

# 2019 Plan-Year Report Performance

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# Statewide 2019 Highlights



## Engage

- Residential Community Partnerships
- Development of in language marketing

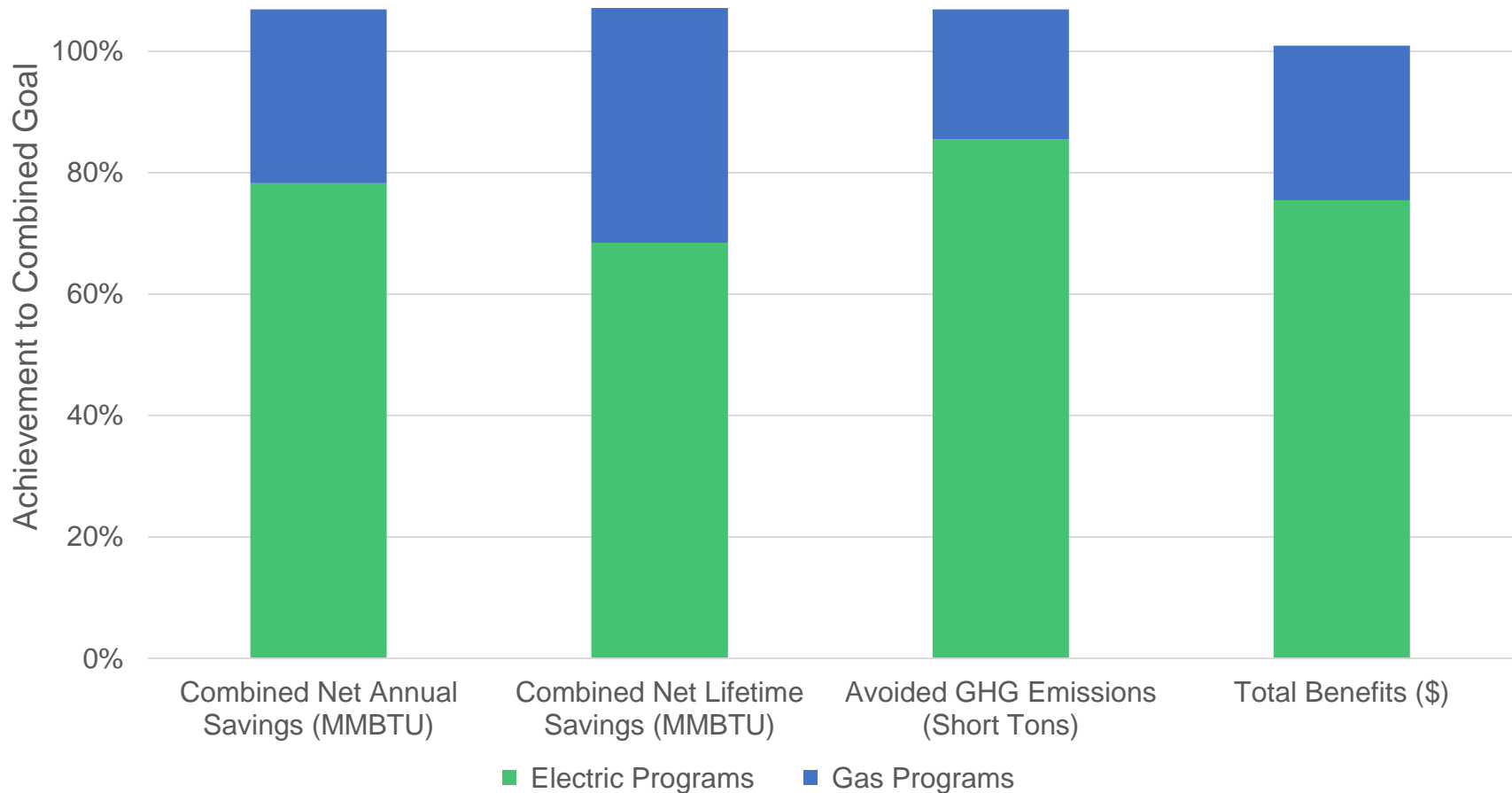
## Innovate

- Demand Reduction (including daily dispatch demonstration)
- Deployment of Energy Optimization
- Deployment of instant rebates and energy savings packages
- Passive House

