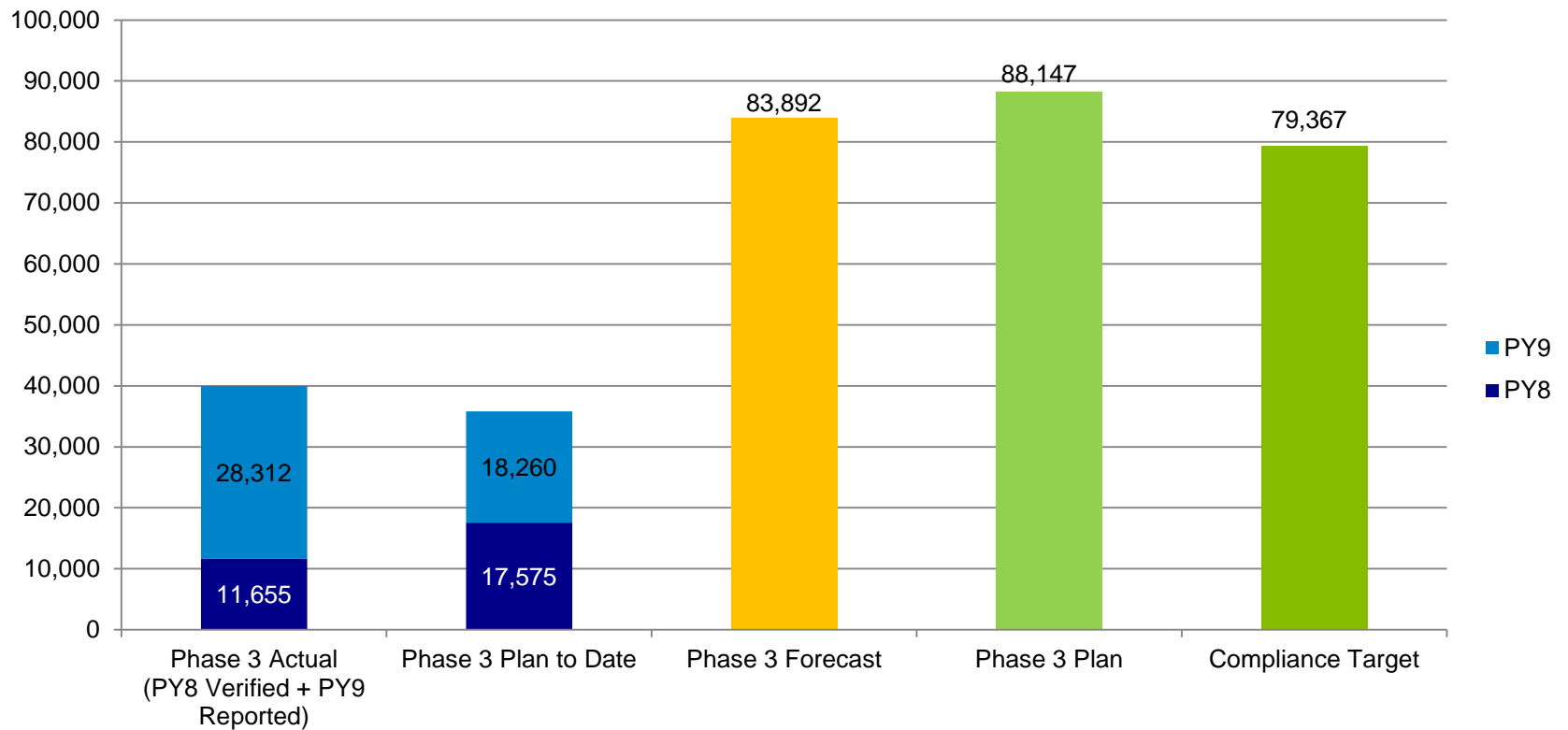


GNE Savings (MWh/yr)



# Overview: Low Income Savings

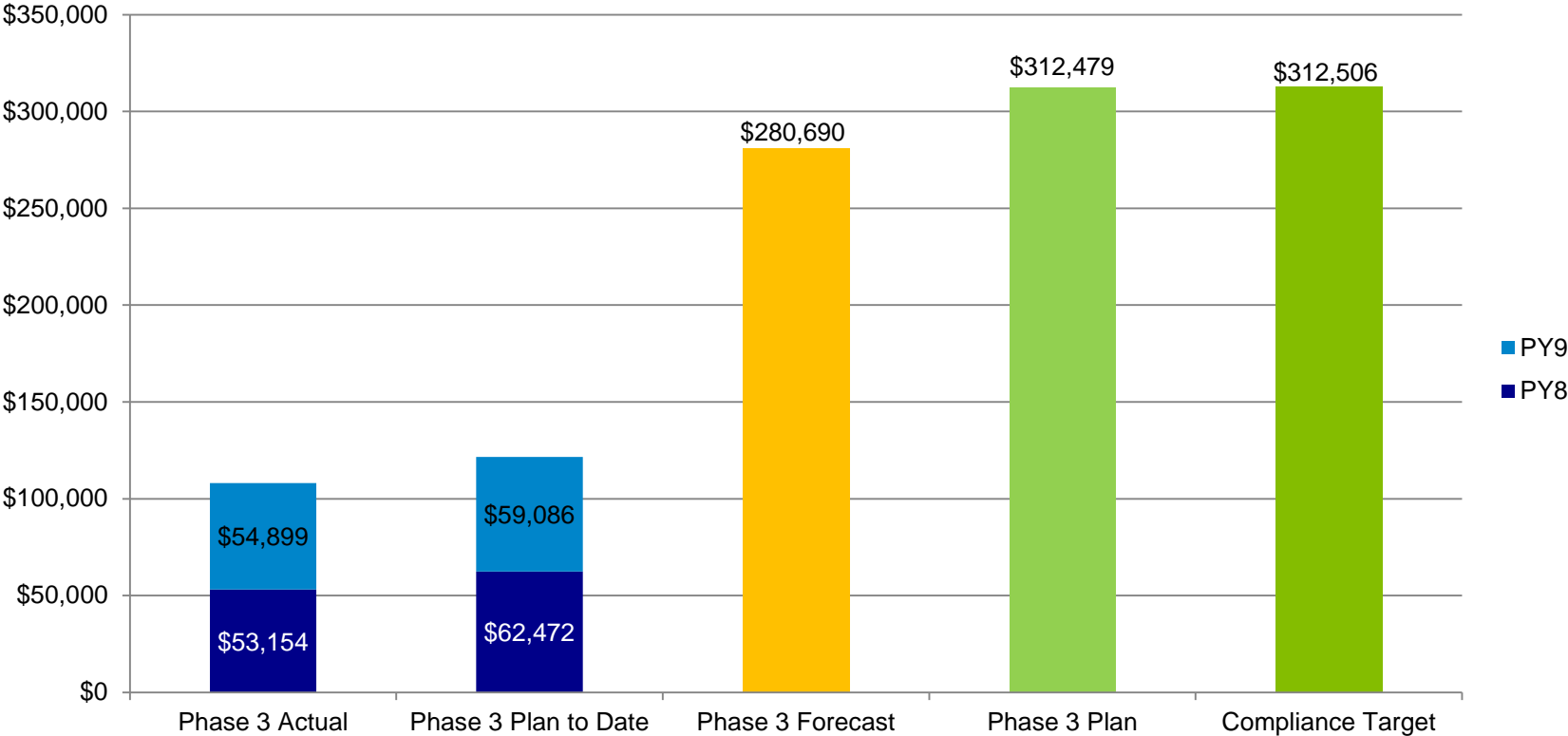
Low Income Savings (MWh/yr)



