

# PPL Energy Efficiency Update PPL Stakeholder Meeting January 22, 2019

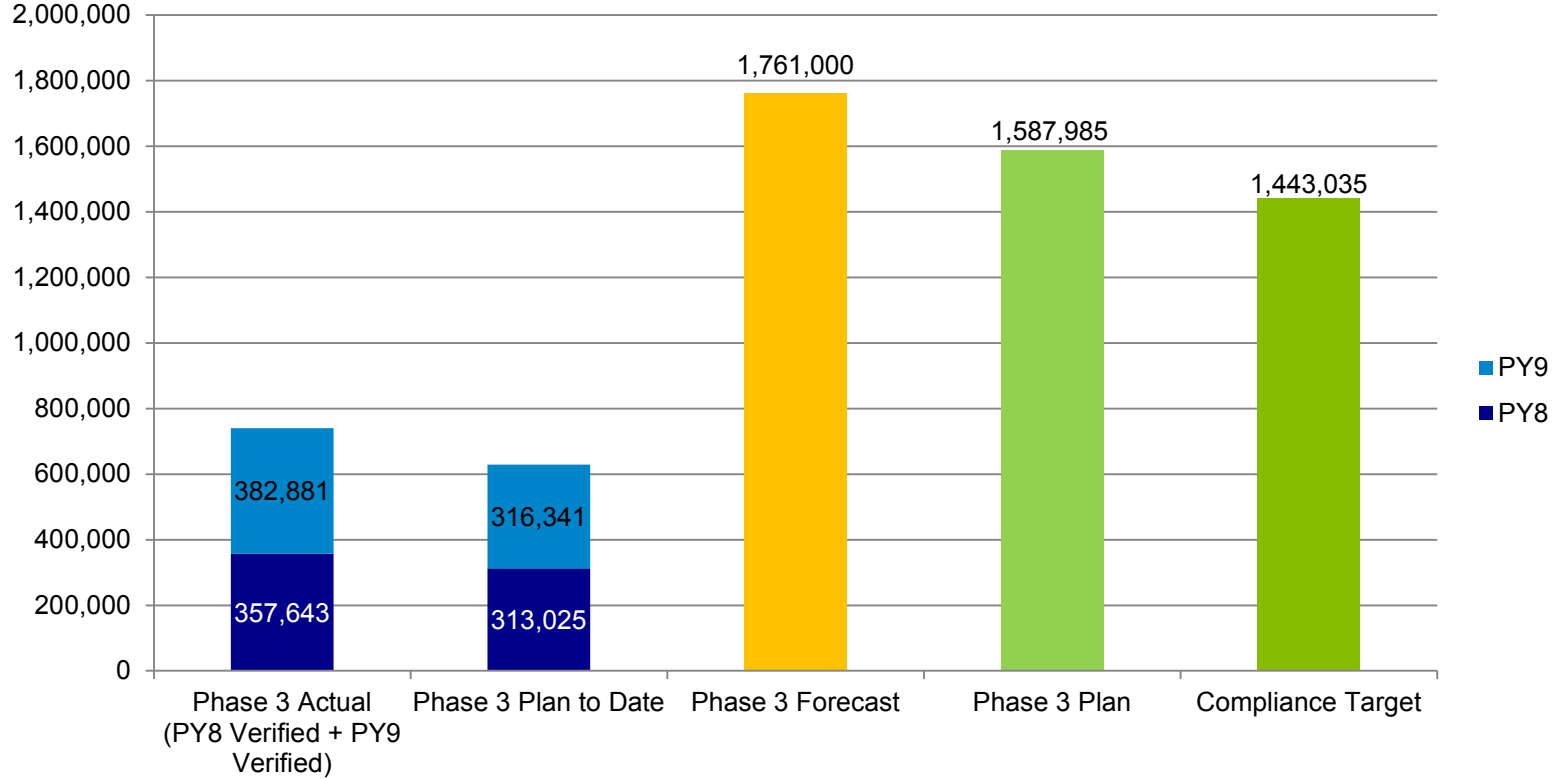
# Agenda

- **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

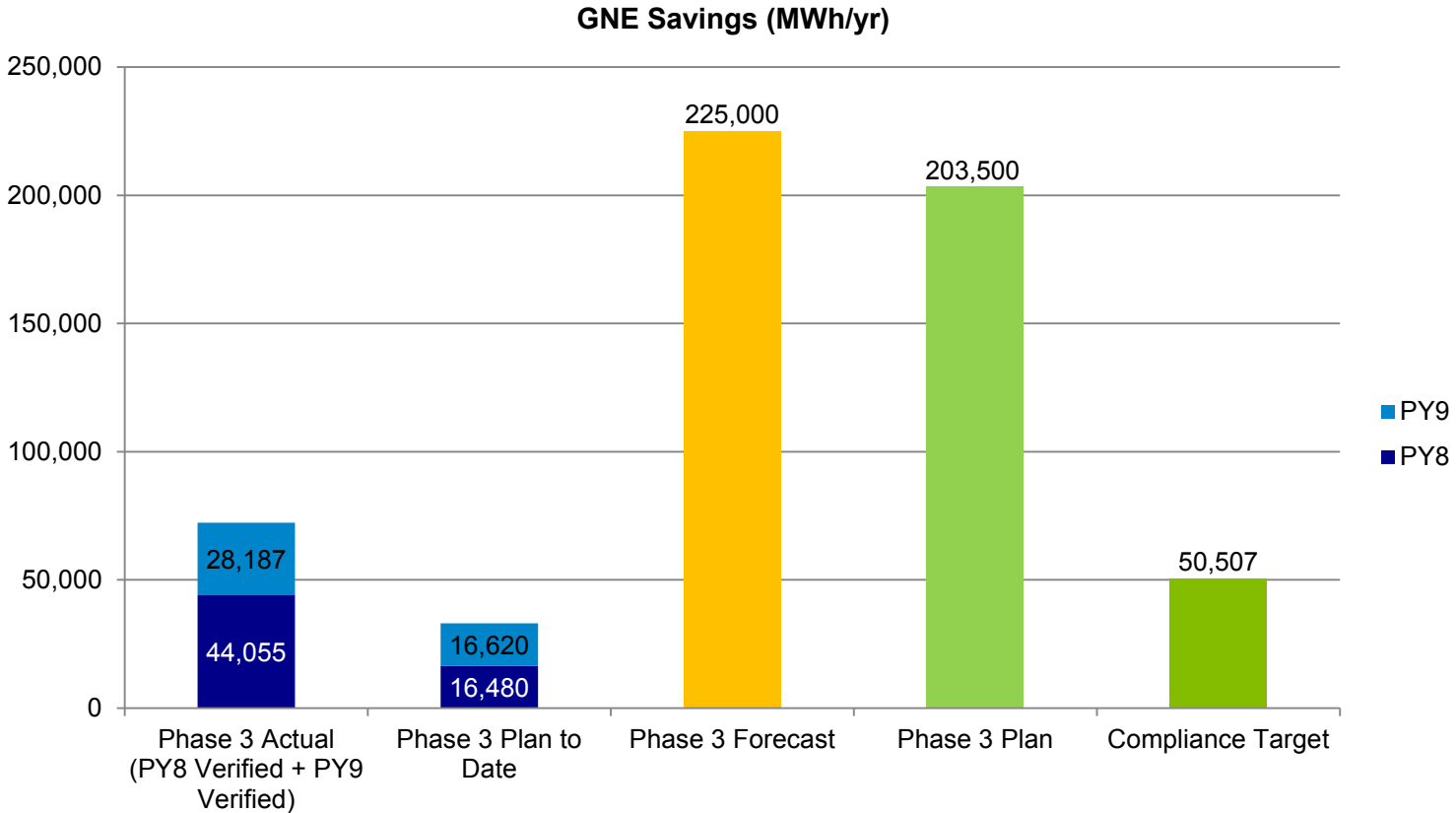
# Overview: Portfolio Savings



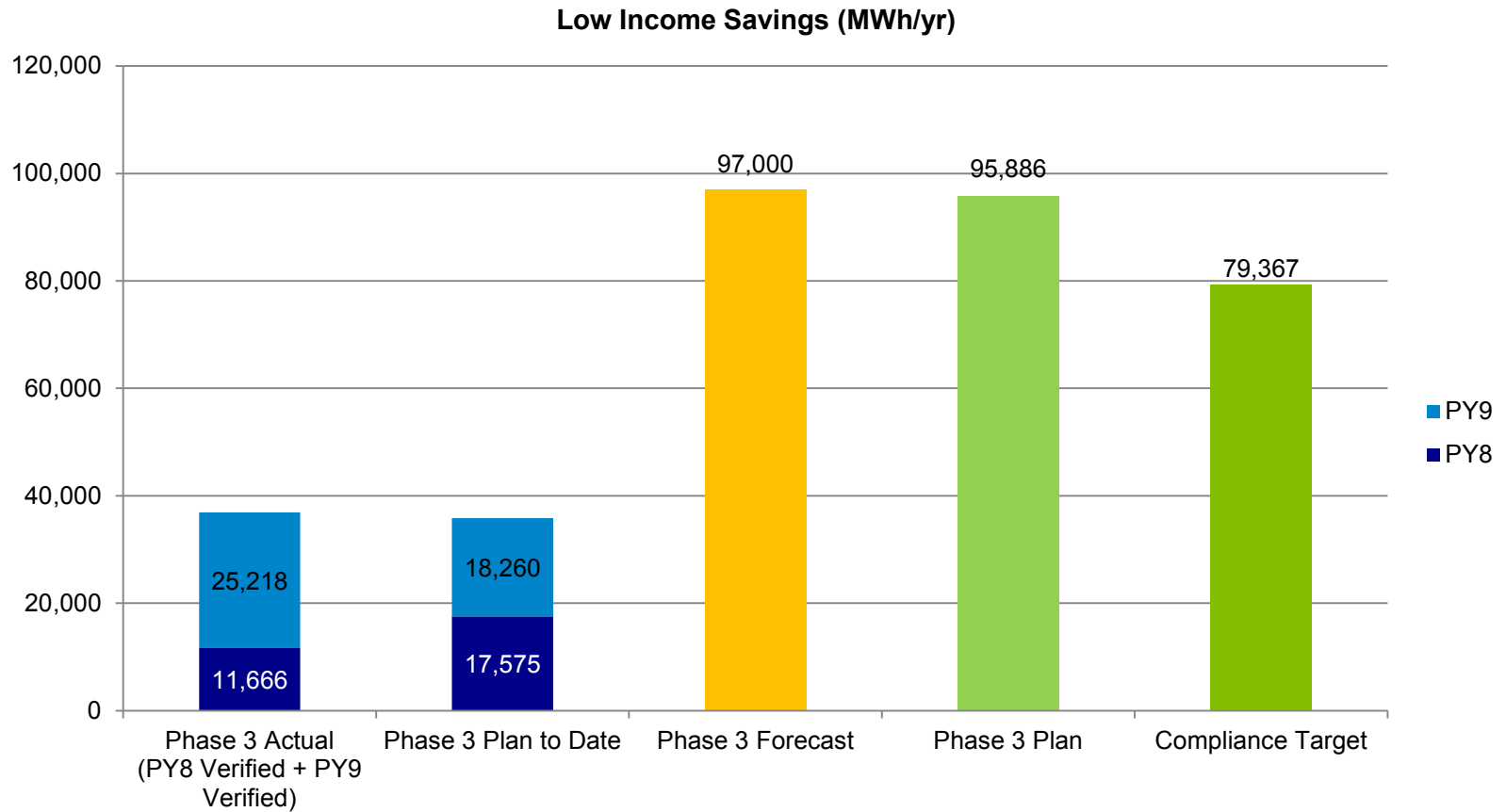
