



# Fourth Quarter 2017 Performance

Presentation by the PAs to the EEAC

February 28, 2018



BLACKSTONE  
GAS COMPANY



Columbia Gas  
of Massachusetts  
A NiSource Company

EVERSOURCE



nationalgrid  
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# Introduction



- Q4 results are preliminary and subject to change due to:
  - Quality control/clean-up
  - Application of evaluation results
- Final 2017 results will be filed with the D.P.U. in each PA's 2017 Plan-Year Report

# 2017 Comparison to 2015 and 2016 Q4 YTD



## Electric

	2015		2016		2017	
Lifetime MWh	18,038,690	130%	14,056,408	110%	14,163,025	106%
Annual MWh	1,472,727	116%	1,556,020	113%	1,574,249	115%
Spending	\$547,329,370	105%	\$534,644,852	89%	\$529,191,850	85%
Benefits	\$2,853,156,537	120%	\$2,254,965,521	110%	\$2,117,290,650	102%

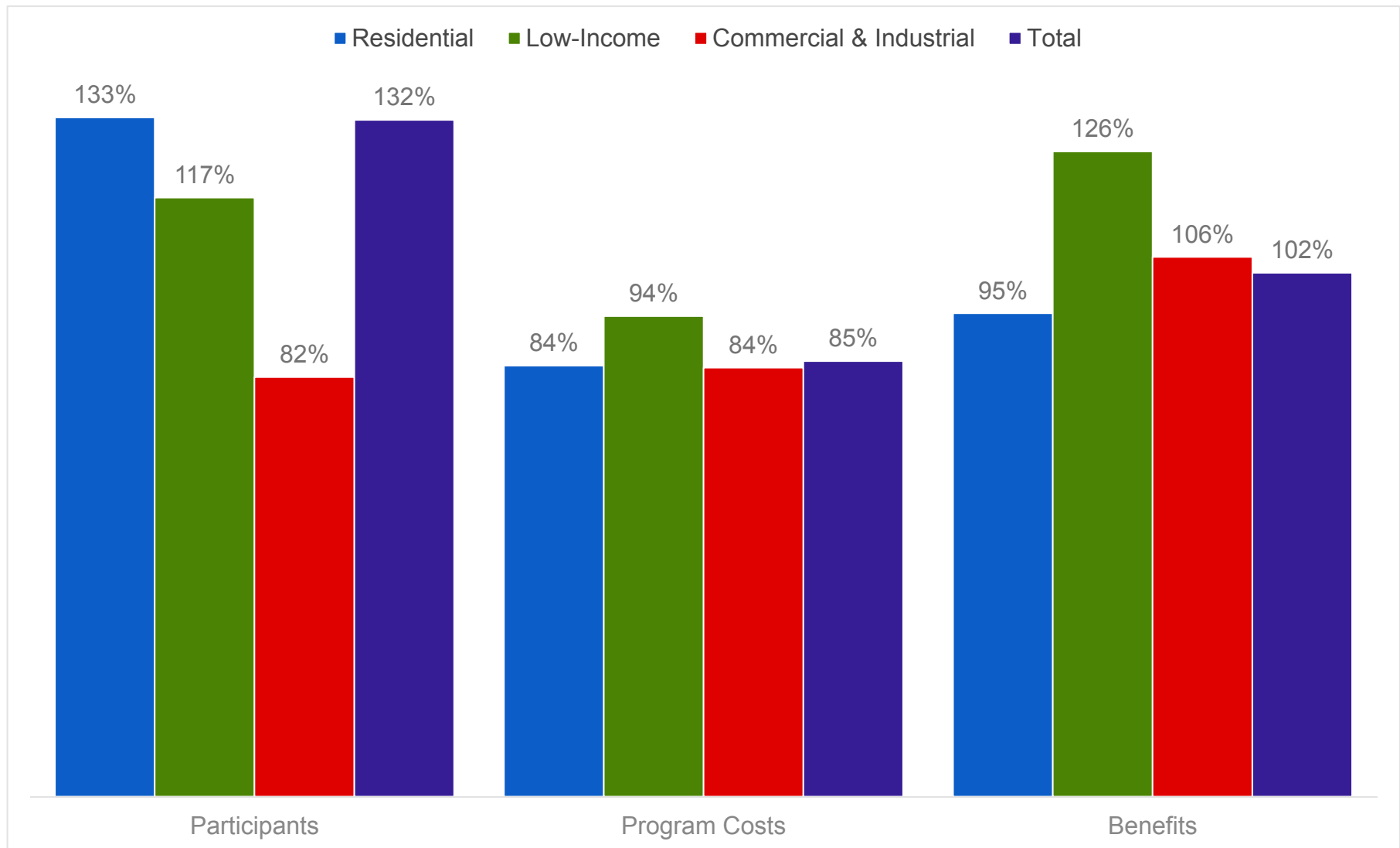
## Gas

	2015		2016		2017	
Lifetime therms	363,099,540	113%	394,523,247	105%	368,345,795	97%
Annual therms	25,897,159	104%	28,424,004	101%	26,621,107	93%
Spending	\$185,531,954	103%	\$201,826,007	93%	\$205,089,544	92%
Benefits	\$568,691,588	119%	\$584,929,896	107%	\$572,111,131	105%