## Educate

- Prioritized educating customers who received a HEA about their energy consumption and their options for retrofitting their heating systems as part of the Energy Optimization framework
- Residential & C&I heat pump education and trainings for contractors

# Combined Electric & Gas Performance to Goal



# Electric Performance

# Electric Performance



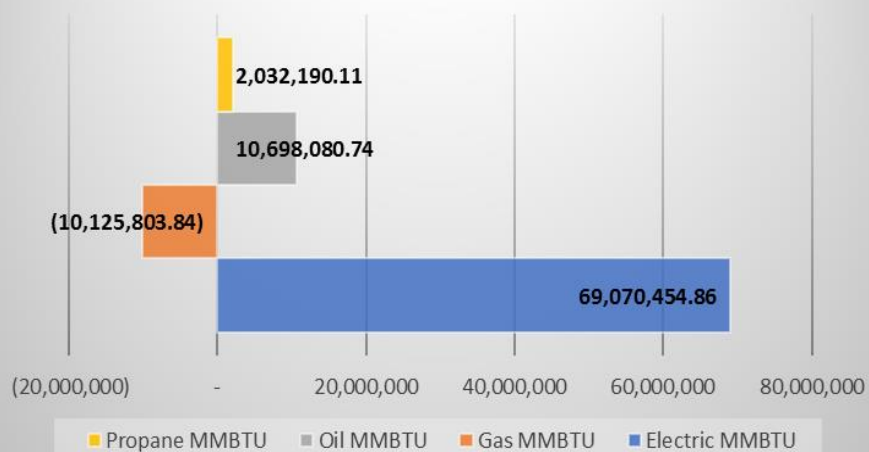
Electric	Goal	Achieved/Spent	Percent to Planned
Annual Savings (MWh*)	1,137,456	1,199,409	105%
Lifetime Savings (MWh*)	10,813,239	10,279,191	95%
Lifetime Savings (MMBTU)	72,512,848	71,674,924	99%
Passive Summer kW	163,646	179,970	109%
Active Summer kW	101,989	86,574	85%
Benefits (\$)	\$2,206,080,303	\$2,237,072,196	101%
Expenditures (\$)	\$634,753,785	\$620,487,409	98%

\* Annual and Lifetime MWh are presented as MWh savings with no fuel switching or active demand response as seen in the PAs data tables