Portfolio Savings (MWh/yr)



# Overview: GNE Savings

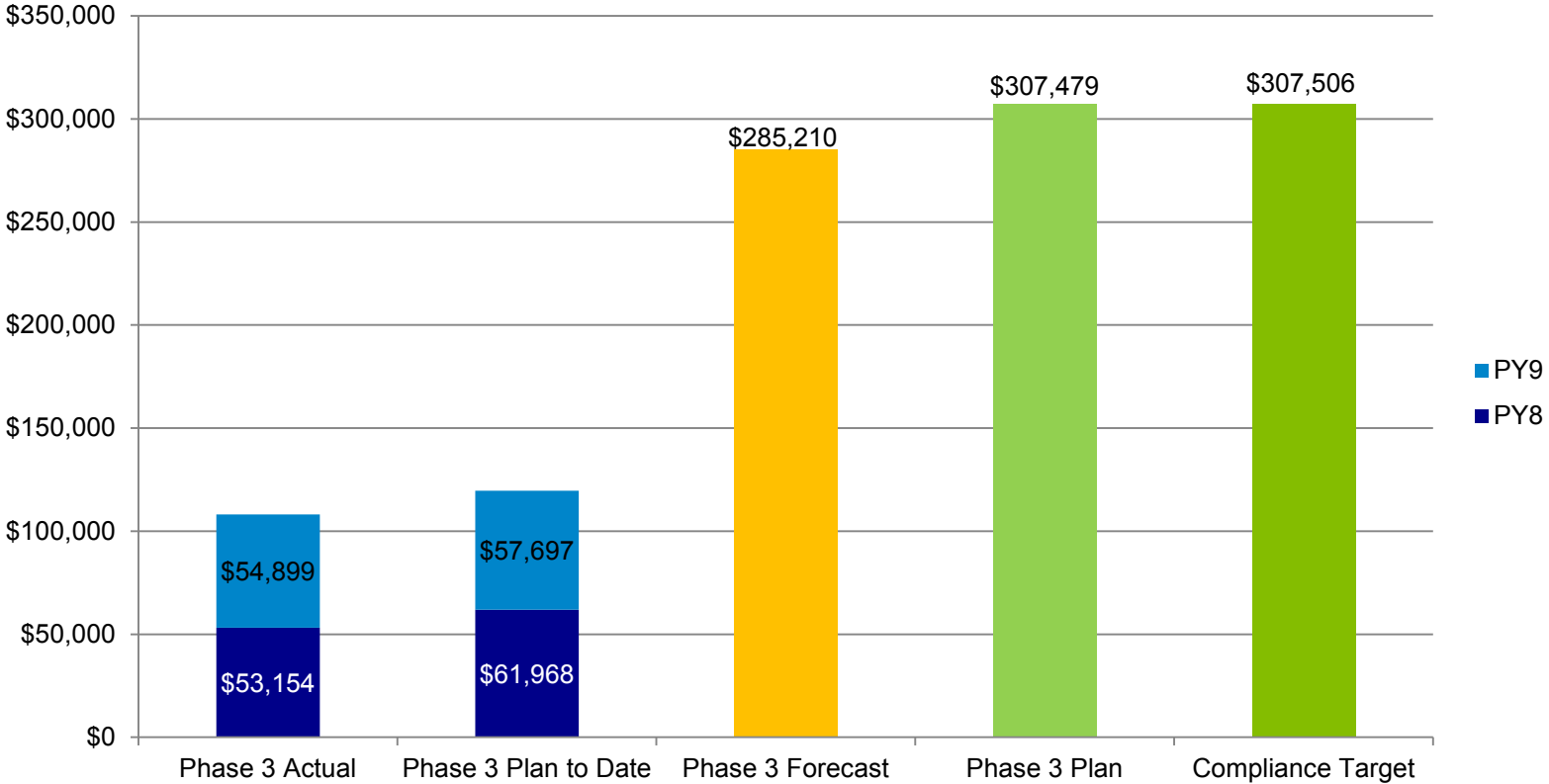


# Overview: Low Income Savings



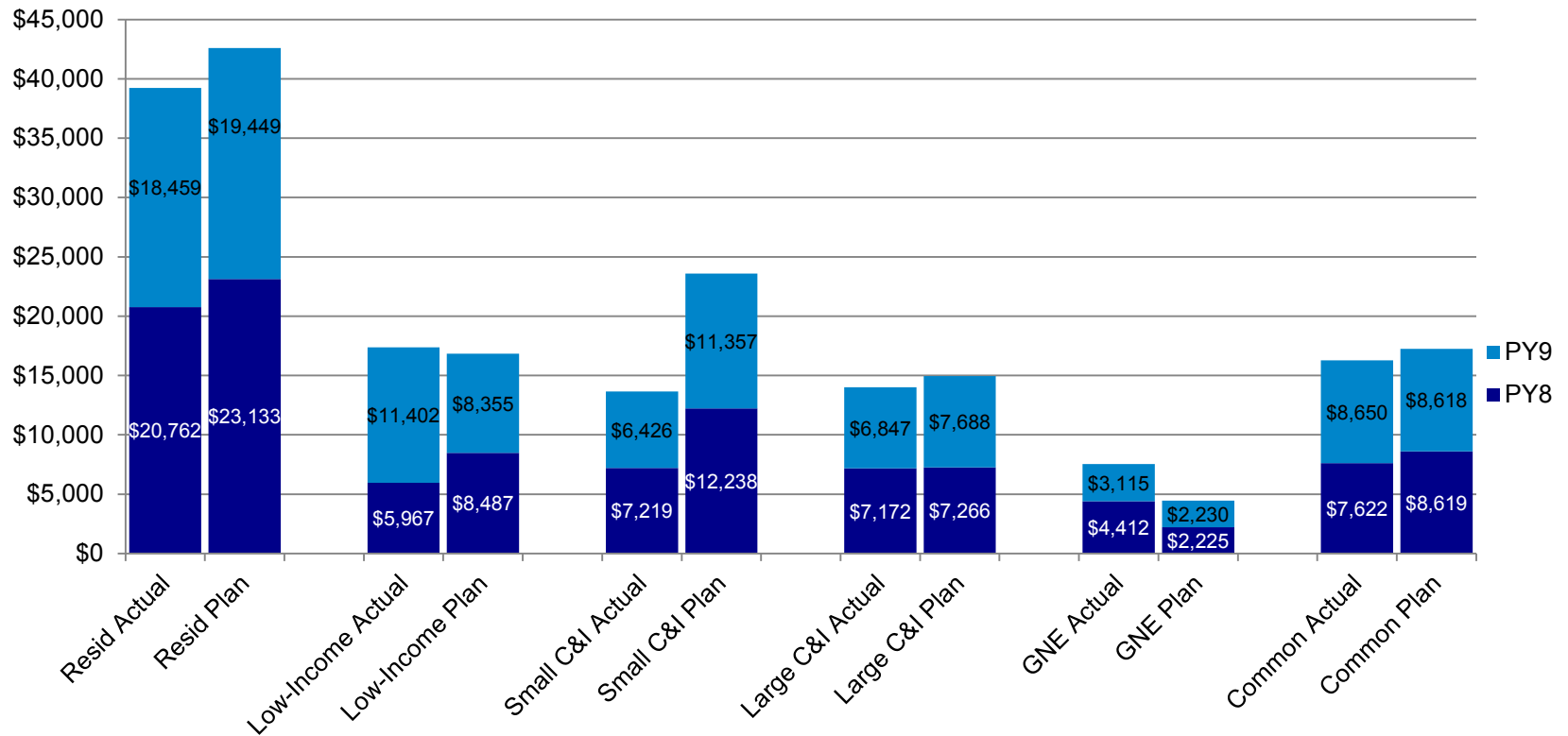
# Overview: Portfolio Costs

Portfolio Costs (\$1,000)