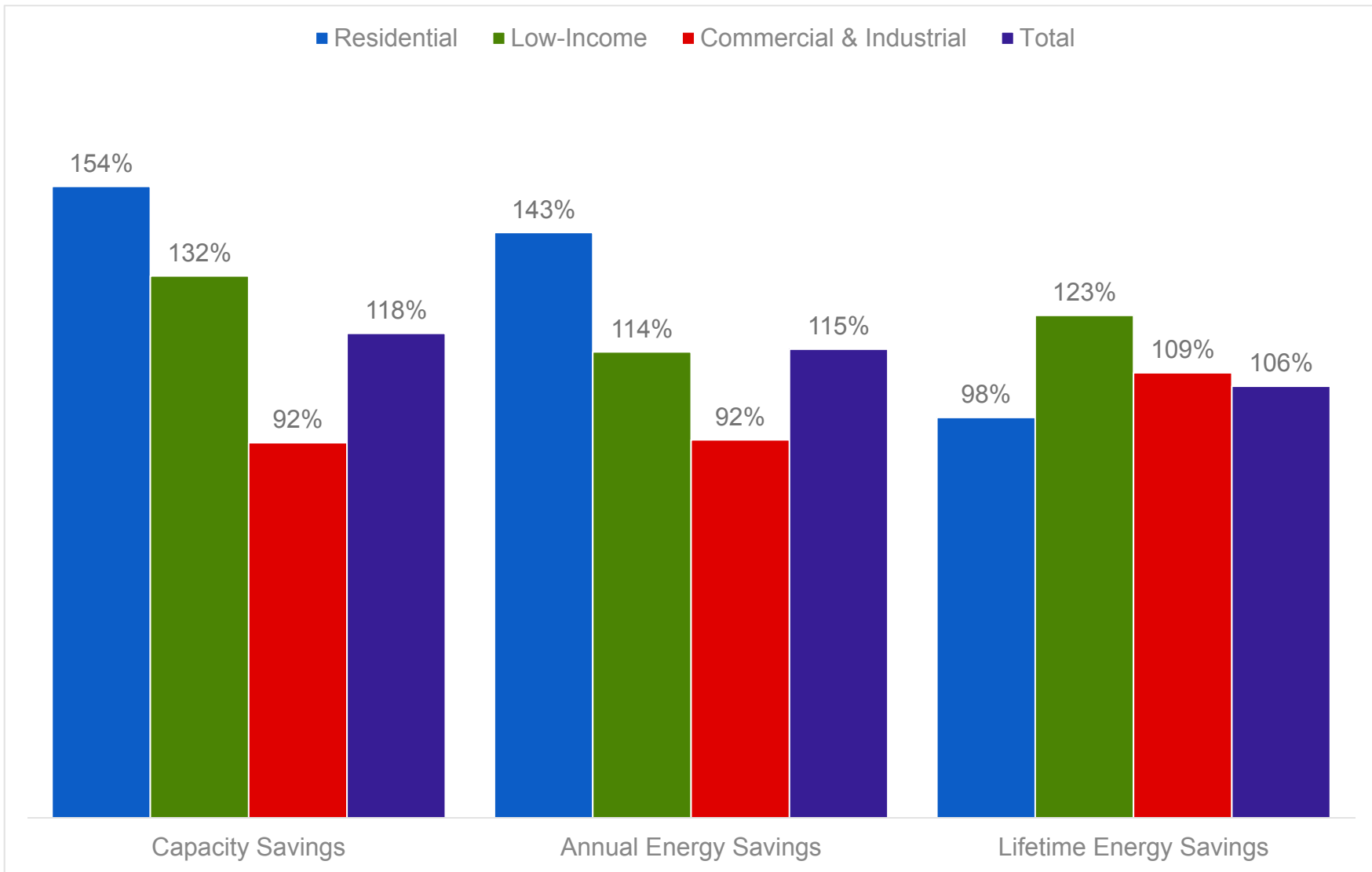


# Q4 Electric Performance

# Statewide Achievements as Percent of 2017 Planned Goal (12/12 Months) 100% of plan year



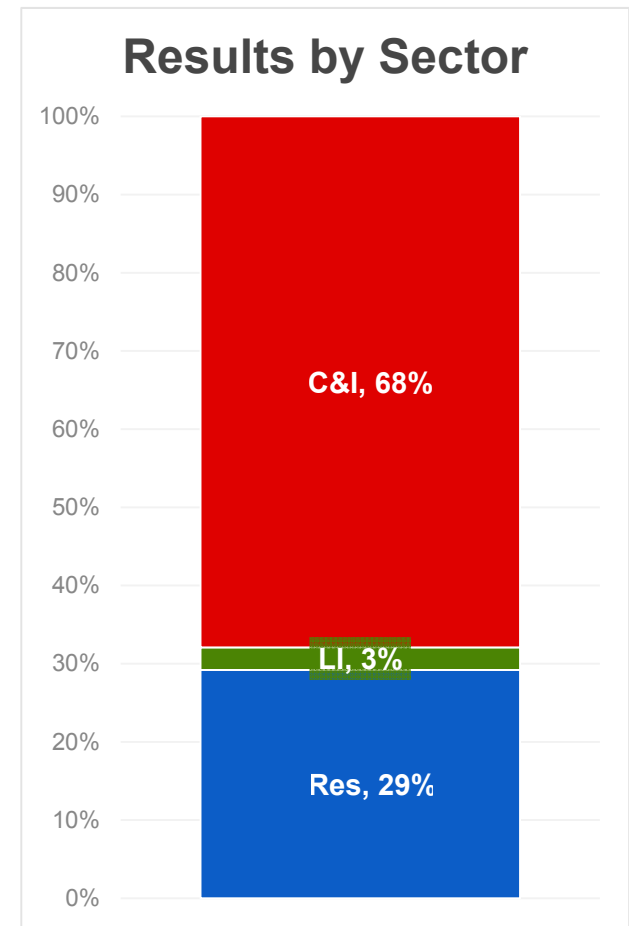
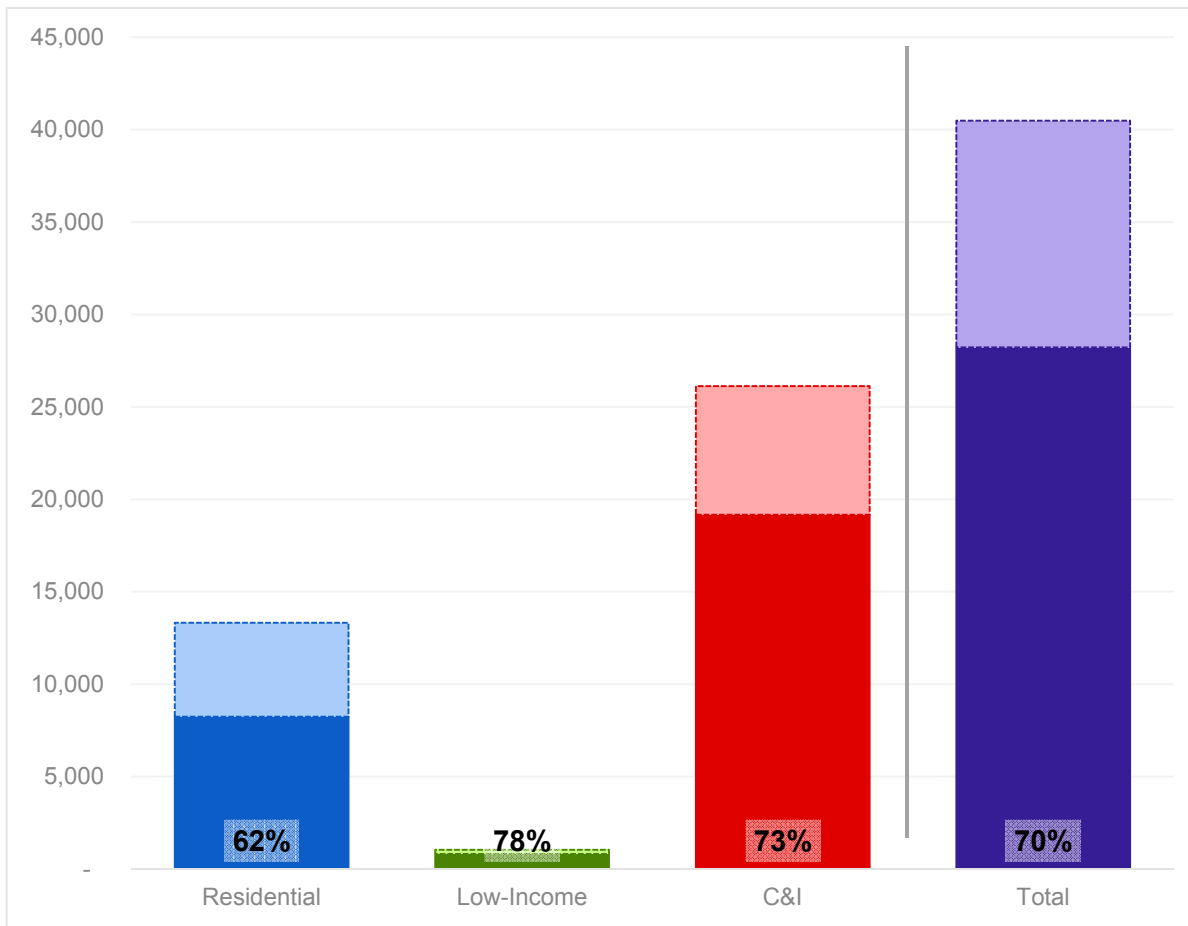
# Statewide Achievements as Percent of 2017 Planned Goal (12/12 Months) 100% of plan year