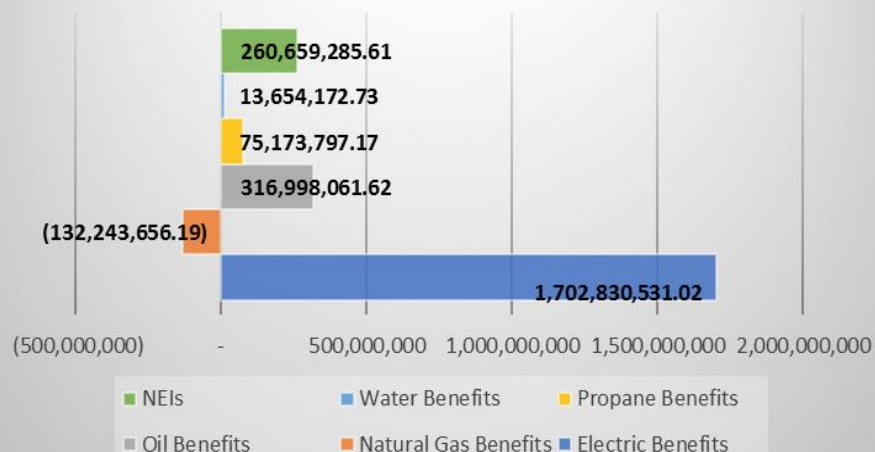
# Electric Portfolio MMBTU & Benefits



## Portfolio MMBTU Savings



## Portfolio Benefit Streams



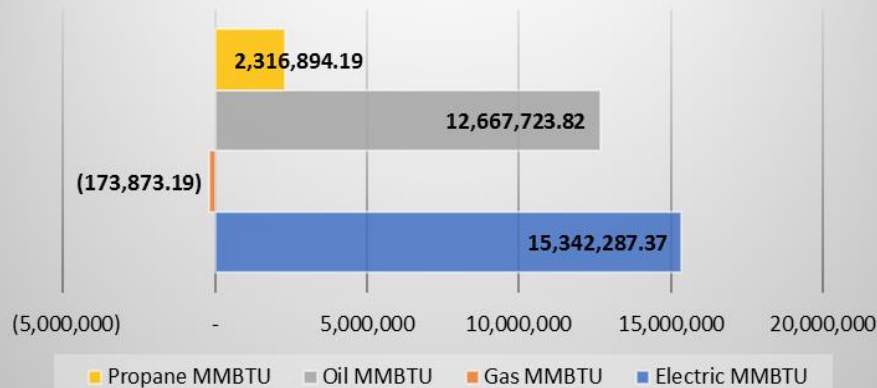
The portfolio is still mainly driven by electric savings and electric benefits (includes capacity).

\*All MMBTU values have been reported in the PAs' 2019 Plan-Year Reports in accordance with the information provided in the PAs' MMBTU study, which was ordered by the DPU and completed by Guidehouse Consulting.

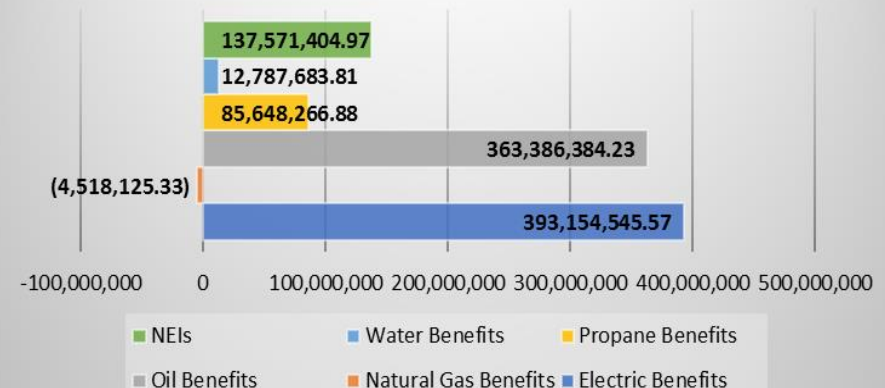
# Residential & Income Eligible MMBTU Savings & Benefits