# Overview: Portfolio Costs

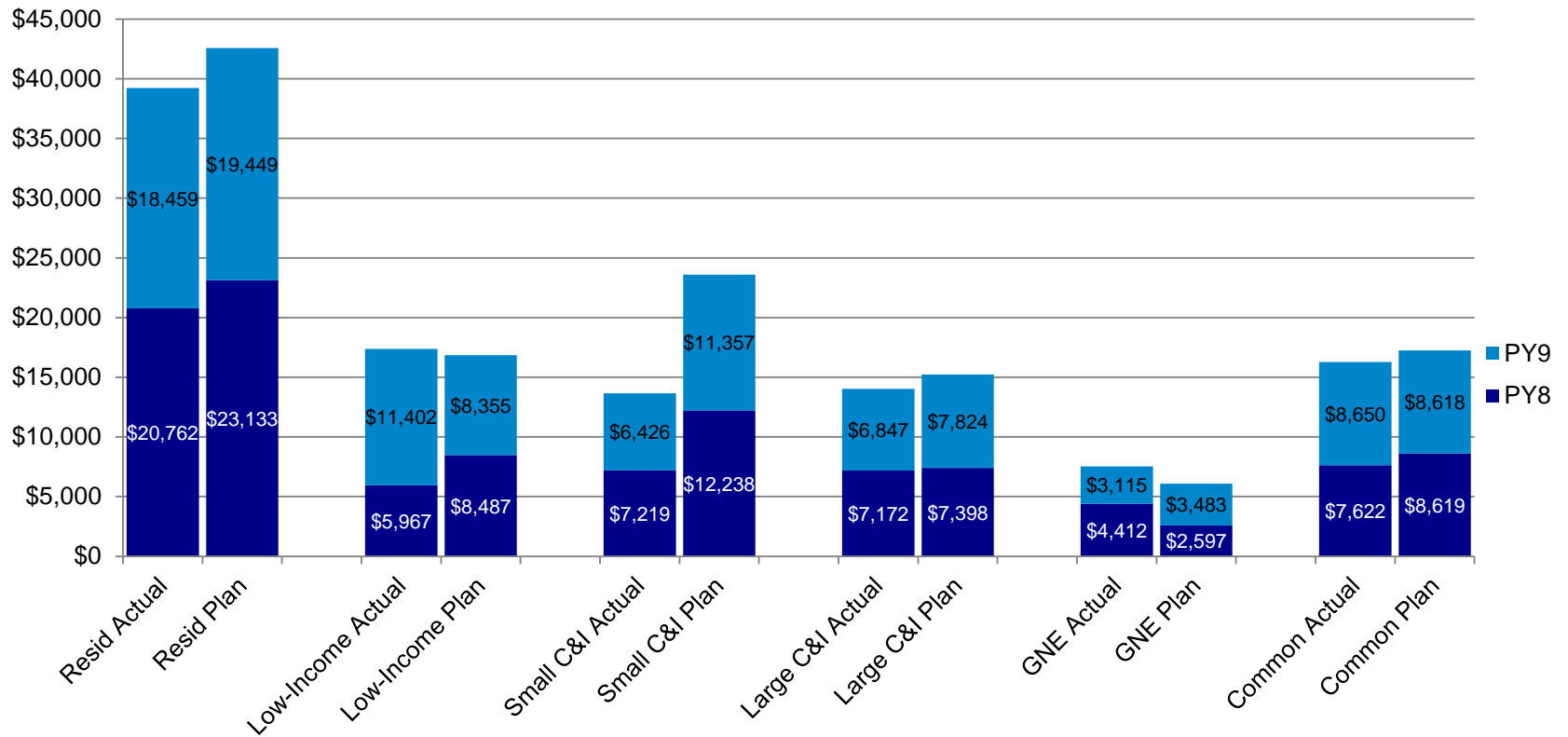


**Portfolio Costs (\$1,000)**



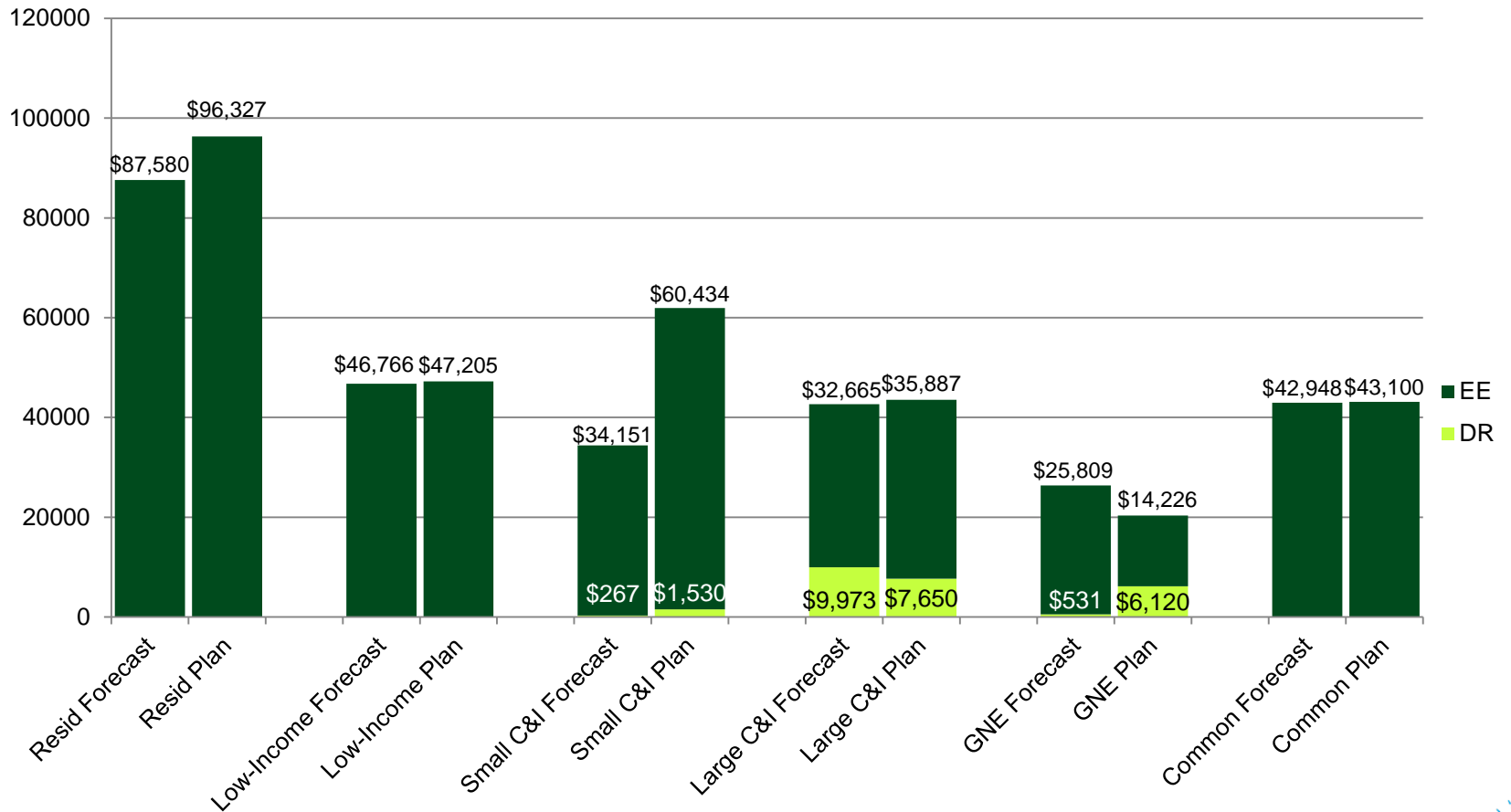
# Overview: Phase To Date Costs

Phase-to-Date Customer Sector Costs (\$1,000)