# Electric Cumulative Lifetime Savings



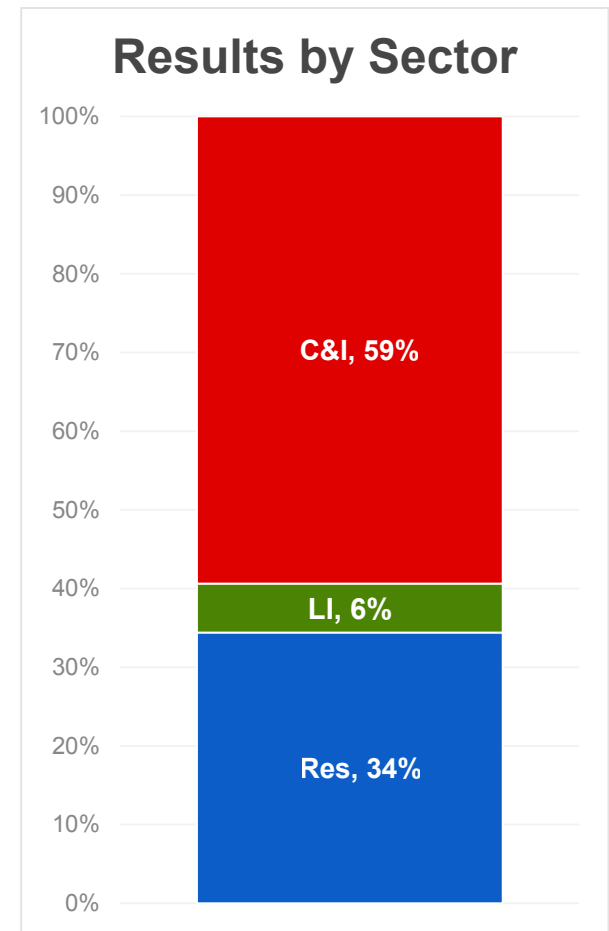
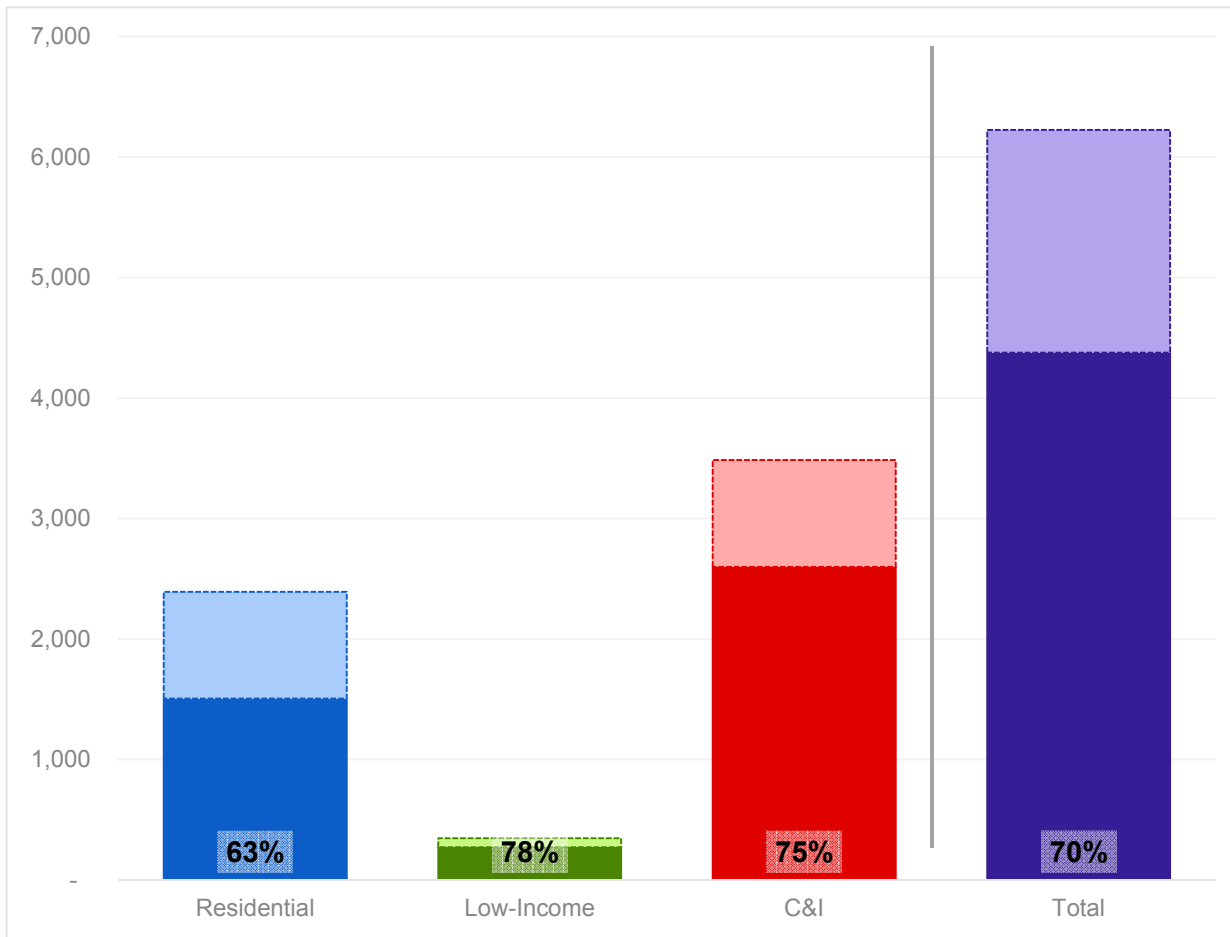
Cumulative Statewide Achievements as Percent of 2016-2018 Planned Goal (24/36 Months) 66% of Term