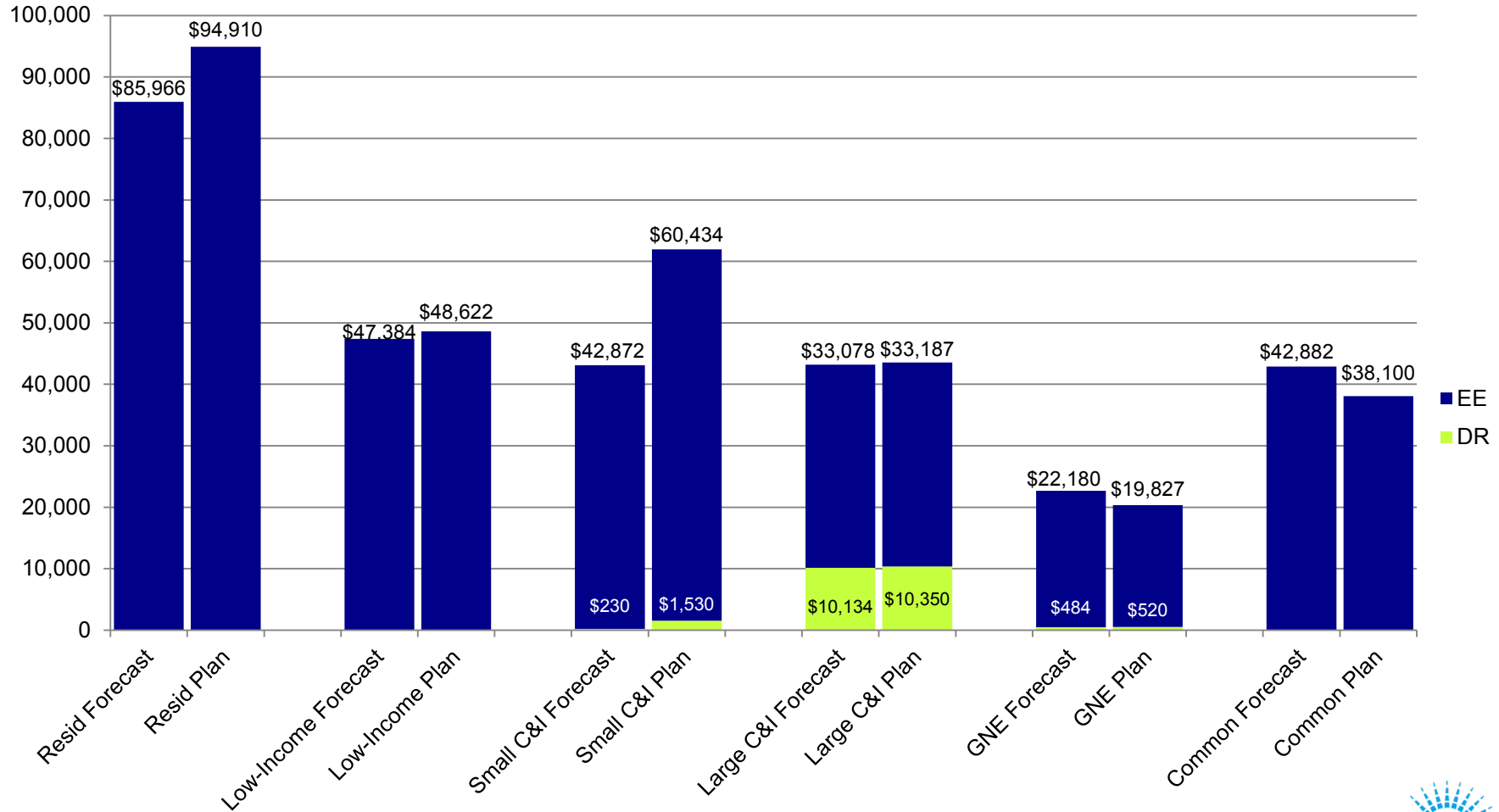
# Overview: Phase To Date Costs

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



# Overview: Phase 3 Sector Costs

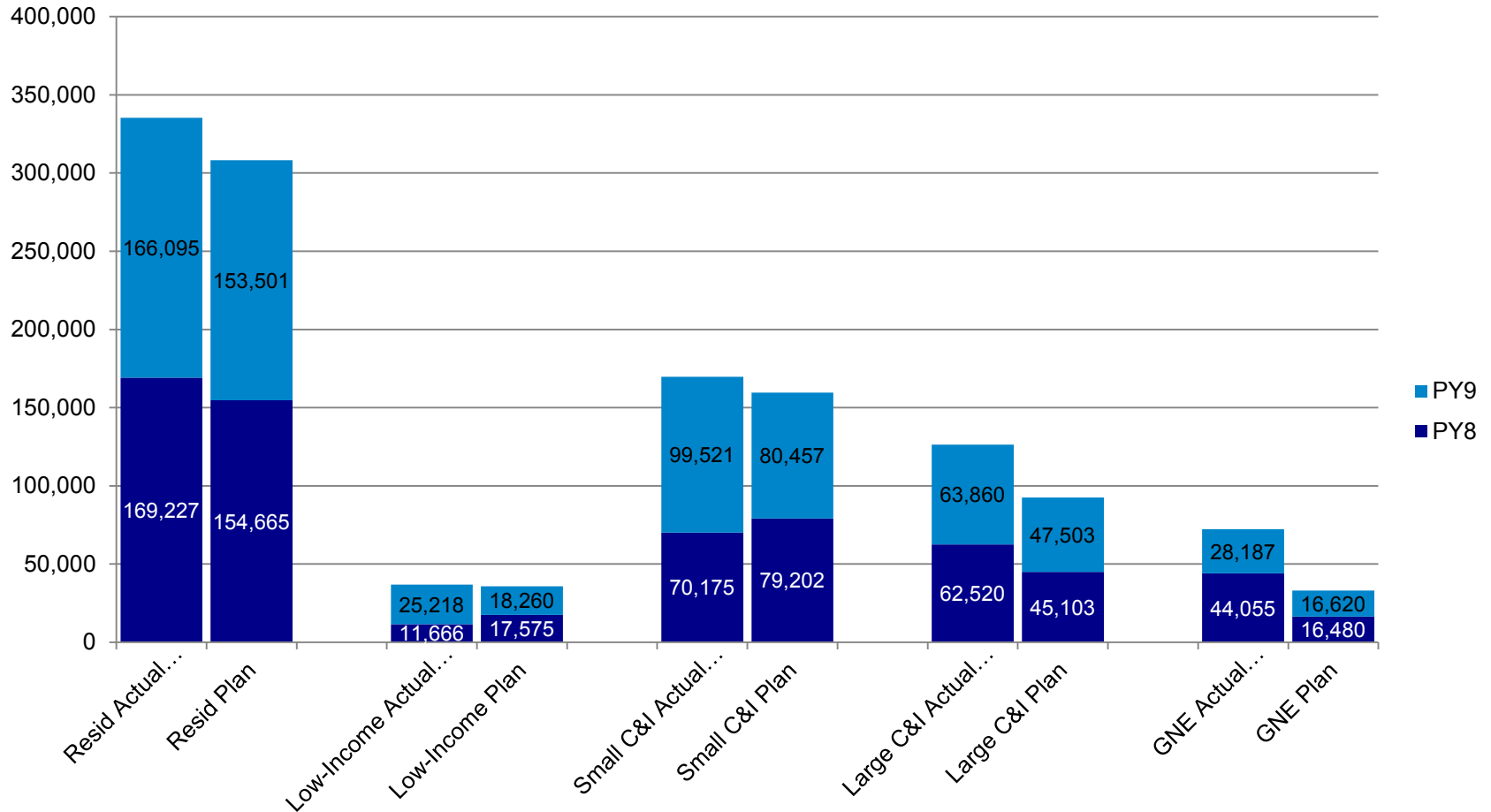
Phase 3 Customer Sector Costs (\$1,000)