# Overview: Phase 3 Sector Costs

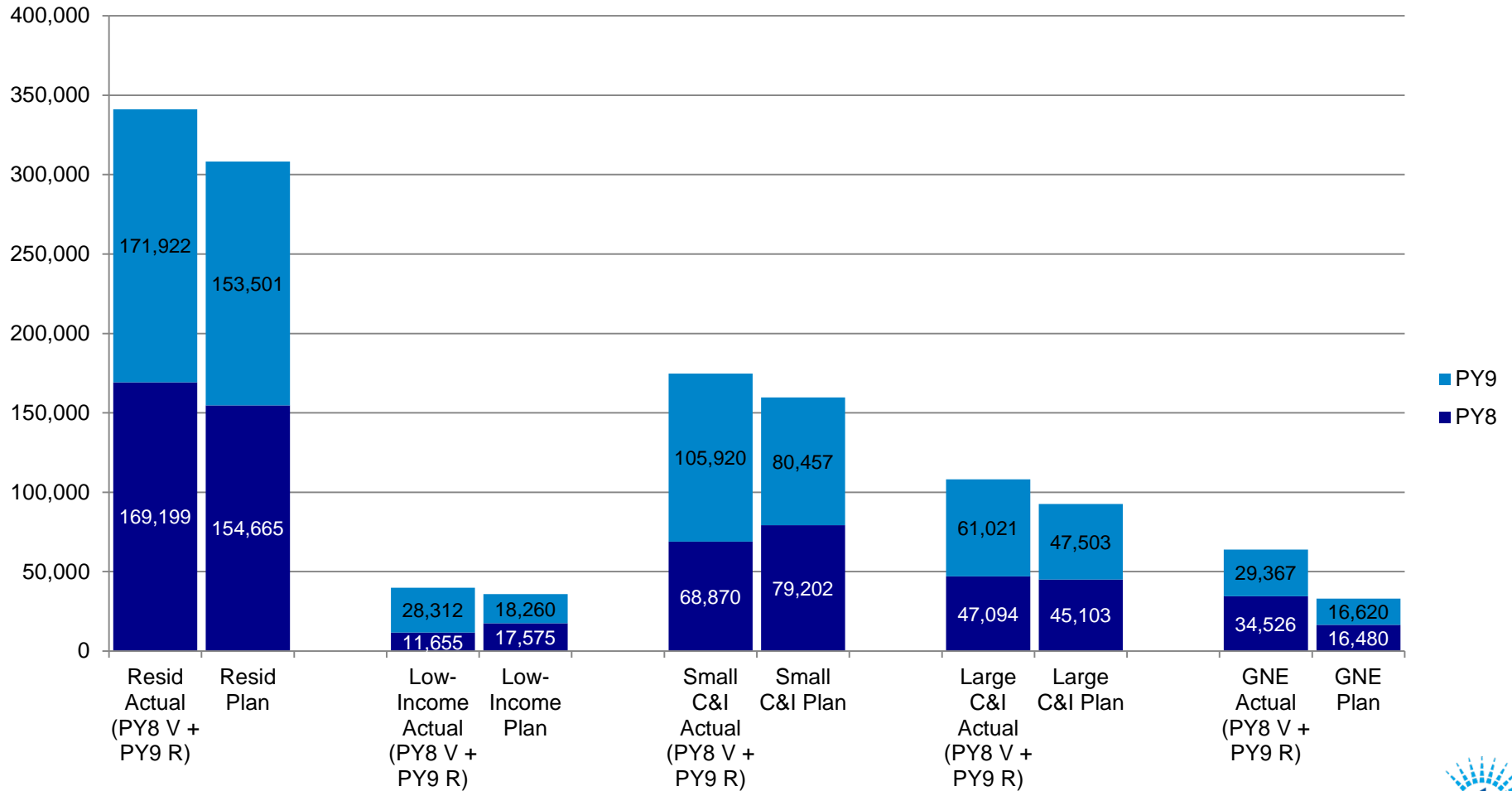
Phase 3 Customer Sector Costs (\$1,000)





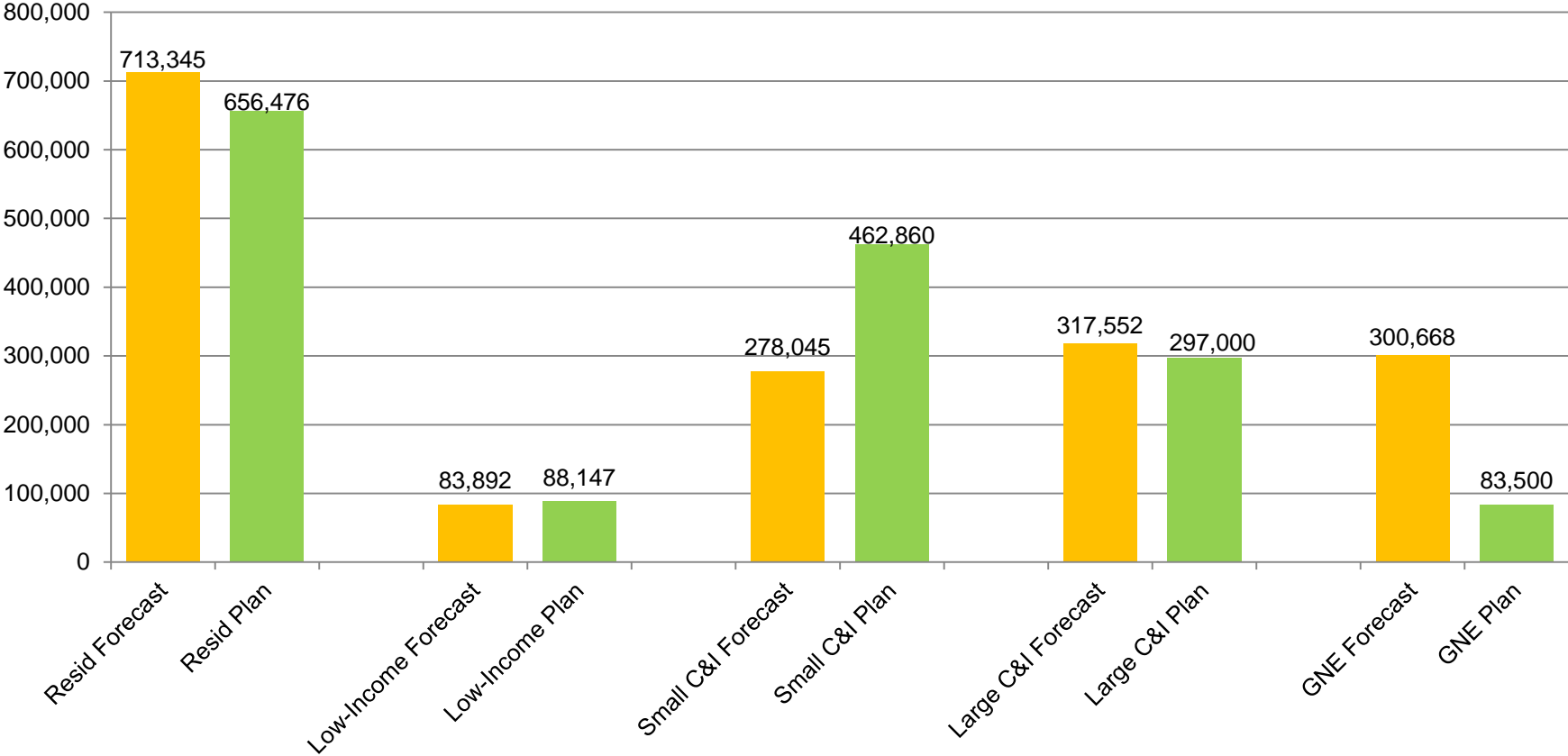
# Overview: Phase to Date Sector Savings

Phase-to-Date Customer Sector Savings (MWh/yr)