# Electric Cumulative Total Benefits

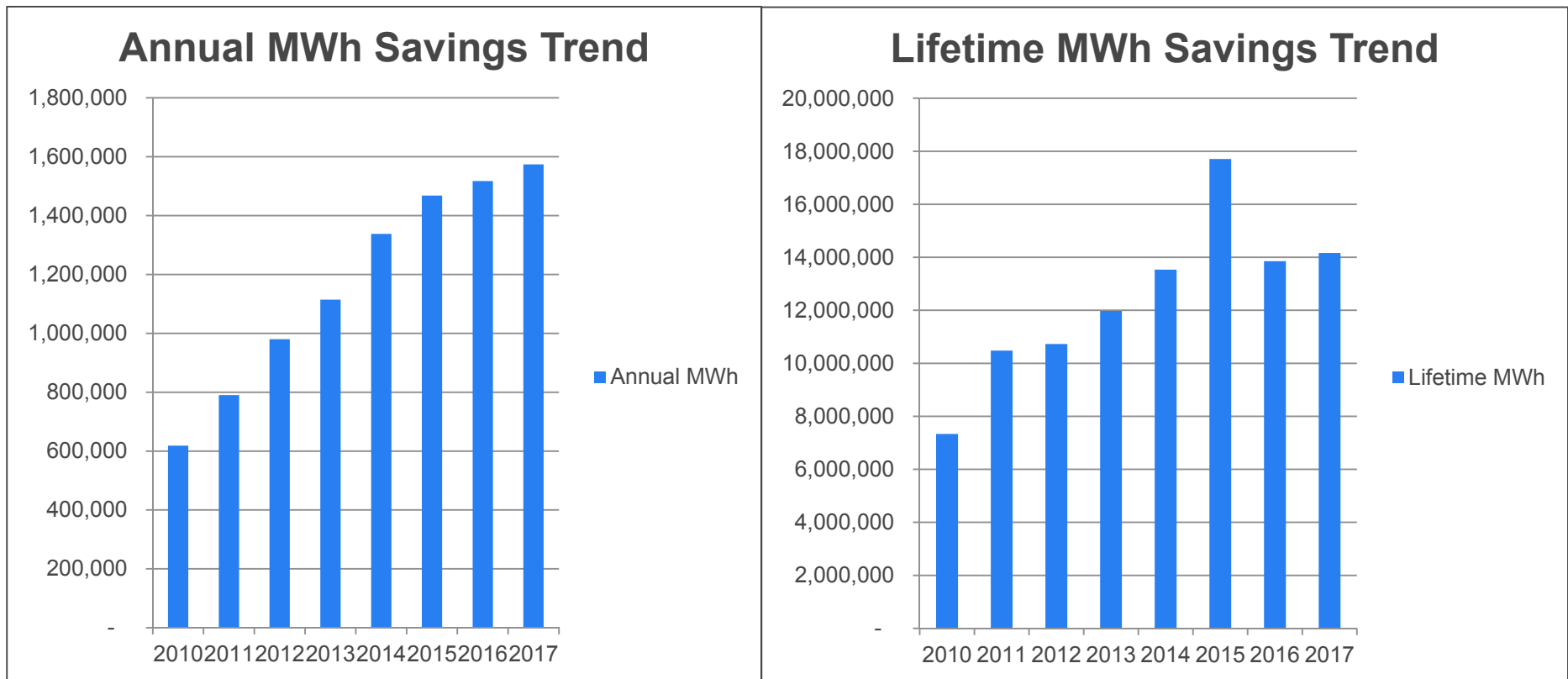


Cumulative Statewide Achievements as Percent of 2016-2018 Planned Goal  
(24/36 Months) 66% of Term





# Impact of Lighting Changes to Portfolio Savings Trends



Despite highest-ever Annual savings, Lifetime savings are only slightly above 2014; this will be 'new normal' as lighting measure lives continue to decrease.