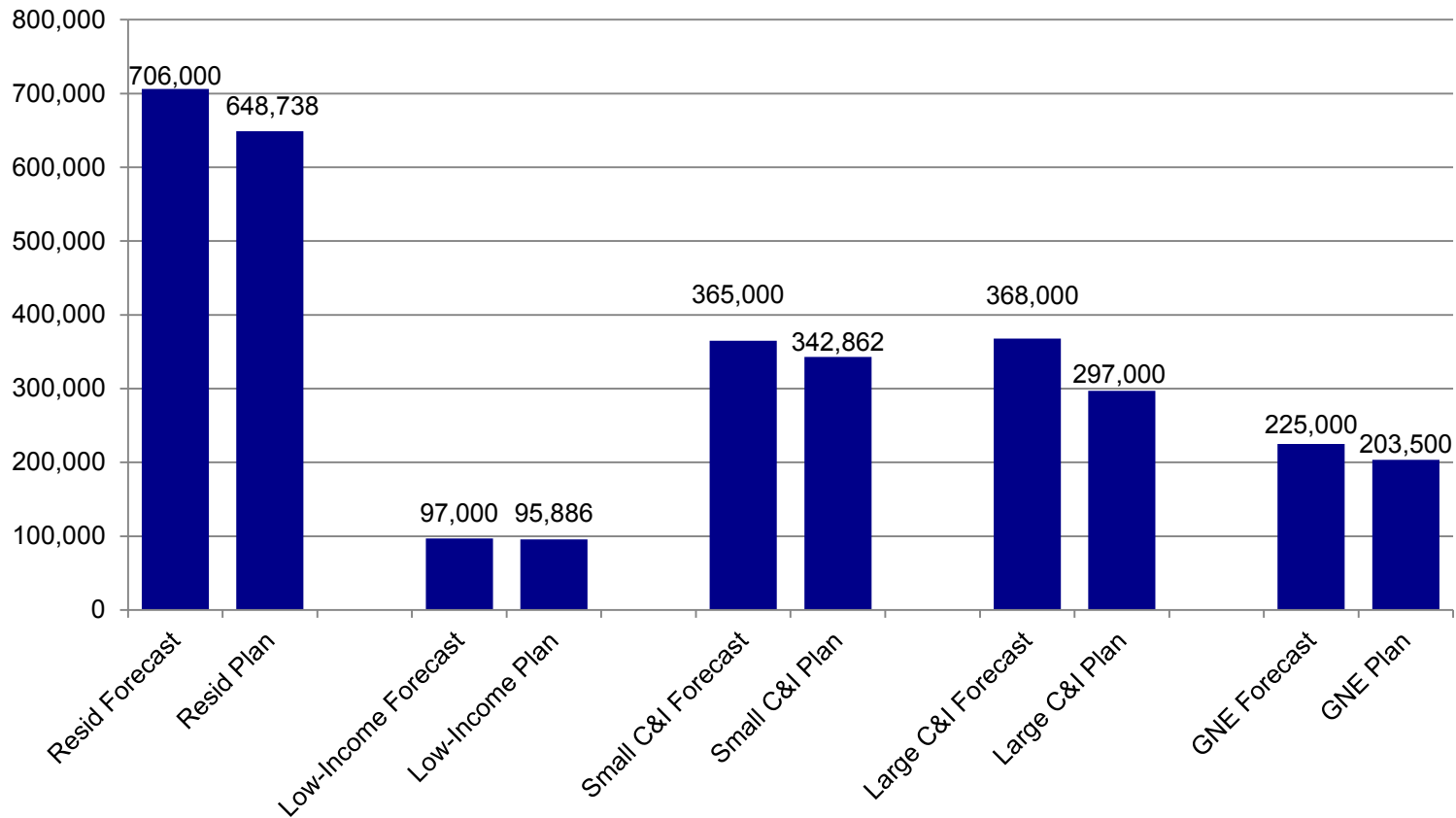
# Overview: Phase to Date Sector Savings

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

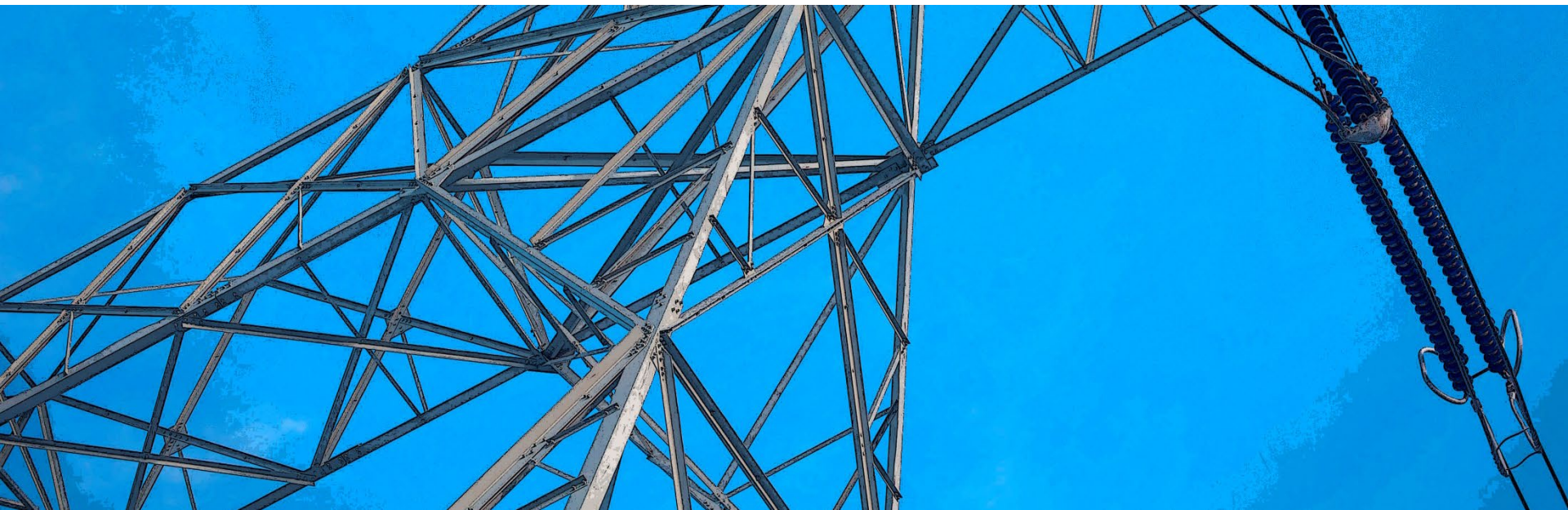


# Overview: Phase 3 Sector Savings

Phase 3 Customer Sector Savings (MWh/yr)