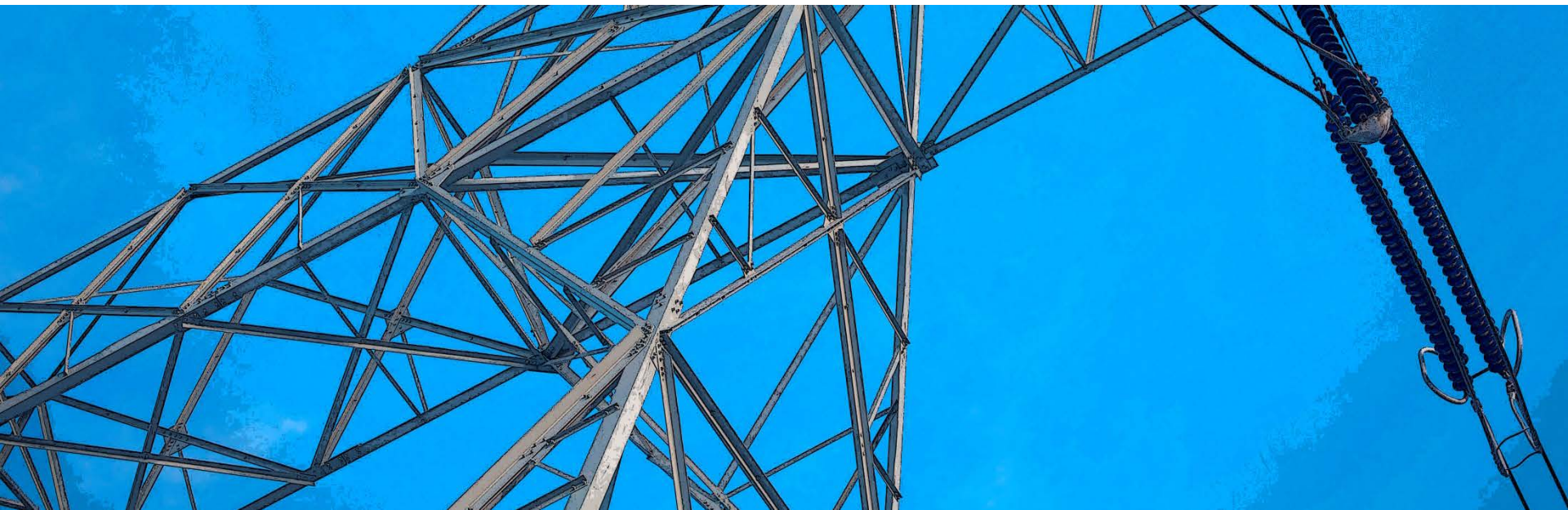


# Overview: Phase 3 Sector Savings

Phase 3 Customer Sector Savings (MWh/yr)



# Residential Programs

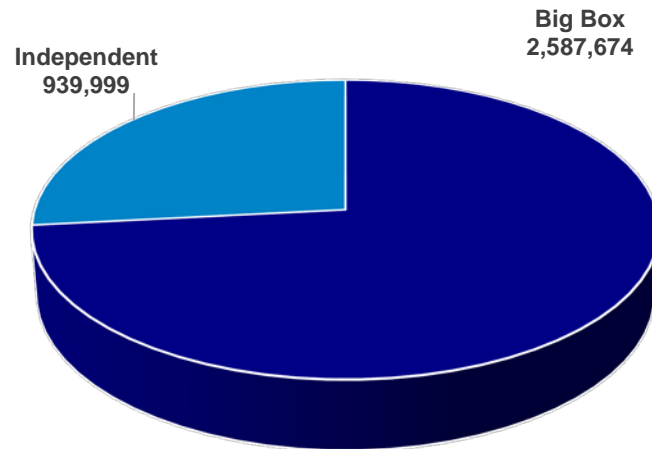


# Residential Program: EE Lighting

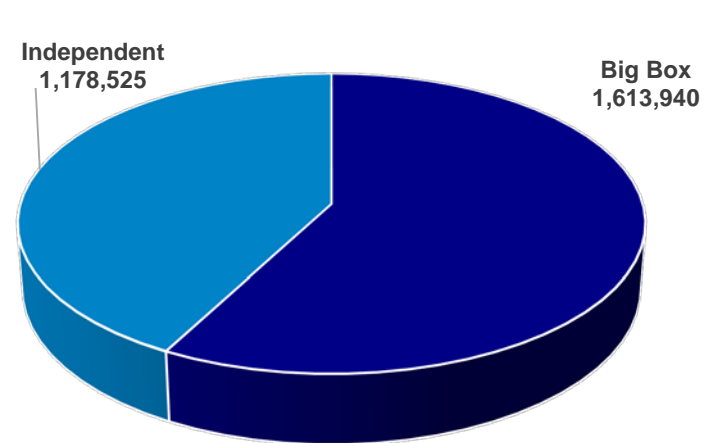
- Over 2.7 Million LEDs in PY9
- Savings 118,444,739 kWh/yr.
- Overall LED sales were 21 % lower than PY 8, but we saw a 25% increase in sales from independent retailers
- Continued to build upon the strong relationships with independent retailers established in PY 8
- Ensured LEDs available to customers in all areas at a variety of retailer types

# Residential Program: EE Lighting

## PY 8 Units - Big Box vs. Independent Retailers



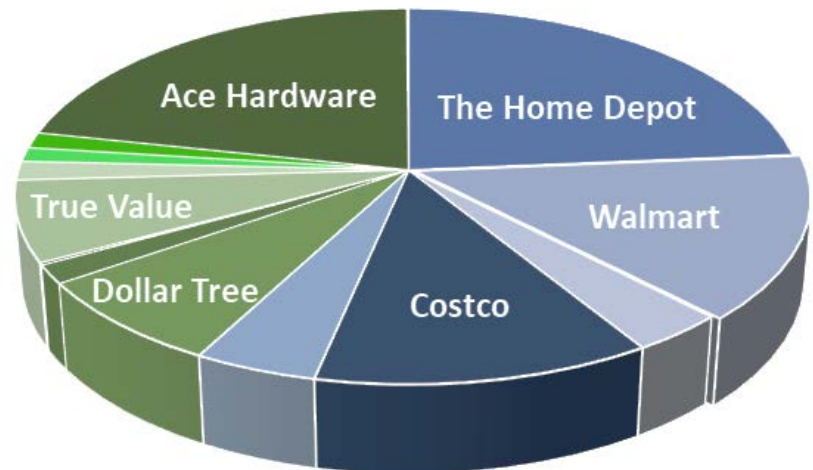
## PY 9 Units - Big Box vs. Independent Retailers



# Residential Program: EE Lighting

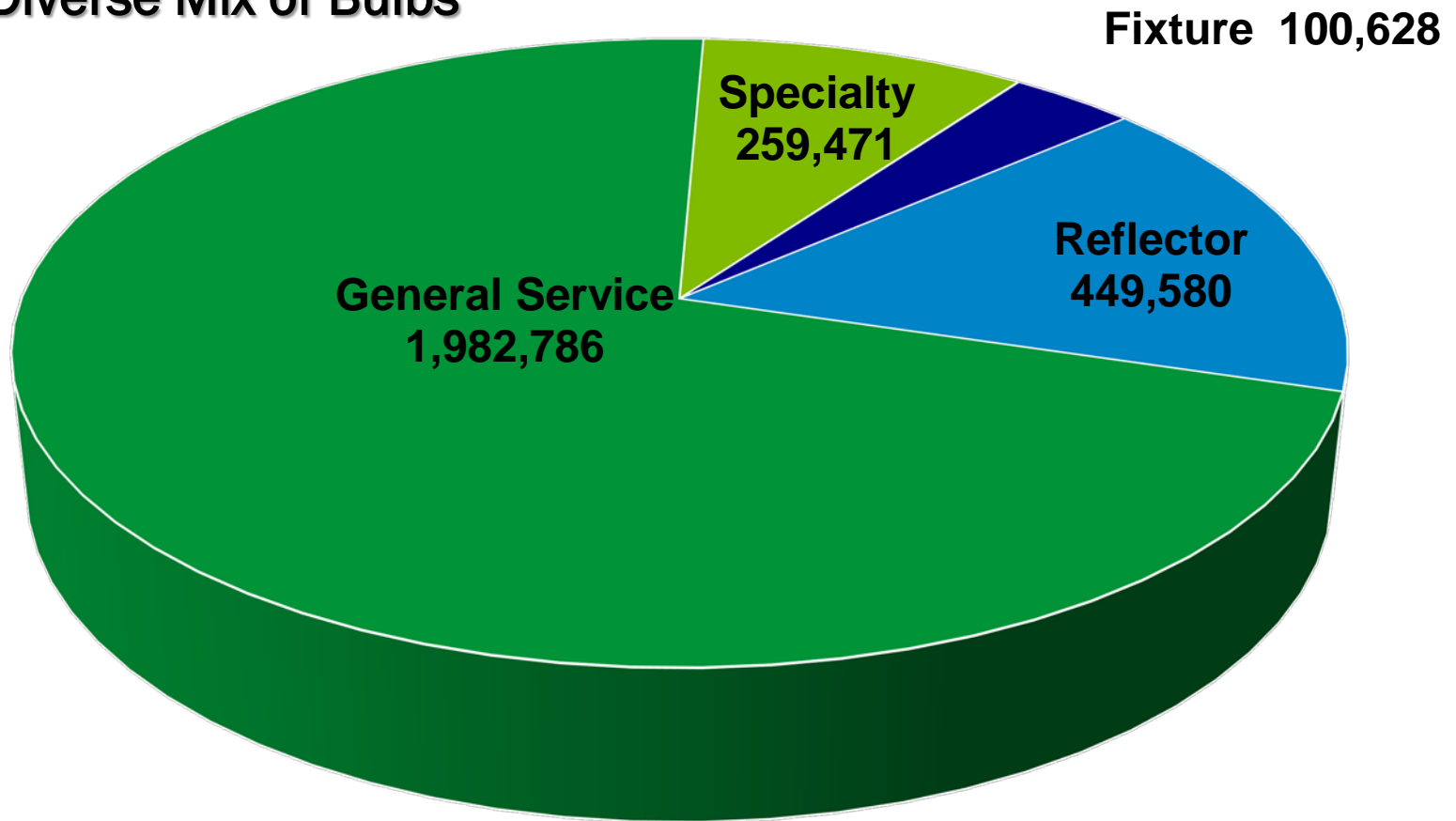
Retailer	Label	Units
The Home Depot	Big Box	660,642
Walmart	Big Box	392,881
Lowe's	Big Box	95,715
Costco	Big Box	340,486
Sams Club	Big Box	124,216
Dollar Tree	Independent	211,975
Batteries Plus	Independent	44,861
Grocery Outlet	Independent	5,660
True Value	Independent	193,782
Costco.com	Independent	10
Do it Best	Independent	45,124
Goodwill	Independent	34,024
Habitat ReStore	Independent	38,166
Ace Hardware	Independent	602,462
Giveaway bulbs	Independent	1,008
HTR	Independent	1,453
		<b>2,792,465</b>