# Low-Income Electric Performance



- PAs exceeded all low-income targets for the electric portfolio in 2017
  - Participation: 117% to goal
  - Annual MWh: 114% to goal
  - Lifetime MWh: 123% to goal
  - Total Benefits: 126% to goal

# C&I Electric Performance

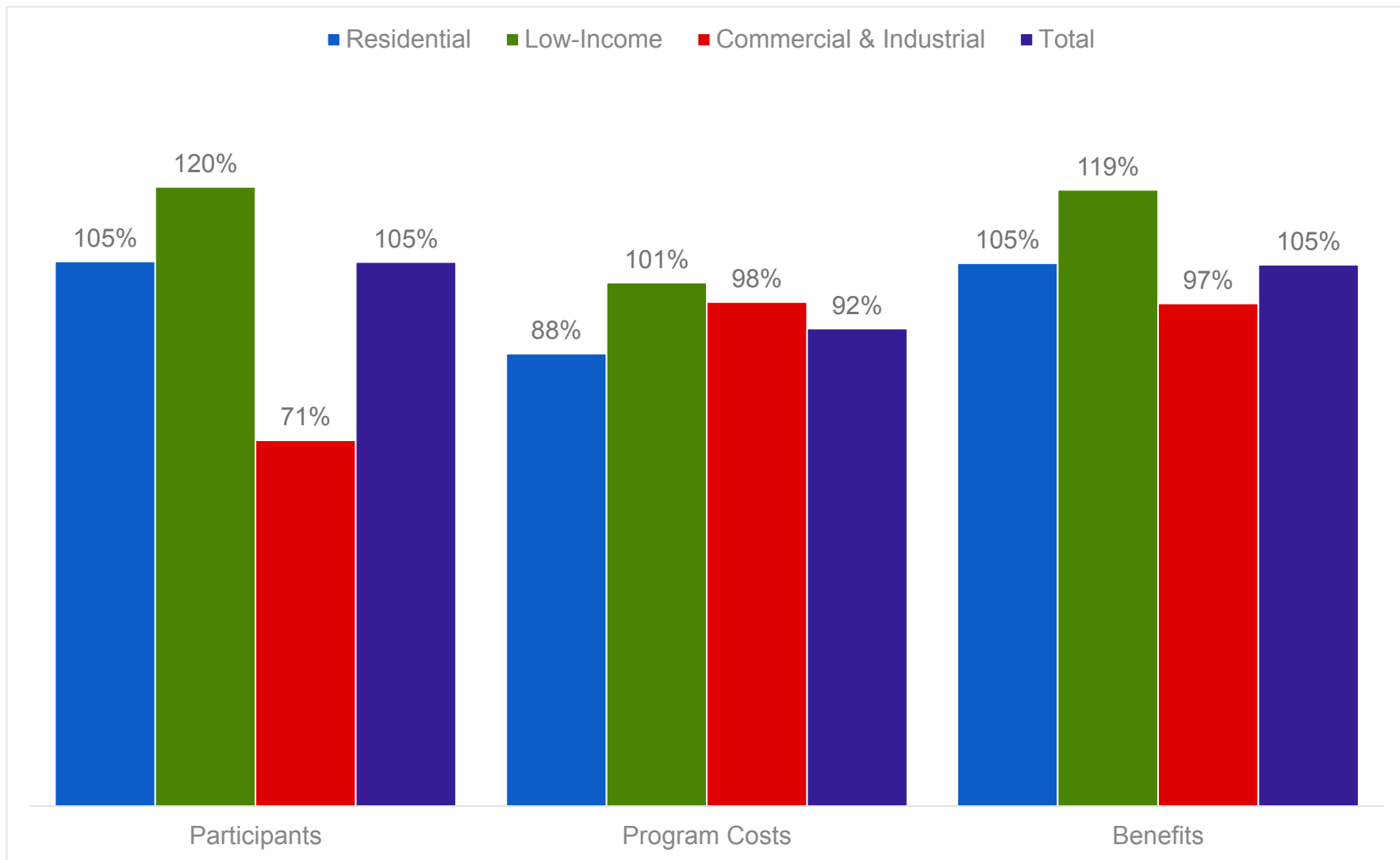


- C&I electric performance exceeded Lifetime MWh and Total Benefits performance for 2017
  - Annual MWh: 92% to goal
  - Lifetime MWh: 109% to goal
  - Total Benefits: 106% to goal
- Lifetime performance to goal exceeded annual performance to goal due to longer measure life measures being installed than were originally planned for
  - Likely the largest driver was the decrease in proportion of screw-in lighting via the Upstream delivery pathway since other measures have much longer lives