## Residential & Income Eligible MMBTU Savings

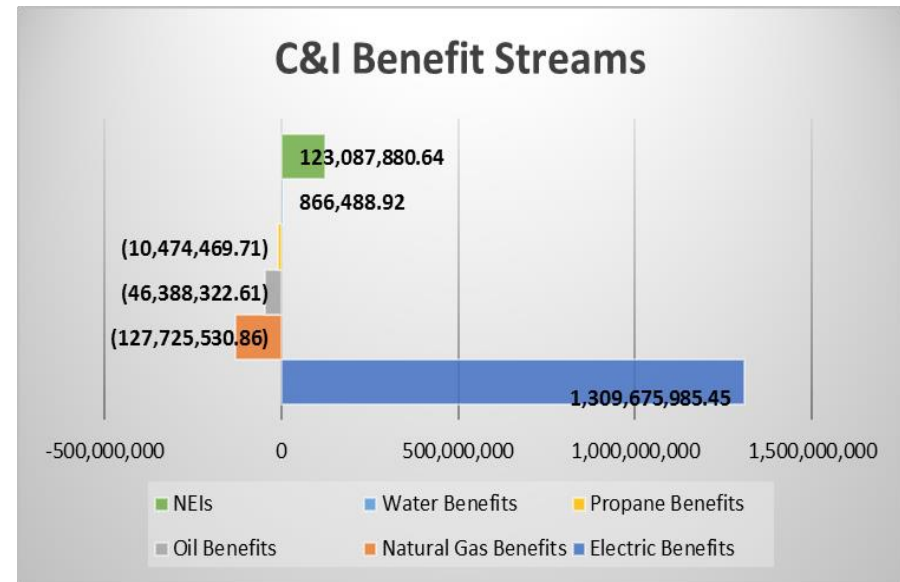
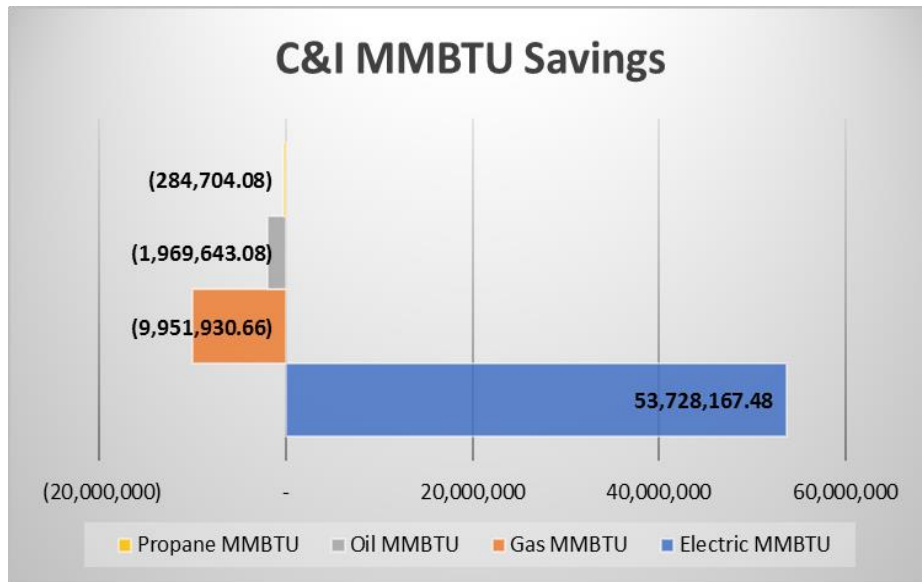


## Residential & Income Eligible Benefit Streams



When looking at the Residential and Income Eligible Sectors, oil savings and benefits are almost equivalent to electric savings and benefits. With diminishing lighting, and less interactive effects, oil savings and benefits will become a larger share of the portfolio.