## PY9 LEDs by Retailer



# Residential Program: EE Lighting

## PY9 Diverse Mix of Bulbs



# Connected Lighting Pilot

- Launched February 2018
- Intent of pilot is to evaluate the adoption, use and energy savings potential of home automation and smart lighting technologies
- **Goal** - 300 Participants
- Over 48,000 Target Customers Were Emailed
- The pilot offered customers a discounted price of \$95 for the purchase of a connected lighting bundle that included
  - A wink hub
  - Three A-19 standard light bulbs
  - Two BR-30 reflector light bulbs. Participation was limited to the first 300 customers who purchase a kit.



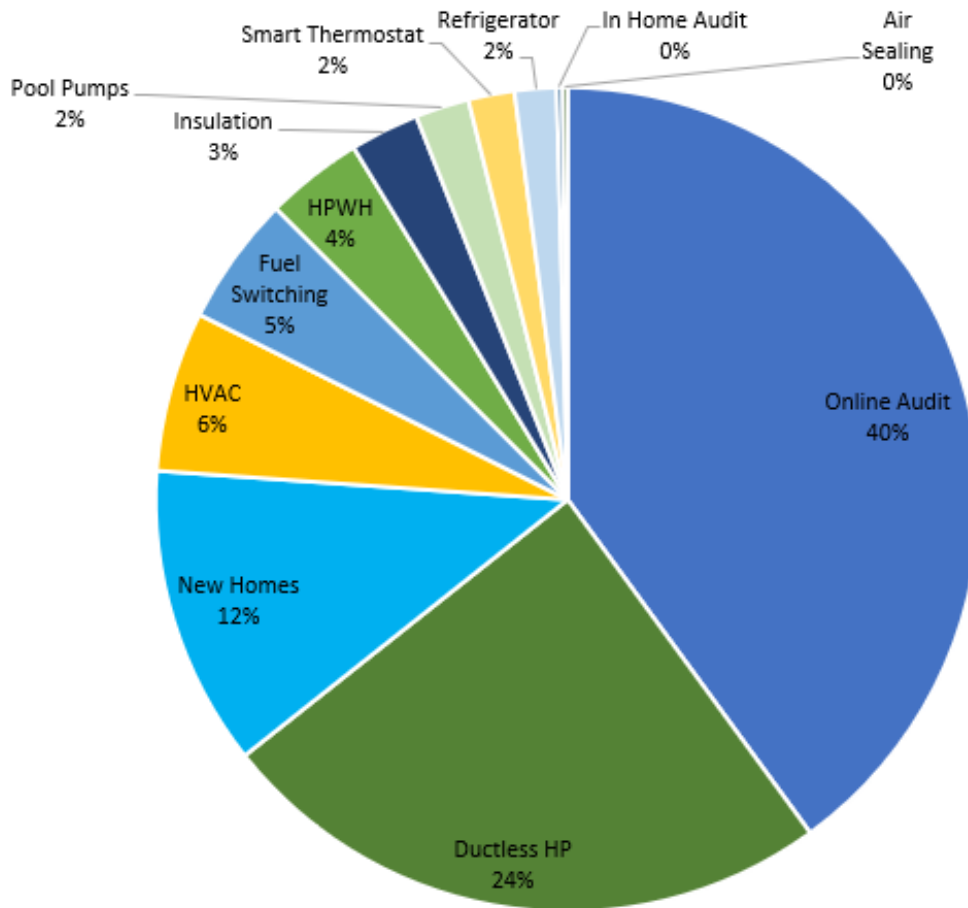
# Connected Lighting Pilot

- Throughout the pilot period, PPL will collect information about usage and usability from participating customers, helping them better understand the impact of these technologies on future energy resource planning.
- If the customer meets all the conditions of the pilot, they leave their products installed for six months and answer all three short surveys, they'll also receive a \$50 incentive at the end of the pilot.

# Residential Programs: New Homes

- **Significant Interest by New Home Builders**
  - 837 Homes in PY9
  - Over 2,500 MWh in savings
  - Over \$780,000 in incentives
  - 147% growth in incentivized homes over PY8
- **Efficient New Home Construction**
  - Strong Relationships with Builders and Raters, Achieved the Following Key Successes:
    - Providing incentives for more than 1,200 homes verified as 15% more Efficient than IECC or ENERGY STAR® Certified in Phase III to date
    - Driving Incentives Up To \$2,500 Per Home For Participating Builders
    - Achieving An Average Savings of More Than 3,000 kWh/yr per Home Annually

# Residential Programs: Energy Efficiency Homes



- Savings Achieved PY9: 21,708 MWh/yr. (203% of our PY9 goal)
- Savings Achieved in PY9 doubled from PY8

# Residential Program: Energy Efficient Homes

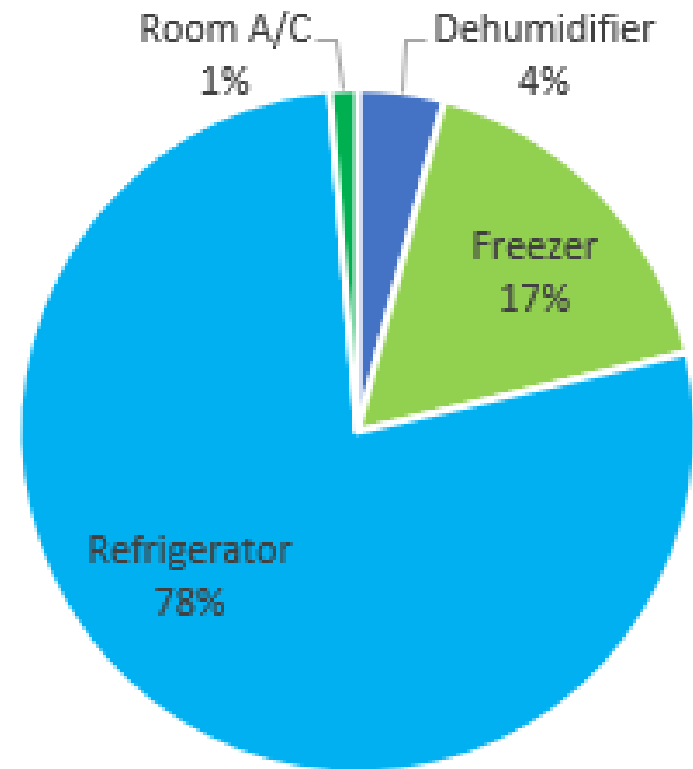
- **PY9**
  - Online Assessment yielded highest savings
  - Ductless HP continues as the most popular measure
- Online Assessment: 23,103 kits
- Ductless HP: 3,838 units or 1,400 projects
- ASHP/CAC: 2,687 units