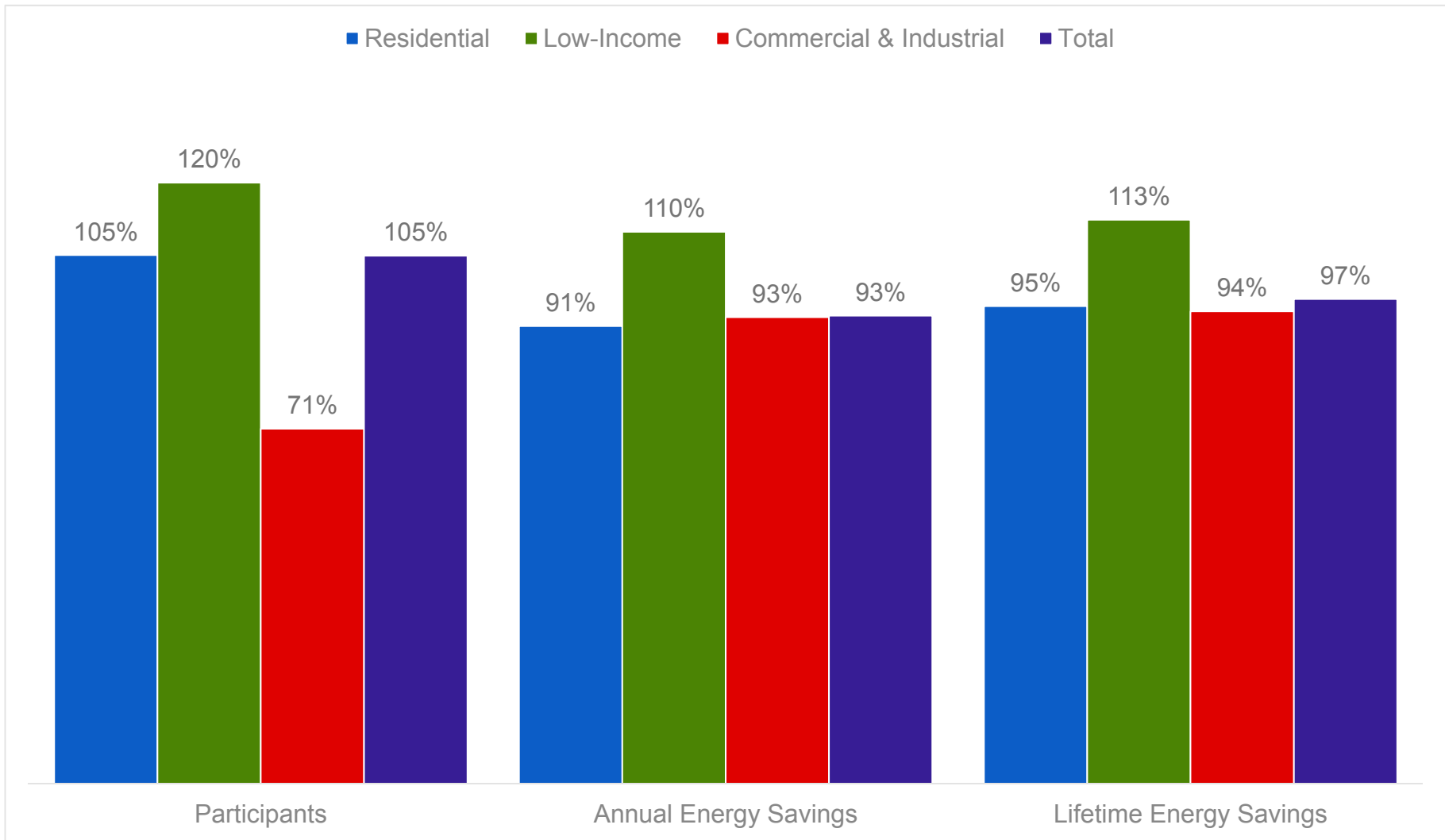


# Q4 Gas Performance

# Statewide Achievements as Percent of 2017 Planned Goal (12/12 Months) 100% of plan year



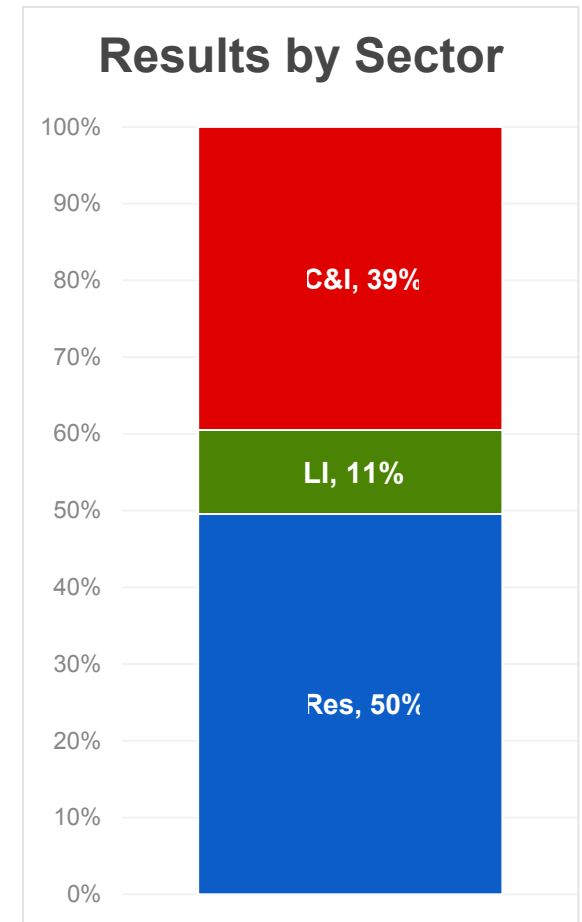
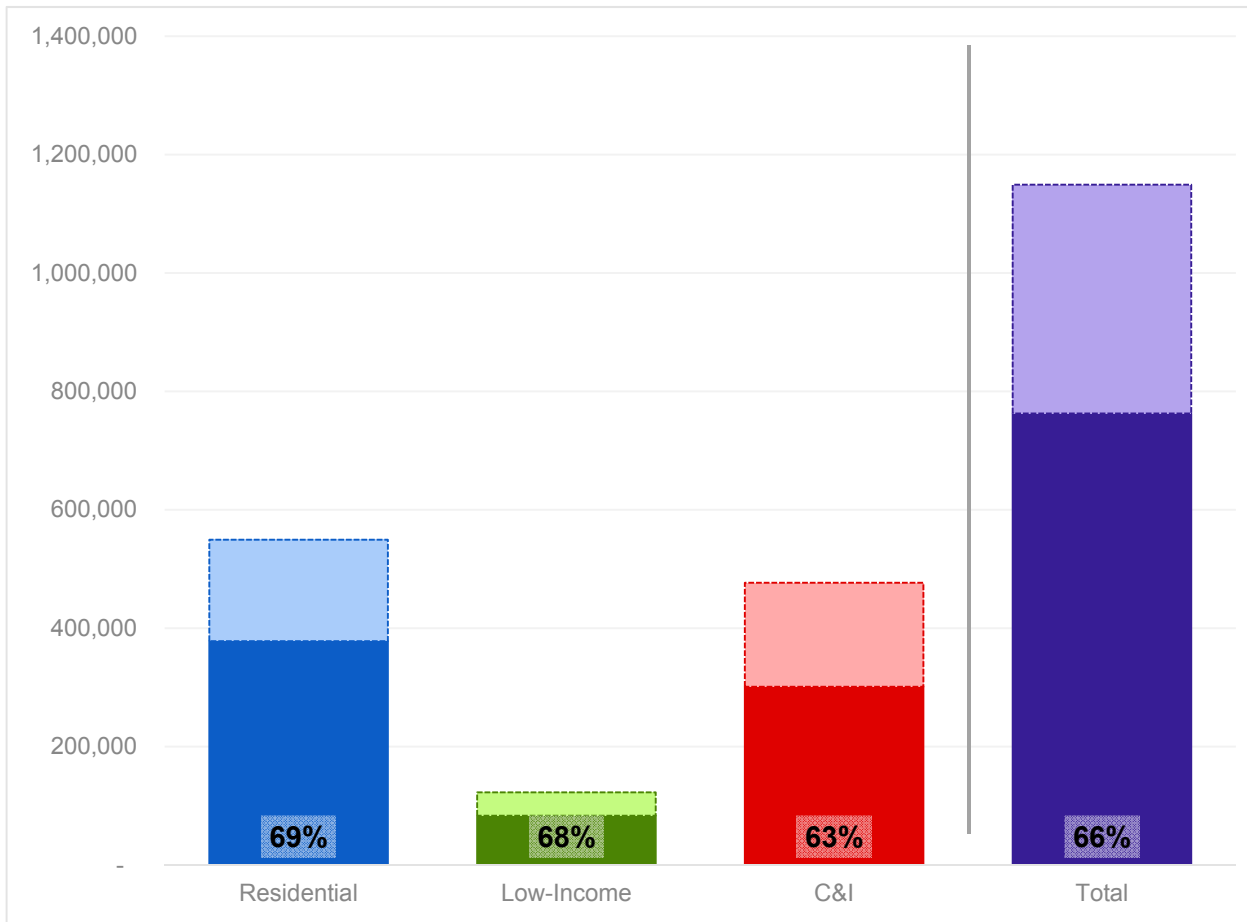
# Statewide Achievements as Percent of 2017 Planned Goal (12/12 Months) 100% of plan year