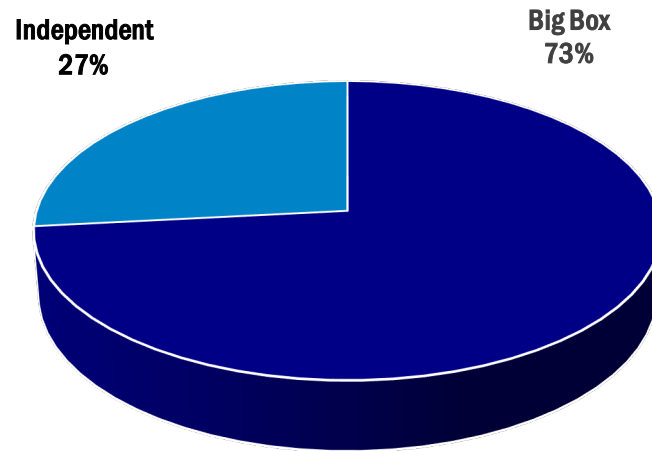


# Residential Programs

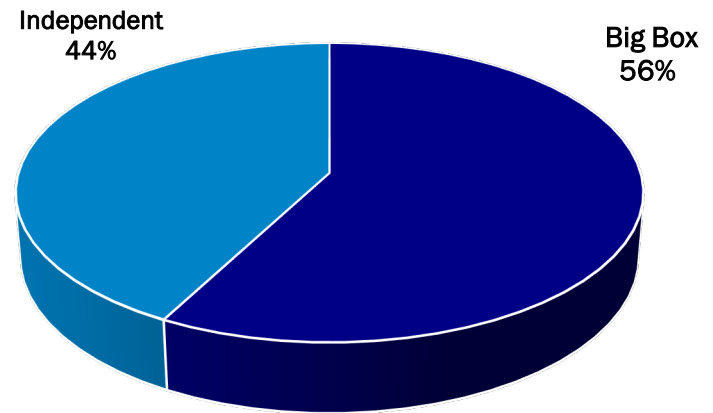


# Residential Program: EE Lighting

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



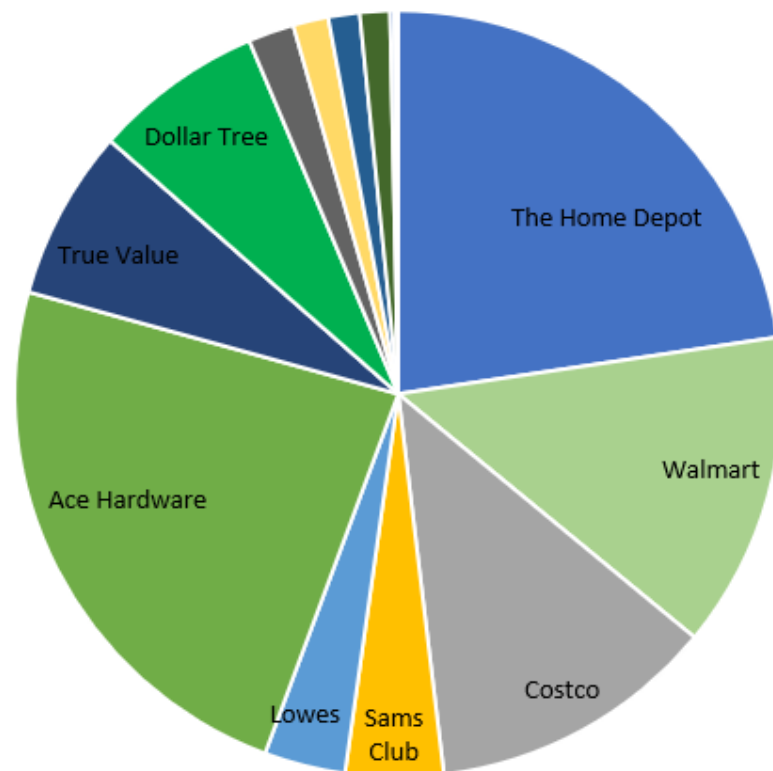
*PY 9 Units - Big Box vs.  
Independent Retailers*



# Residential Program: EE Lighting

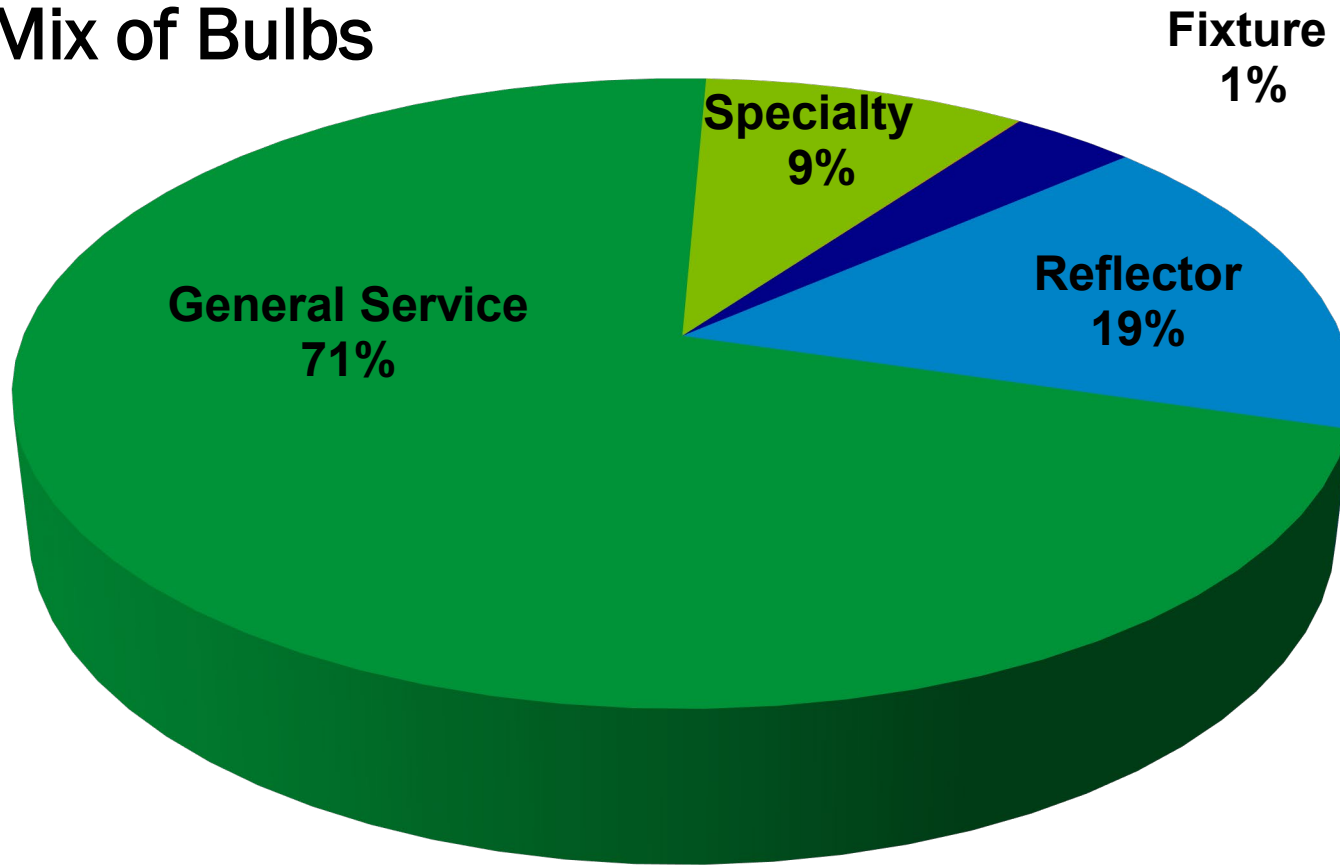
Retailer	Label	Units
The Home Depot	Big Box	681,660
Walmart	Big Box	400,938
Costco	Big Box	365,882
Sams Club	Big Box	124,197
Lowe's	Big Box	103,106
Ace Hardware	Independent	711,712
True Value	Independent	216,770
Dollar Tree	Independent	215,792
Do it Best	Independent	58,278
Batteries Plus	Independent	44,860
Goodwill	Independent	39,765
Habitat ReStore	Independent	38,166
Grocery Outlet	Independent	5,660
HTR	Independent	2,997
Giveaway bulbs	Independent	1,584
Costco.com	Independent	10
		<b>3,011,377</b>

*PY9 LEDs  
by Retailer*



# Residential Program: EE Lighting

## PY9 Mix of Bulbs



# Baseboard Smart Thermostat Pilot

- Launched April 2017
- Intent of pilot was to evaluate the viability of programmable electric baseboard thermostats as a program
- **Goal** - 20 Participants
  - Electric baseboard with wall-mounted thermostats
  - Existing thermostat being replaced is manual (not programmable or smart)
- Original incentive was \$50, after 5 months and no uptake it was raised to \$75
- Email campaign to potential customers in September
  - 105 applications sent
  - 38 completed applications
  - Average number of units installed in each home - 5

# Connected Lighting Pilot

- Launched February 2018
- Intent of pilot was 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 purchased a kit.



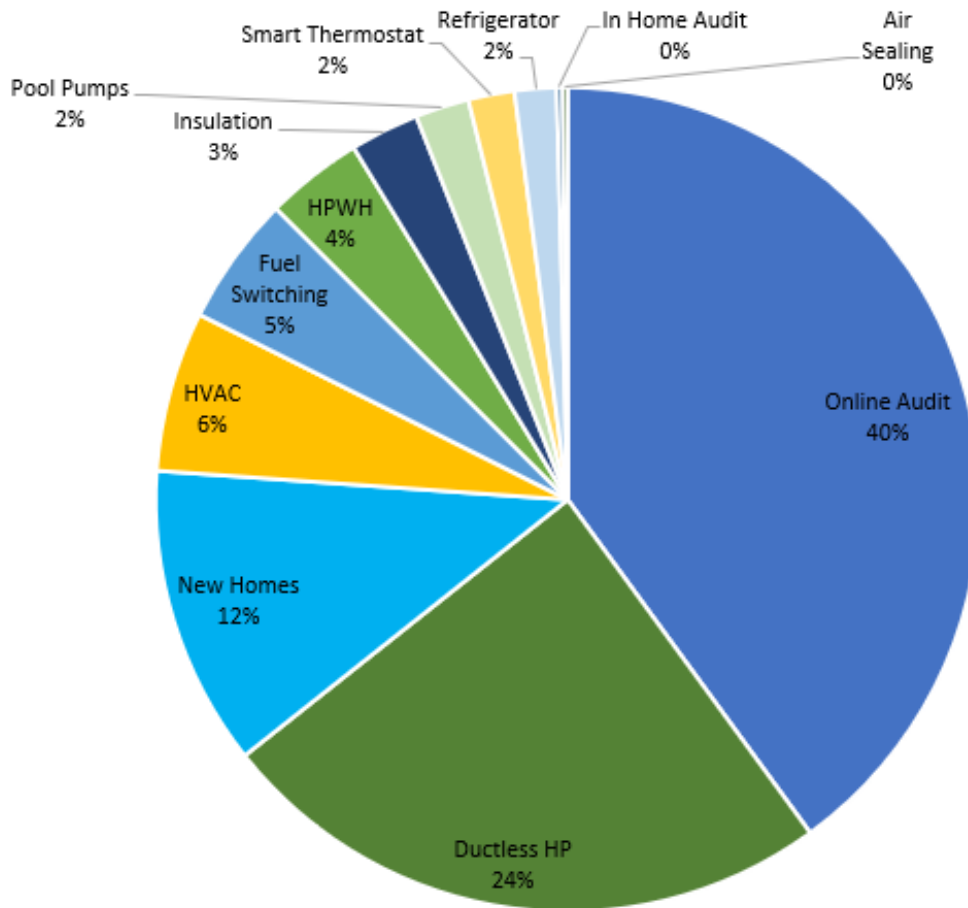
# Connected Lighting Pilot, cont.