Measure Category	Total kWh/Year
Online Assessment	8,678,937
Ductless HP	5,288,643
New Homes	2,557,742
ASHP/CAC	1,364,973
Fuel Switching	1,102,082
HPWH	828,457
Insulation	588,186
Pool Pumps	457,941
Smart Thermostat	393,248
Refrigerator	356,209
In Home Audit	49,899
Air Sealing	42,479

# Residential Program: Appliance Recycling

## Units Collected in PY9

- Participation & Savings on target
- 8,692 Refrigerators
- 2,167 Freezers
- 1,327 Room Air Conditioners
- 665 Dehumidifiers



# Recycling Roundup Event

**Community recycling event held in September 2017 to collect used Room Air Conditioners and Dehumidifiers**

## **Event highlights:**

- 95 Room Air Conditioners
- 66 Dehumidifiers
- Nearly 70,000 kWh saved from the event's success

# Residential Program: Student Energy Education

- **Fully Subscribed in PY9**
- **24,000 Students**
  - Bright Kids (2nd – 3rd Grade)
  - Take Action (5<sup>th</sup> – 7<sup>th</sup> Grade)
  - Innovation (9<sup>th</sup> – 12<sup>th</sup> Grade)
- **Added a New Augmented Reality App Pilot**
  - 436 kits distributed
  - Drive student/parent engagement and lead to higher installation rates

# Residential Program: Home Energy Education

- **HERs Savings Were 15% Less Than Expected in PY8**
  - In April, resumed treatment of the low propensity customers removed from treatment at the beginning of PY8
- **Uplift in Engagement**
  - Launched weekly Challenge emails in February and saw a 2-3x uplift in engagement
  - Rolled out a new & improved HER template
    - Comparisons Are More Accurate
    - Recommendations Are Personalized
    - Customers Are More Interested in How They Can Make Their Usage Estimates and Comparisons To Others More Accurate
    - Much Lower Opt Out Rate



# Community and Corporate Outreach Events- Res Team

The PPL Residential Rebates Team is always looking for Community and Corporate outreach opportunities.

## Community Outreach Events:

March - Upper Bucks Chamber and Career Fair

March - SEEDS Forum in Hawley

April - All Things Home Fair Lancaster

April - U of Scranton Earth Day

April - Bloomsburg U Earth Day

April - Earth Day in the Park Allentown

April - CopsNKids Bethlehem

May - Senior Fair Allentown

May - Halifax School Community Day

May - Businesswomen's Forum Carlisle



# Community and Corporate Outreach Events- Res Team

## Corporate Outreach Events:

November - Kellogg's factory in Lancaster

January - Pentair Annual Training Conference

March - GSK factory in Marietta

April - SEKISUI SPI factory in Bloomsburg

April - MetLife Earth Day in Clarks Summit

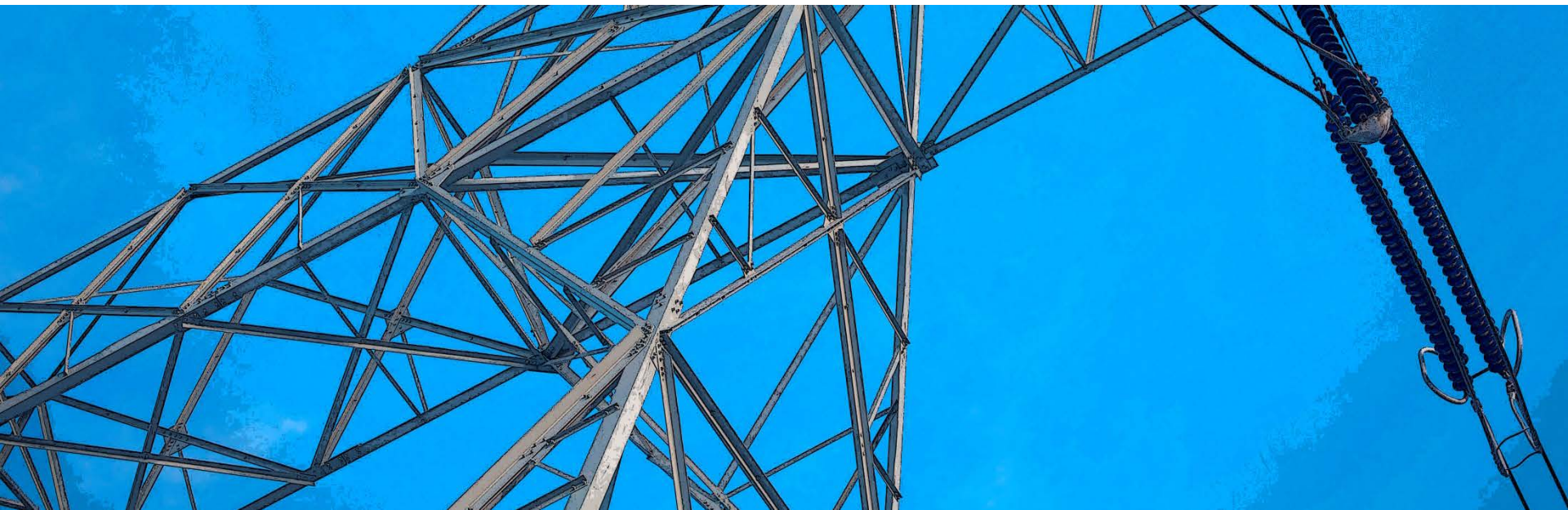
April - Geisinger Health Earth Day in Danville

April - Lehigh Valley Health Network in Allentown

April - Hershey Med Earth Day in Hershey



# Low Income Programs



# Low Income Program: Low Income WRAP

- **Goal:** 7,000 WRAP Jobs Per Year
- **Achieved:** 10,705 Completed Jobs in PY 9
  - 2,718 Jobs in PY8
- **Still a Little Bit Behind on Savings Due To Slow Start, But Gained A Lot of Ground in PY9**
  - 7,670 Jobs Completed Since December 1, 2017
  - Creating More Leads, Increased Marketing, Education
  - Quick Track Programs
    - On-Track Auto-Enroll
  - Needed to Increase Savings Per Job, Especially Educational Component
  - High CSAT (91%)
  - Budget Is On Track

# Low Income Program: Multifamily LI & GNE Status

- **Streamlined and Improved the Multi-Family Process**
- **Significant Increase in MF Penetration Compared to Phase 2**
- **Increased Participation:**
  - 6,041 Units Completed; 1,806 Pending Availability and/or Scheduled; 5,159 In Queue (includes Master Metered)
  - Phase 2: 1,400 Completed in 3 Years
- **Single Point of Contact for Multi-Family Customers**
- **Master Meter Multi-Family Housing**
  - Jobs – 2,053 units
  - Total Buildings - 72 at 32 Facilities
  - Most Have Been in GNE, But Not All (approx. 75/25 split of GNE vs. CI)

# Low Income Program: Multifamily Update

- **The Good**
  - Collaboration and Leads Generated with Housing Advocates
  - Multiple Outreach Points
  - Educating Landlords Has Increased Consent and Participation
  - Reduced Customer “No-Shows”
- **The Challenges**
  - Little Work Completed in the MF Common Space Since it Tends to Be Cost Prohibitive or Customer Not Interested Unless \$0 Cost Like the Individual Units
  - Issues with Performance Contracts (ESCOs)

# Low Income Program: Low Income Kits & Education

- **Goal:** 8,000 Kits
- **Achieved:** More than 13,000 Kits
  - Increased Kits in PY9 to Help Make Up For WRAP Slow Start
  - Continue to Increase Kits and Will Phase Out in PY12
- **Very High CSAT (99%)**
- **Budget Is On Track**