# Gas Cumulative Lifetime Savings



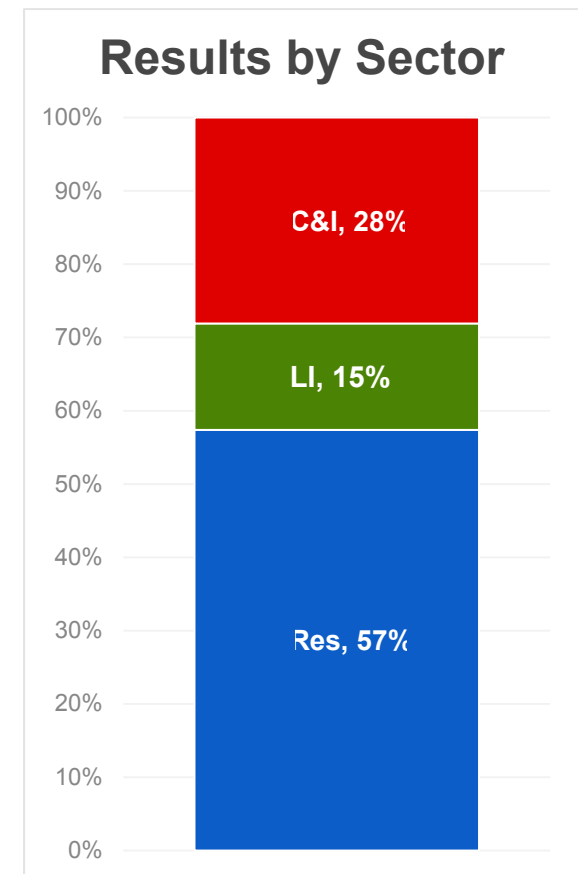
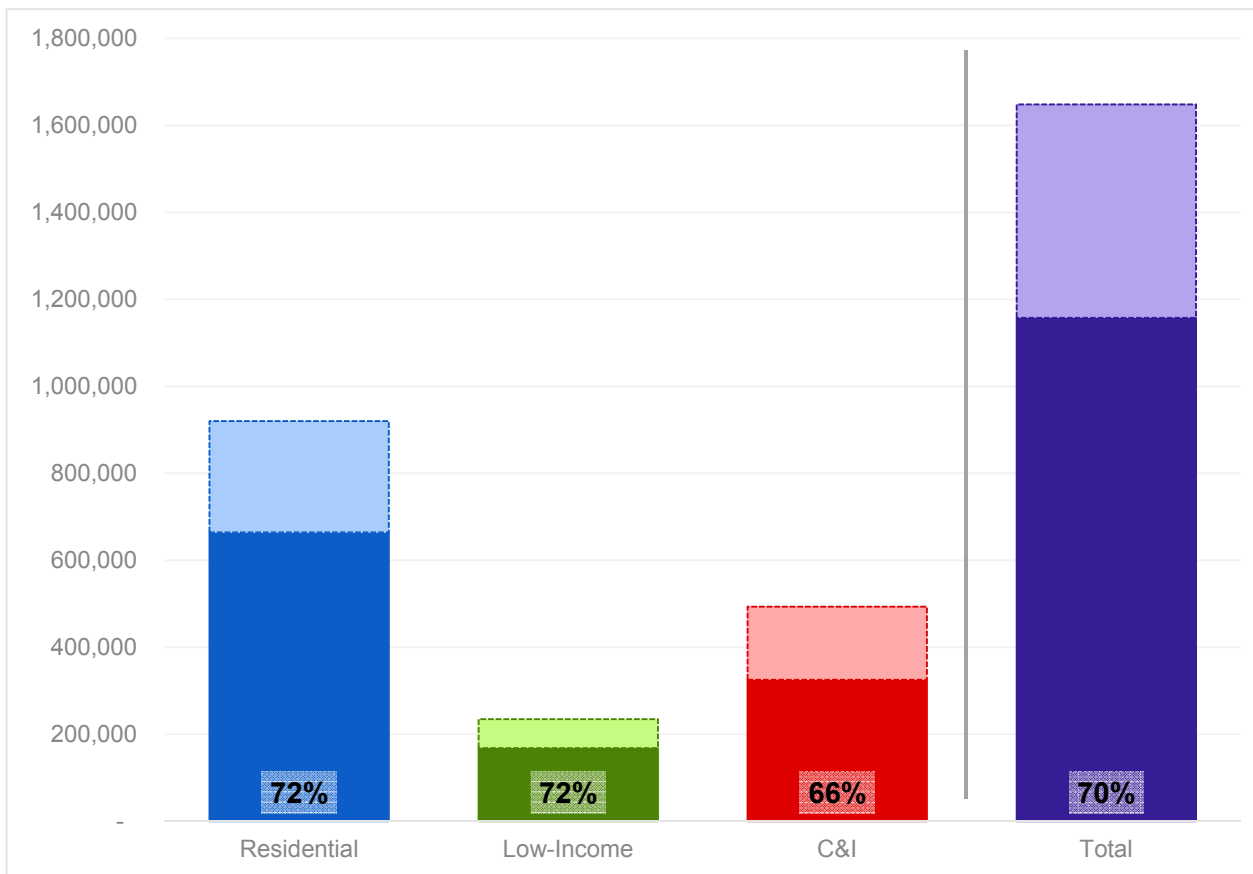
## Cumulative Statewide Achievements as Percent of 2016-2018 Planned Goal (24/36 Months) 66% of Term