- Throughout the pilot period, PPL collected information about usage and usability from participating customers, helping us better understand the impact of these technologies on future energy resource planning.
- Customers that met all the conditions of the pilot - leaving their products installed for six months and answering all three short surveys - are receiving a \$50 incentive. Approximately, 80 completed the pilot from the original 300.

# 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: 18,802 MWh/yr.
- Savings Achieved in PY9 doubled from PY8

# Residential Program: Energy Efficient Homes

- **PY9**
  - Online Assessment yielded the highest savings
  - Ductless HP continues as the most popular measure
- Online Assessment/In Home Audit - 23,201 kits
- Ductless HP: 3,838 units or 1,400 projects
- ASHP/CAC: 2,687 units

Measure Category	Total kWh/Year
Efficient Equipment	9,829,438
Online Assessment	6,397,908
New Homes	1,994,063
Weatherization	541,603
In Home Audit	39,238

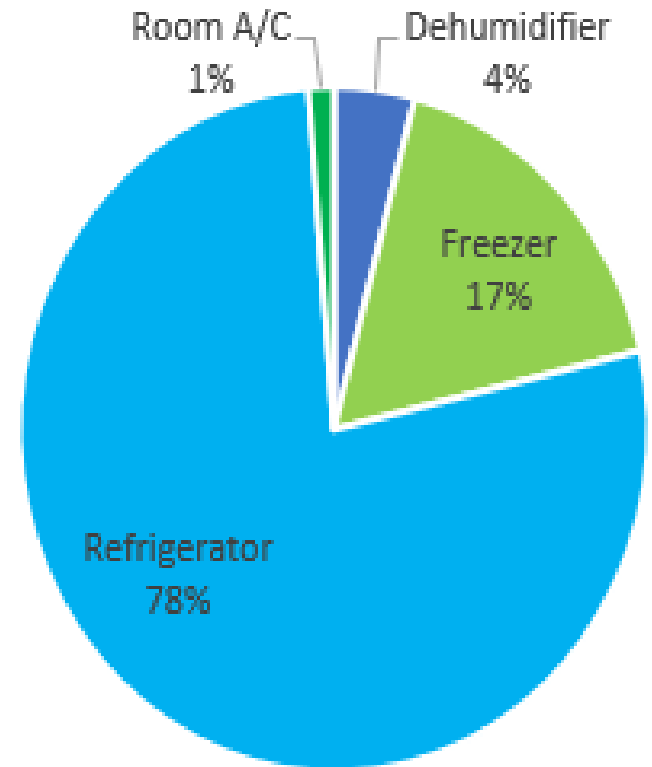
# Residential Program: New PY10 Pilots

- An **Instant Rebate** Pilot for heat pump water heaters was launched in November at Lowes locations and online
  - Customers validate their account information through a mobile-friendly website portal which generates a unique coupon code that reduces the purchase price of a qualified energy-saving product instantly at checkout
  - The pilot aims to demonstrate a cost-effective program design that eliminates additional steps traditionally required for rebate applications
- An **Online Marketplace** Pilot was launched on December 4
  - Web browser-based storefront that allows customers to order energy efficient products online
  - Incentives are applied directly to the energy efficiency products, and customers can see the pre-incentive price as well as the net customer price.

# 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

## PY 9 Community recycling event held September, 2017 PPL Lehigh Service Center - Allentown Used Room Air Conditioners and Dehumidifiers

### *Event Highlights:*

- **88** Participants
- **95** Room Air Conditioners
- **66** Dehumidifiers
- Nearly 70,000 kWh saved from the event's success
- Partnered with the Boy Scouts

# Recycling Roundup Event

**PY 10 Community recycling event held October 13, 2018  
Home Depot (Fruitville Pike, Lancaster)  
To Collect Used Room Air Conditioners and Dehumidifiers**

## *Event Highlights:*

- **231** Participants
- **333** Room Air Conditioners
- **115** Dehumidifiers
- Nearly 148,000 kWh saved from the event's success
- Partnered with the Girl Scouts



# Residential Program: Appliance Recycling



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# Residential Program: Appliance Recycling



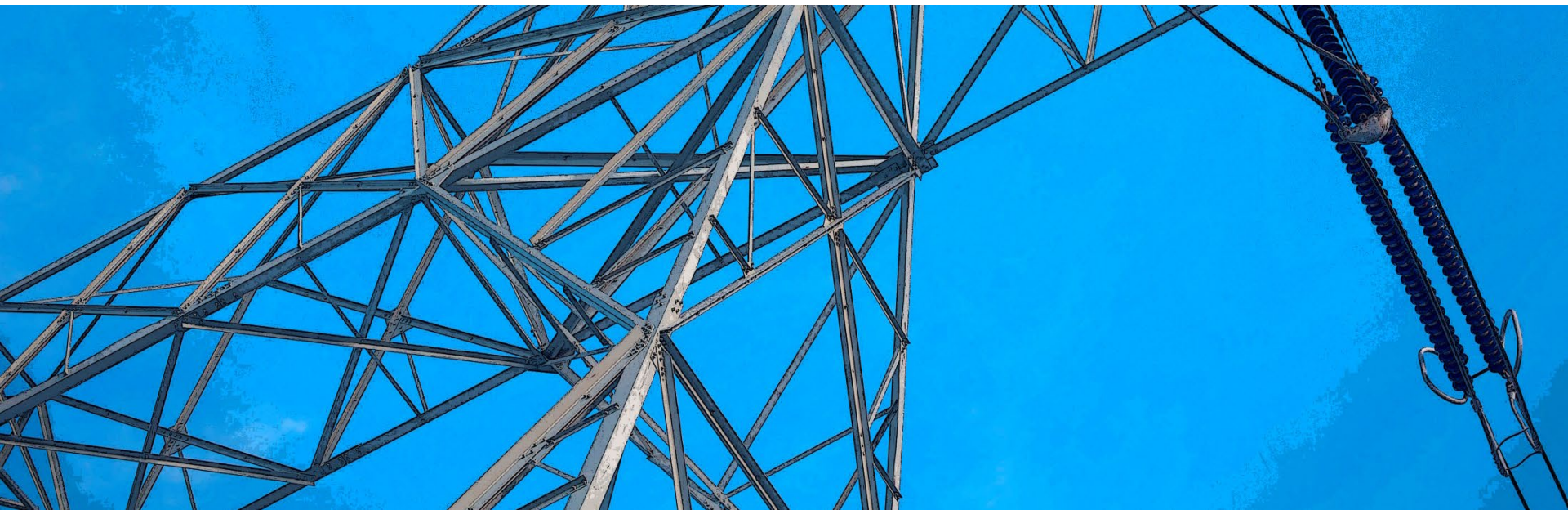
# Residential Program: Student Energy Education

- **Fully Subscribed** in PY9
- **24,000** Students
  - Bright Kids (2nd – 3rd Grade)
  - Take Action (5th – 7th Grade)
  - Innovation (9th – 12th Grade)
- Added a **New Augmented Reality App Pilot**
  - 436 kits distributed
  - Drive student/parent engagement and lead to higher installation rates
- Bringing back the poster contest in PY10

# 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 Refreshed in September - saw an 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
    - In September & November an A/B study was conducted by using nuanced language differences on the similar home comparison chart.

# Low Income Programs



# Low Income Program: Low Income WRAP

- **Goal:** 7,000 WRAP Jobs Per Year
- **Achieved:** More than 12,000\* Completed Jobs in PY 9
  - More than 10,500\* Jobs in PY10 thus far \* Included IMMF Jobs
- **Creating More Leads, Increased Marketing, Education**
  - Quick Track Programs & On-Track Auto-Enroll
  - Ran direct mail, email and SM campaigns
  - Tie in other income eligible programs →
  - Needed to Increase Savings Per Job
  - 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 II**
- **Increased Participation:**
  - 7,948 Units Completed; 1,344 Pending Availability and/or Scheduled
    - Phase II: 1,400 Completed in 3 Years
- **Single Point of Contact for Multi-Family Customers**
- **Master Meter Multi-Family Housing**
  - Jobs – 3,400 units
  - Total Buildings - 113 at 60 Facilities
  - Most Have Been in GNE, But Not All (approx. 76/24 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”
  - Planned Multi-Family Outreach
- **The Challenges**
  - Struggles with finding MMMF-SCI customers
  - Little Work Completed in the MF Common Space
  - Issues with Performance Contracts (ESCOs)

# Low Income Program: Low Income Kits & Education

- **Goal:** 8,000 Kits
- **Achieved:** More than 13,000 Kits in PY9
  - More than 11,500 kits in PY10 thus far
- **Increased Kits in PY9 to Help Make Up For WRAP Slow Start**
  - Will continue to Increase Kits and Will Phase Out in PY12
- **Very High CSAT (98%)**
- **Updated kits with more consistent measures in PY10**
- **Budget Is On Track**