# Low Income Program: Community Blitz

- **Late April in Bethlehem**
  - Held Original Blitz in Hazleton in October 2017
- **Promotes Energy Efficiency For The Entire Community, With A Focus On Low Income**
  - Targeted Eligible Low-Income Customers Through Direct Mail to City of Bethlehem and Local Boroughs and Townships
- **PPL Electric Joined With an Existing Event Known as LV Cops ‘N’ Kids**
  - Celebrated the Concerted Effort in the Bethlehem Area to Help Make Multifamily Buildings, Low-Income Residences and Businesses More Energy Efficient
- **Partnered with LV Cops N Kids - Reading Room, Northampton Community College, Phillips Lighting, Moravian College**



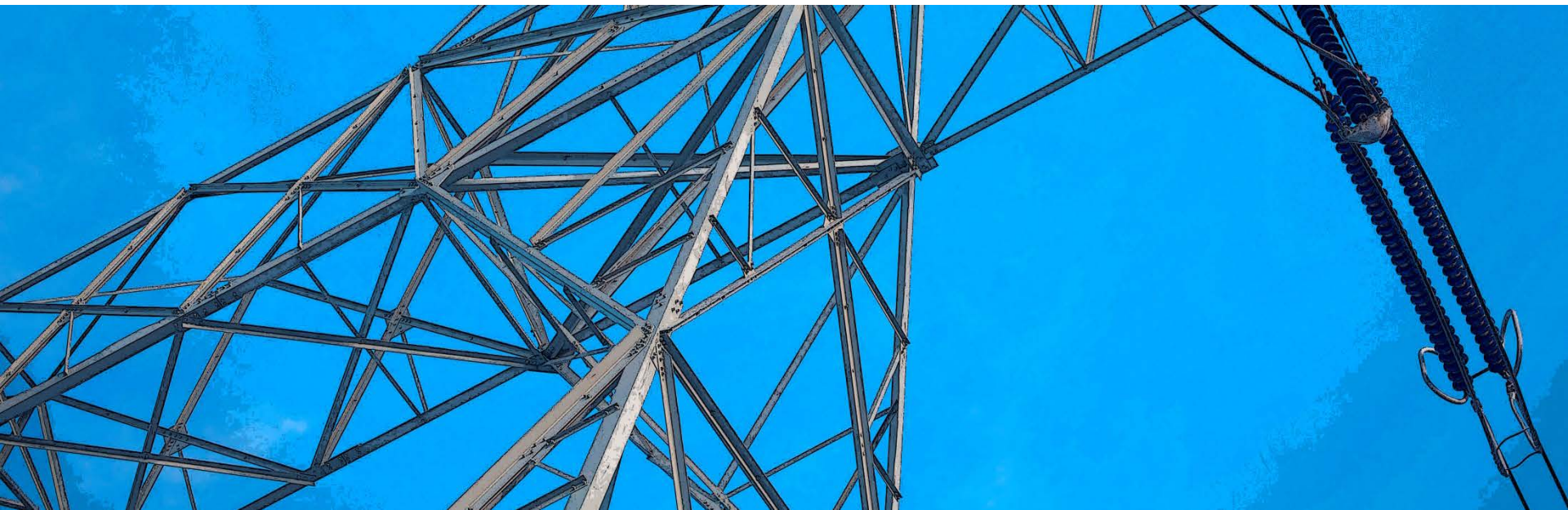
# Low Income Program: Community Blitz

- **Heavy Local Media Presence with Earned Media Through Local Newspaper and Radio Interviews**
  - Social Media Presence by PPL Electric Utilities and Partners
- **Held Presentation with Local Legislators and Other Public Officials on the Importance of Energy Efficiency**
  - Also Recognized Local Businesses Who Participated in EE programs
- **More than 1,500 customers served with a total of approximately 3,000 people in attendance**
  - Approximately 30 WRAP & On Track applications at the event
  - Additional almost 60 WRAP applications based on direct mail to the 4,000 Bethlehem area customers eligible for low-income programs
- **Looking At Future Blitzes In Lancaster and Scranton**

# Low Income Program: Community Blitz



# Non-Residential Programs



# Non-Residential Programs

- **Program Achievements PY9**
  - 5,919 PY9 Rebates
  - 4,685 Midstream Projects
  - 1,234 Applications
  - 163,876 MWh/yr. claimed in PY9\*

\* Verified Savings Report to be Released in Fall of 2018

# Non-Residential Program

- **Program Performance**
  - Total Non-Residential Savings Are On Track
  - The Mix of Small C&I, Large C&I, and GNE Differ From the Original Plan
  - GNE Savings Are Much Greater Than Expected. Waitlist in place since 1/15/18
  - Large C&I Savings and Costs Are Higher Than The Plan But We Are Confident They Can Be Moderated
  - Small C&I Savings Are Expected To Be Lower Than The Plan
  - EE&C Plan Change Filed in July To Increase GNE Savings Budget, With An Offsetting Reduction For Small C&I, No Change To Overall Planned Costs For Any Customer Sector, But Reallocate Costs Between DR and EE Budgets Within Sectors

# Non-Residential Program: Midstream Program

- **First Midstream Lighting Channel in Pennsylvania**
- **Goal:** Transform the Market Through A Lower Cost Channel
  - *Bonus:* Involvement From Hard to Reach Customers & Involving Some Small Customers
- **Participation:**
  - June 2017-May 2018
    - Customers: 4,118
    - Distributors: 26 (94 Locations)
- **Challenges:**
  - Data Collection - Similar Requirements To Downstream Programs
  - Installation Verification
  - Leakage

## PY9 Stats:

- Savings: 19,934,961 kWh/yr.
- Incentive Dollars: \$1,476,444

# Non-Residential Program: Direct Discount

- **Direct Discount (DD) PY9 Updates**
  - Usage cap lifted – All GS1 & GS3 Customers Eligible
  - Rebates paid at \$0.15/kWh
- **Goal:** Encourage SCI Customer Participation
- **Participation:**
  - June 2017 -May 2018
    - Projects: 190
    - Approved Contractors: 67
- **Challenges:**
  - Marketing to Small Business Customers

## PY9 Stats:

- Savings: 8,216,310 kWh/yr.
- Incentive Dollars: \$1,053,241

# Non-Residential Program: Combined Heat & Power (CHP)

- 14 Projects
  - 6 Completed
  - 8 In Progress
- 2 additional identified potential projects
  - Projected savings not developed yet
- Savings
  - 40,223 MWh/yr. Completed
  - 120,469 MWh/yr. In Progress

## PY9 Stats:

- CHP projects closed: 1
- Savings: 6,438,169 kWh/yr.
- Incentive Dollars: \$79,189.75

- Cost Effectiveness of Completed Projects: 1.14



# Non-Residential Program: Continuous Energy Improvement

- K-12 Operational & Behavioral Program
- **Goal:** Create Student & Staff Engagement
  - *Bonus:* Involvement at the residential level
- **Participation:**
  - *4 districts*
  - *17 buildings in PPL Territory*
  - *Focus:*
    - *1 building as Pilot (PY9)*
    - *Role out District wide (PY10)*