# Gas Cumulative Total Benefits



## Cumulative Statewide Achievements as Percent of 2016-2018 Planned Goal (24/36 Months) 66% of Term





# Low-Income Gas Performance



- PAs exceeded all low-income targets for the gas portfolio in 2017
  - Participation: 120% to goal
  - Annual therms: 110% to goal
  - Lifetime therms: 113% to goal
  - Total Benefits: 119% to goal
- An increase in targeted marketing led to the PAs exceeding low-income goals

# Greenhouse Gas Reductions



## Three-Year Cumulative Greenhouse Gas Emissions Reductions (January 1, 2016 through December 31, 2017) 24/36 months; 66% of term complete

Sector	Net Annual Energy (MWh)	Net Annual Natural Gas (Therms)	Net Annual Oil (MMBTU)	NOX	SO2	CO2
<b>2016-2018 Planned</b>	<b>4,151,386</b>	<b>58,446,676</b>	<b>567,471</b>	<b>838</b>	<b>407</b>	<b>2,165,214</b>
A - Residential	1,767,618	34,900,670	826,732	401	195	1,076,556
B - Low-Income	120,239	6,193,762	284,777	22	11	106,837
C - Commercial & Industrial	2,263,529	17,352,244	(544,038)	415	202	981,821
<b>Cumulative Plan-Term to Date (Q4 2017)</b>	<b>3,154,299</b>	<b>32,907,388</b>	<b>(186,581)</b>	<b>607</b>	<b>295</b>	<b>1,468,991</b>
A - Residential	1,520,826	18,763,073	53,014	314	152	755,906
B - Low-Income	92,270	4,200,853	152,232	17	8	73,344
C - Commercial & Industrial	1,541,202	9,943,462	(391,826)	276	134	639,741
<b>Cumulative Plan-Term to Date % of Planned</b>	<b>76%</b>	<b>56%</b>	<b>-33%</b>	<b>72%</b>	<b>72%</b>	<b>68%</b>
A - Residential	86%	54%	6%	78%	78%	70%
B - Low-Income	77%	68%	53%	77%	77%	69%
C - Commercial & Industrial	68%	57%	72%	67%	67%	65%



# CHP Update

# CHP Completed Projects and 2018 Pipeline – Updated from August EEAC



	Category	Count	MW	MWh (annual)	MWh (lifetime)	Incentives
<b>STATEWIDE TOTAL</b>	<b>Under Construction for 2018 completion</b>	21	16.22	121,562	1,823,274	\$15,009,343
	<b>Completed/Paid thru Q4 2017</b>	28	19.70	138,267	2,406,298	\$18,039,438
	<b>TOTAL</b>	49	35.92	259,829	4,229,572	\$33,048,781
	<b>Under Construction for 2018 completion (% change from July 2017)</b>	3.8%	27.9%	55.0%	19.6%	7.8%
	<b>Completed/Paid thru Q4 2017 (% change from July 2017)</b>	40.0%	59.5%	67.8%	44.6%	89.2%
	<b>TOTAL (% change from July 2017)</b>	21.9%	43.5%	61.5%	32.7%	40.9%
Program Plan	<b>3 Yr Plan Commitment - Statewide</b>	-	21.43	185,282	3,593,803	\$26,003,544
% of Statewide 3yr Plan	<b>Completed/Paid 2017 + Under Construction</b>	n/a	168%	140%	118%	127%

## Category Definitions

**Under Construction:** Customer has started work on the project (e.g., equipment has been ordered, contracts with engineers have been executed, etc.) – values weighted by probability of completion

**Completed/Paid:** The project has been installed and at least some incentives have been paid thru Q4 2017

# Key EEAC Priority Updates

# Priority 1: 2016-2018 Plan Priorities



- PAs continued to focus on incorporating lighting controls within the multiple C&I program channels by training engineers, consultants, and energy managers on their intricacies and potential.
- PAs introduced Variable Refrigerant Flow (“VRF”) equipment to the C&I Upstream HVAC Initiative to provide customers with increased choice in high efficiency equipment.
- Eversource and National Grid hosted a Combined Heat and Power Industry Summit where DOER shared information for vendors, manufacturers, developers, contractors, and engineers conducting business in the CHP Industry.
- MTAC recommended a new duct sealant for program consideration that can achieve 75%+ reductions in duct leakage.
- PAs conducted a promotion of communicating thermostats, leading to a sale of 11,000 thermostats statewide through the Mass Save® online store during the promotional period.

## Priority 3: Equitable customer participation



- PAs worked with LEAN to explore additional opportunities to serve moderate income customers with LEAN's network.
  - Eversource and National Grid are implementing a trial that leverages the expertise of LEAN and CAP agencies.
  - Up to 150 qualified moderate income households in the designated territories will be included.
  - The trial will be testing the LEAN/CAP "project manager" model, the overall impact of fully facilitated services to the cost of participation for customers and how this compares to HES, cost-effectiveness, overall customer satisfaction with the model, and LEAN/CAP capacity to serve this segment.
- PAs continued to serve a diverse range of customers, such as providing energy-saving lighting and heating improvements to the Dakin Humane Society (a community-supported animal welfare organization that provides shelter and animal care services to more than 20,000 animals each year).

# Priority 5: Integrated Approach to Demand Side Management



- The November EEAC Meeting focused on Demand Response, including a statewide overview update, Eversource-specific active demand management update, active demand reduction cost-effectiveness considerations, and demand response considerations in PA Potential studies.
- On October 30, 2017, the Department issued Orders addressing the proposed Eversource and Unitil Demonstration Offerings, which the Council supported in its October 2016 Resolution.
- In 2017, National Grid and Cape Light Compact implemented their approved demonstrations.
  - The National Grid C&I demo had 98 participants enrolled, constituting about 20 MW.
  - For residential demos, National Grid enrolled about 4,800 thermostats (about 2 MW) and the Compact enrolled 40 participants (22 thermostats and 18 mini-splits).
  - Some preliminary values are included in the PAs' respective November EEAC presentations.
  - Evaluation of National Grid's C&I and Residential DR programs is underway with expectations of completion in the first quarter of 2018.



# Thank you