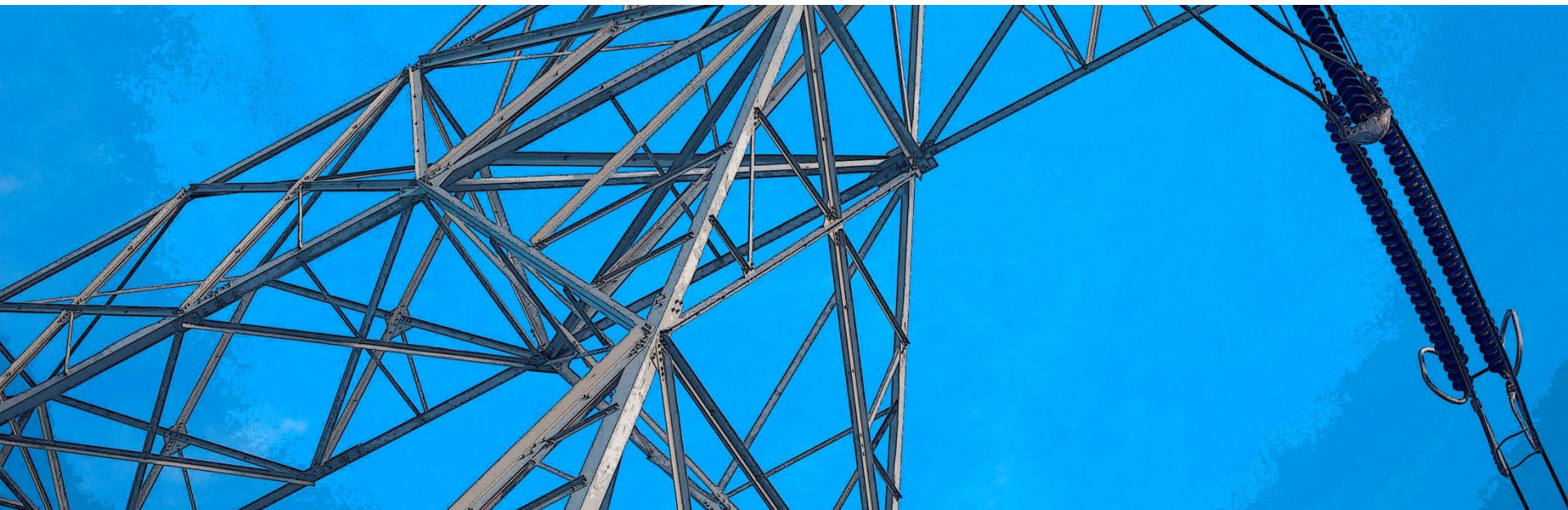
# Low Income Program: Lancaster Community Blitz

- **Labor Day Weekend in Lancaster**
  - Held Original Blitzes in Hazleton and Bethlehem
- **Promotes Energy Efficiency For The Entire Community, With A Focus On Low Income**
  - Targeted Eligible Low-Income Customers Through Direct Mail to the City of Lancaster
- **PPL Electric Partnered With an Existing Lancaster CAP Event**
  - Most successful event yet from customer experience and acquisition cost

# Low Income Program: Community Blitz



# Non-Residential Programs



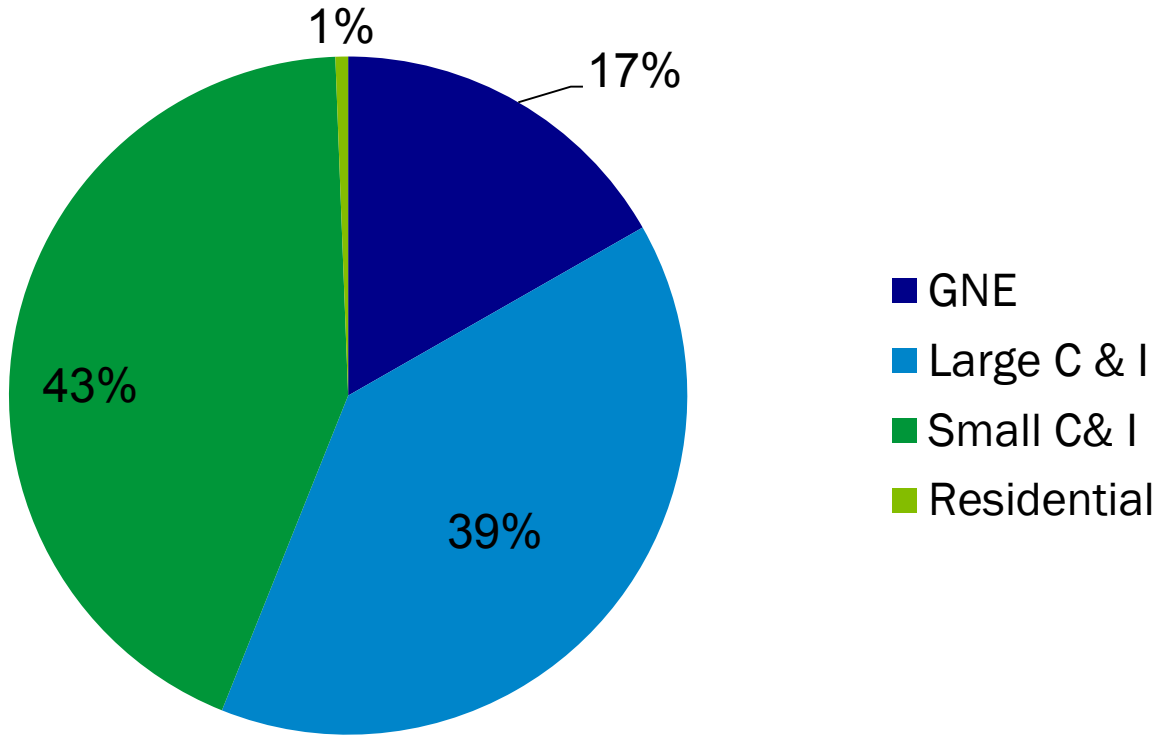
# Non-Residential Programs

- **Program Achievements**
  - **162,377 MWh/yr. *verified* energy savings PY9**
  - **GNE sector 27,188 MWh/yr. *verified* energy savings PY9**
  - Overall program satisfaction **95%**
  - 5,926 PY9 Projects
  - 4,685 Midstream Projects
  - Plan Change approved by PUC in November 2018

# Non-Residential Programs



## Energy Savings by Sector for PY9



# Non-Residential : Efficient Equipment

## Verified Details:

- PY8 Savings
  - 70,917 MWh/yr.
- PY9 Savings
  - 115,994 MWh/yr.

## Plan Year 9 by Project Type:

- Lighting (includes both prescriptive and direct install)
  - 1009 Projects
  - 112,402 MWh/yr.
- Equipment
  - 116 Projects
  - 3,592 MWh/yr.



# Non-Residential : Midstream

## Verified Details:

- PY8 Savings \*\*PY8 savings were verified in PY9
  - 1,917 MWh/yr.
- PY9 Savings
  - 15,915 MWh/yr.

## Plan Year 9 for Midstream:

- 4,685 Projects
- 15,915 MWh/yr.
- 24 Distributors, 96 locations

# Non-Residential : Custom

## Verified Details:

- PY8 Savings
  - 46,368 MWh/yr.
- PY8 Savings \*\*3 PY8 projects were verified in PY9
  - 24,372 MWh/yr.
- PY9 Savings
  - 29,827 MWh/yr.

## Plan Year 9 for Custom:

- 100 Projects
- 29,827 MWh/yr.  
(Included 1 CHP project)

# Non-Residential : CEI

## Verified Details:

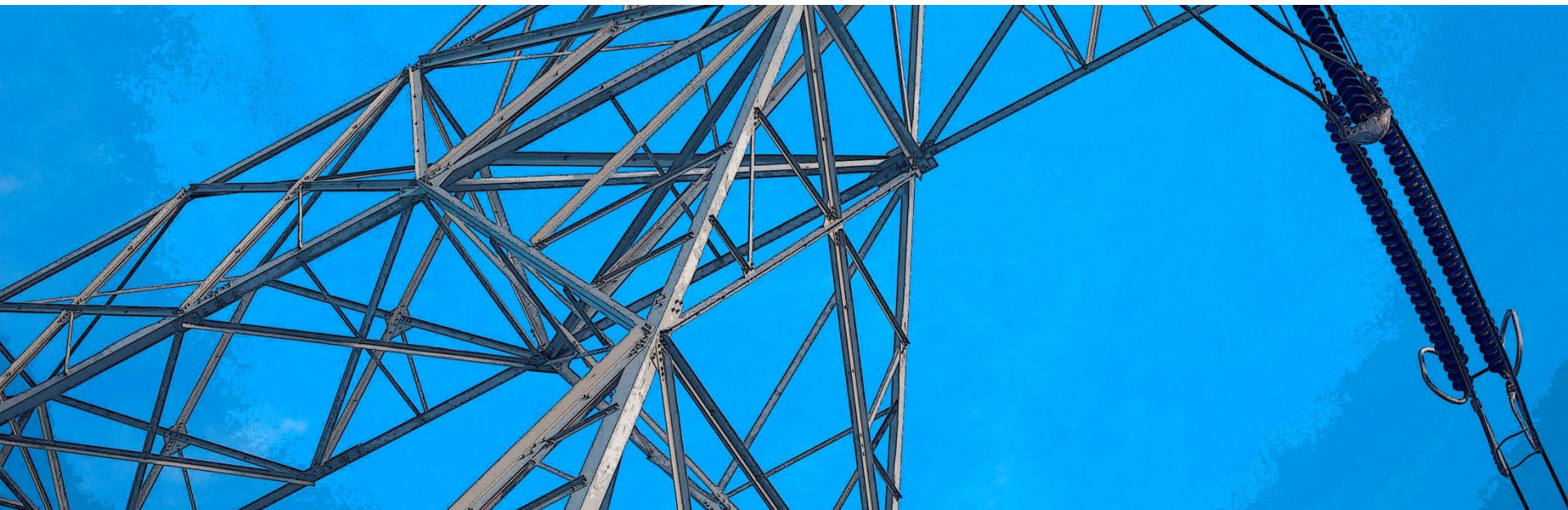
- PY9 Savings
  - 641 MWh/yr.
- 4 School Districts
- 17 Participating Schools
  - 9 Elementary Schools
  - 4 Middle Schools
  - 4 High Schools
- **100% satisfaction** with the program