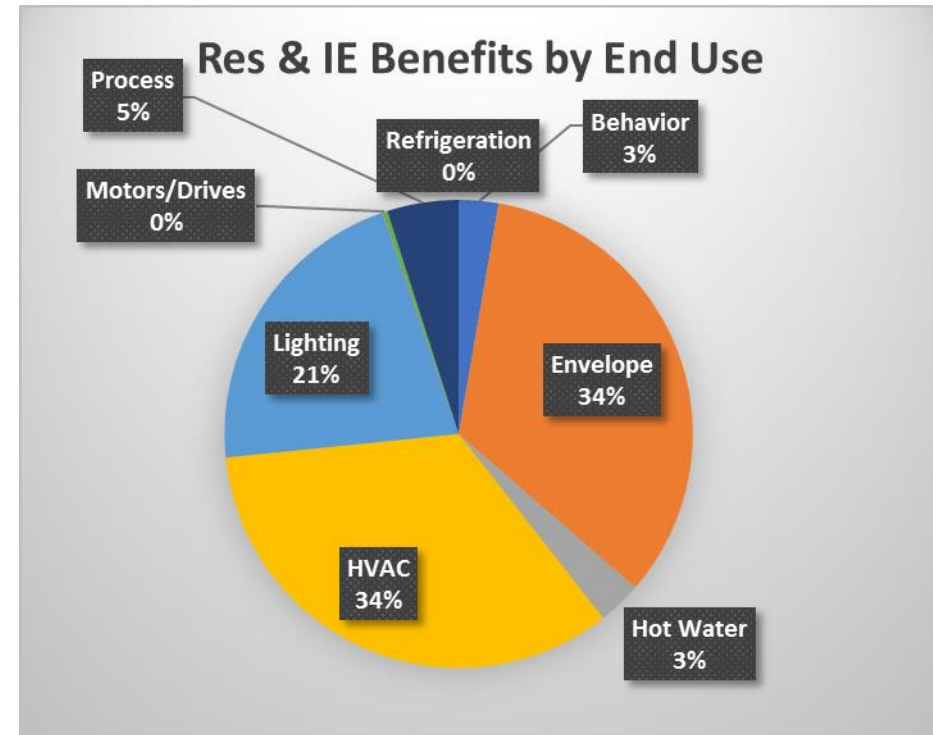
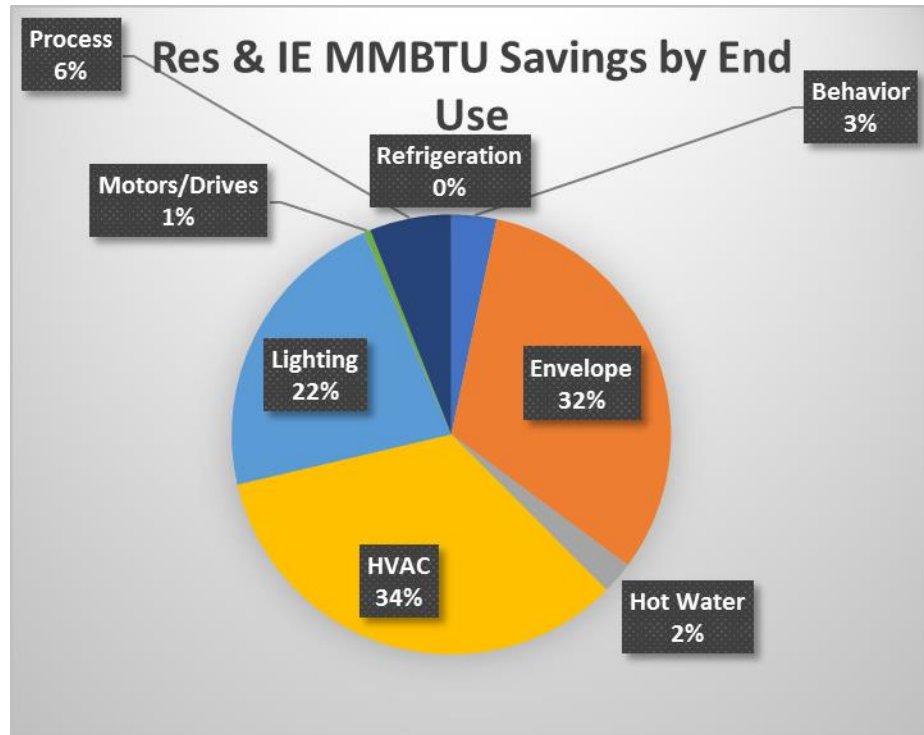
# C&I MMBTU Savings & Benefits



The C&I sector is still heavily dominated by electric savings. The resulting interactive effects from lighting and CHP projects push gas and delivered fuel savings and benefits negative.



# Residential & Income Eligible MMBTU Savings and Benefits by End Use

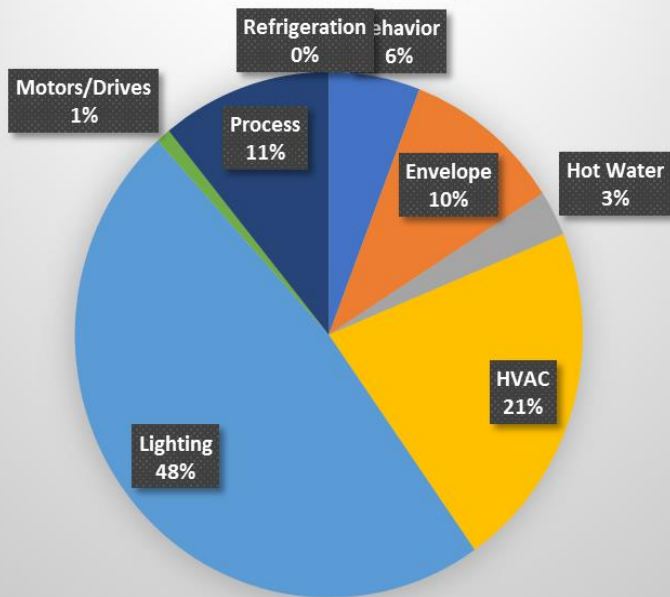


While lighting has dominated lifetime savings and benefits, we are starting to see the transition of savings and benefits being delivered by other measures.