## PY9 Stats:

- Cohort Savings: 887,087 kWh/yr.
- Incentive Dollars: \$44,354.35

# Non-Residential Program:

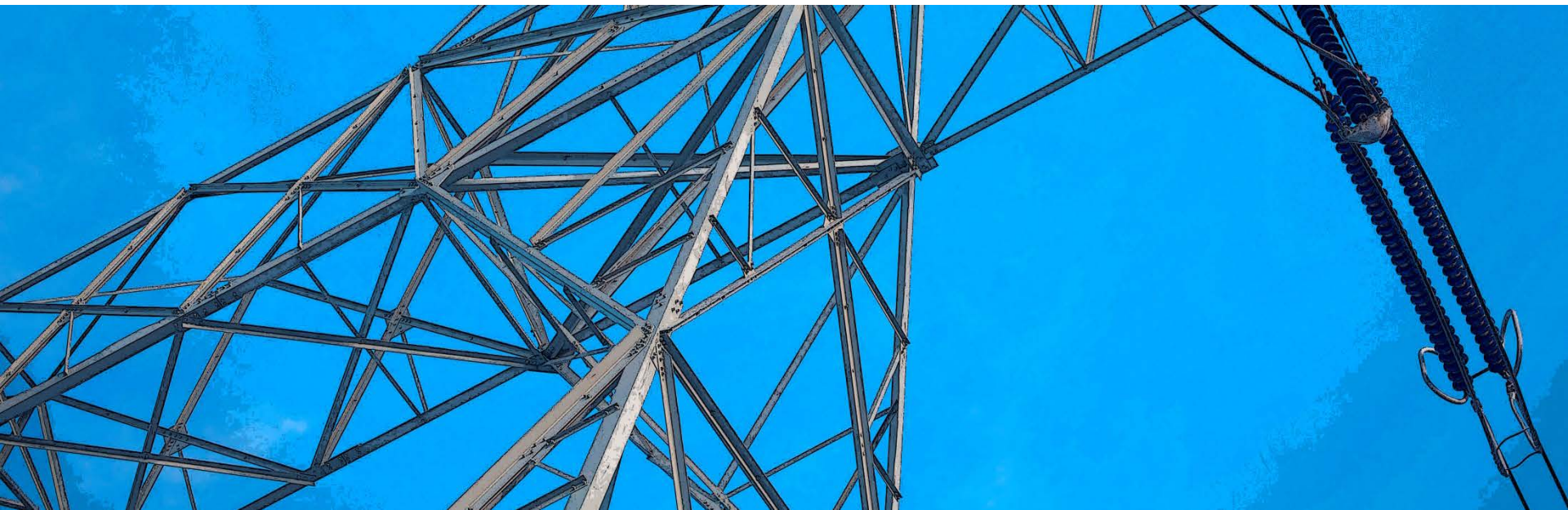
## kWh Savings (Processed to date)

Focus  
on  
Small  
Sector!

Sector	kWh/yr.	kWh Goals	% of Goal
LCI	150,818,346	330,000,000	45%
SCI	98,147,507	480,900,000	20%
GNE	89,712,540	90,000,000	99%
<b>Total</b>	<b>339,786,412</b>	<b>900,900,000</b>	<b>37%</b>

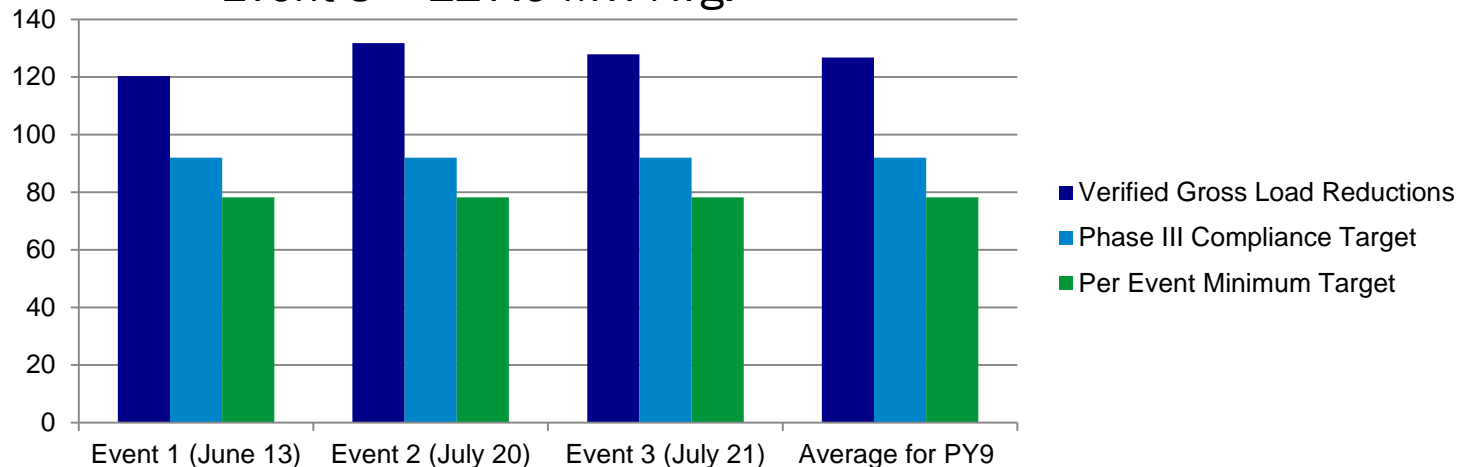
**Primary focus is on the  
SCI Business Sector**

# Demand Response Program



# Demand Response Program

- Demand Response PY9 Season
  - We Met All PY9 Targets
  - 126.7 MW Verified Average With 92 MW Compliance Target
  - 3 Events Called
    - Event 1 – 120.3 MW Avg.
    - Event 2 – 131.8 MW Avg.
    - Event 3 – 127.9 MW Avg.



# Demand Response Program

- **Demand Response PY10 Season**
  - Approximately 131 MWs Enrolled
    - A 92 MW Compliance Target (Avg. Of All Phase 3 Events)
    - Per Event Target of 78.2 MW
- **Events Are Called The Day Ahead At 10:10 AM (Based on 9:45am Forecast) if PJM Day Ahead Forecast Reaches 96% of PJM Peak Load Forecast**
  - Up To Six Events Per Year
  - Each Event Is Four Consecutive Hours

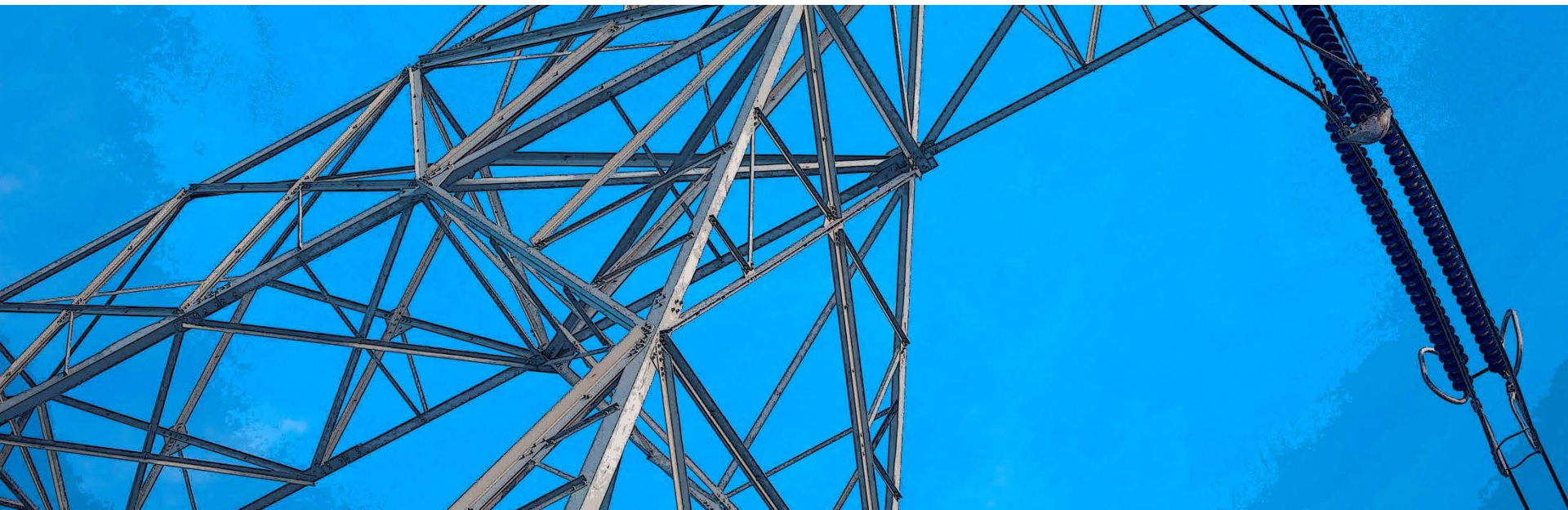
# Demand Response Program

- **Challenges Remain**
  - Few Customers with Large Amounts of the Portfolio
    - Challenging To Always Confirm Each Customer's Intent To Participate In An Event
  - Cannot Determine Peak Reductions Until Well After The Event Is Over
  - Concerns Raised By Customers Over Consecutive Day Events or Multiple Events In A Week
    - Scenario Occurred on July 20<sup>th</sup> and 21<sup>st</sup>, 2017
    - Customer Fatigue
    - Financial/Operational Barriers (ex. Can't Curtail Operations Two Days In A Row Due to Other Commitments)

# Contacts

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Questions? Comments?





Thank you! Drive Safe!