## MWh Savings Verified\*

Sector	MWh/yr	MWh Goals	% of Goal
LCI	126,369	297,000	43%
SCI	107,518	312,810	34%
GNE	70,845	201,000	35%
<b>Total</b>	<b>305,950</b>	<b>810,810</b>	<b>38%</b>

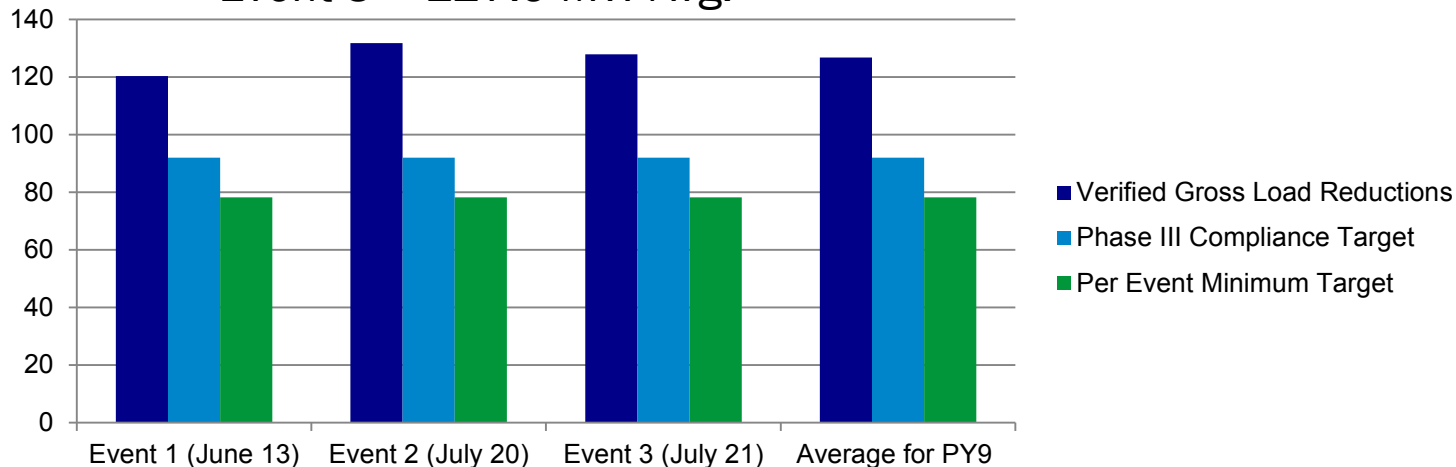
\* Verified savings thru PY9 by sector

# 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

- Demand Response PY10 Season

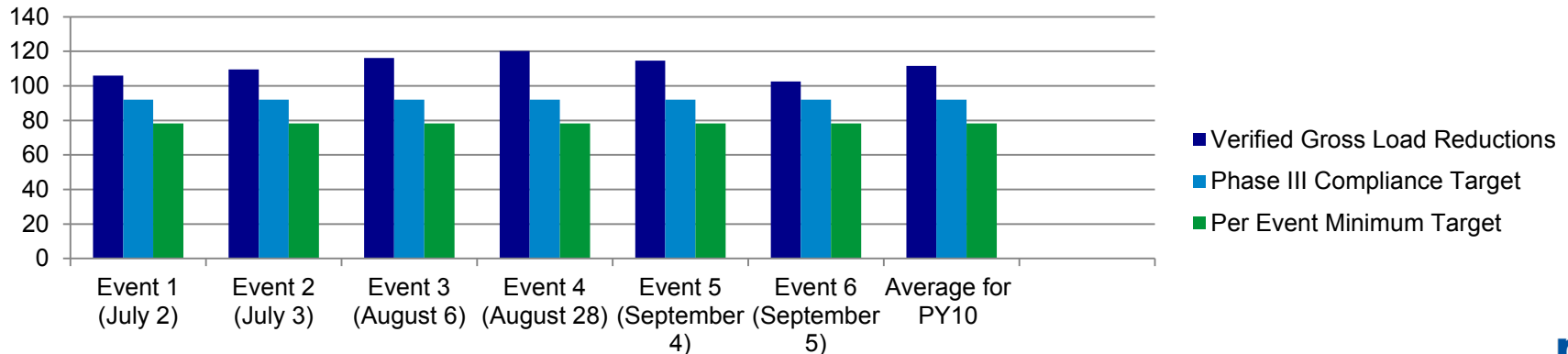
- We Met All PY10 Targets

- Results - 111.5 MW Avg.

- Maximum of 6 Events Called

- Event 1 – 105.9 MW Avg.      Event 4 – 120.2 MW Avg.
- Event 2 – 109.5 MW Avg.      Event 5 – 114.6 MW Avg.
- Event 3 – 116.2 MW Avg.      Event 6 – 102.6 MW Avg.

- New Cumulative Average - 116.5 MW Avg.





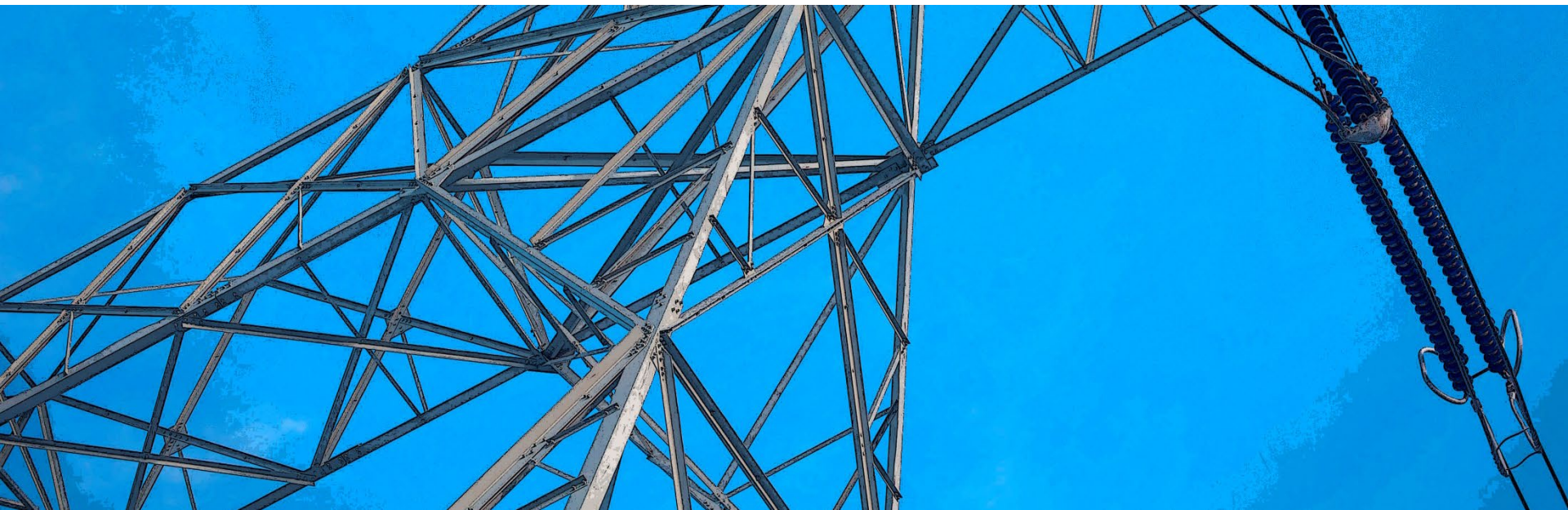
# Demand Response Program

- **Challenges Remain**
  - Few Customers with Large Amounts of the Portfolio
    - Challenging To Always Confirm Each Customer's Intent To Participate In An Event
    - Major Customers Did Not Always Bring Full Commitment
  - 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

# Contacts

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Questions? Comments?



Thank you! Drive Safe!