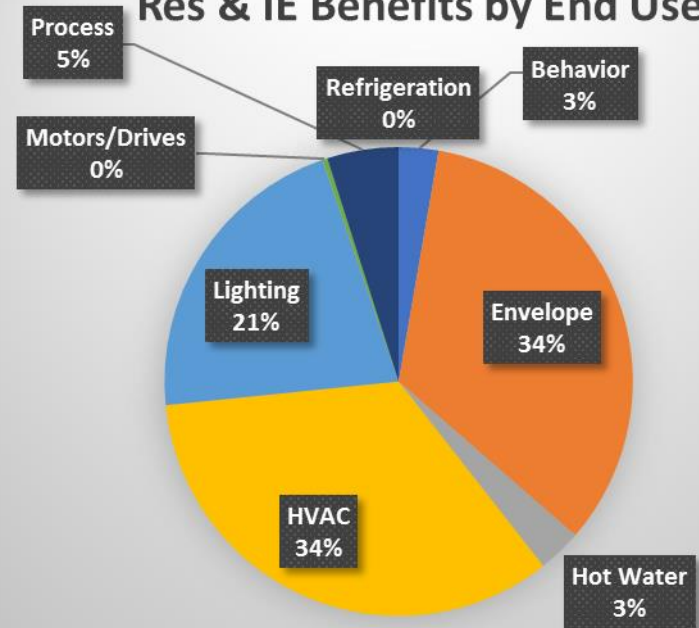
# Residential & Income Eligible Lifetime MWh and Benefits by End Use



### Res & IE Lifetime MWh by End Use



### Res & IE Benefits by End Use



# EM&V Effect on Residential Retail Core Initiative



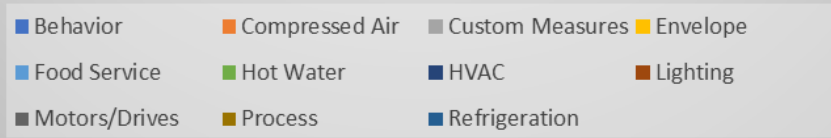
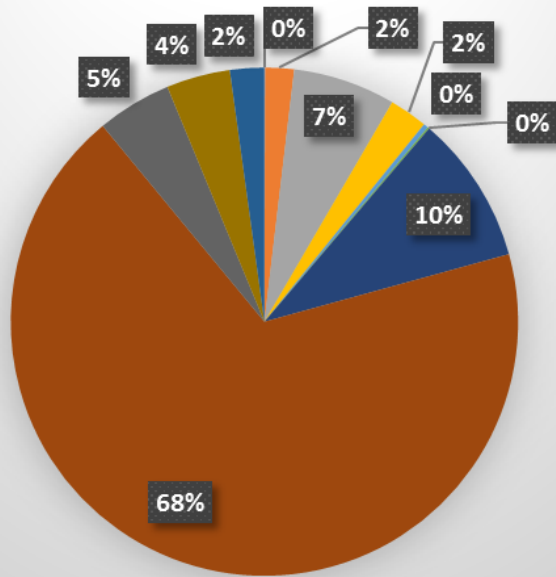
- Lighting measure lives changed due to baseline assumptions have had large impacts
- With planned impacts, the PAs would have hit the retail goal.

Residential Retail	Summer kW	Annual MWh	Lifetime MWh	Total Benefits
Preliminary	45,357	280,836	1,666,218	345,477,126
Evaluated	49,775	291,501	1,043,552	259,407,894
Percent Change	9.74%	3.80%	-37.37%	-24.91%

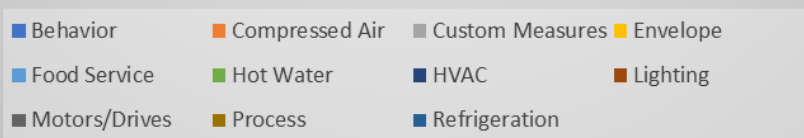
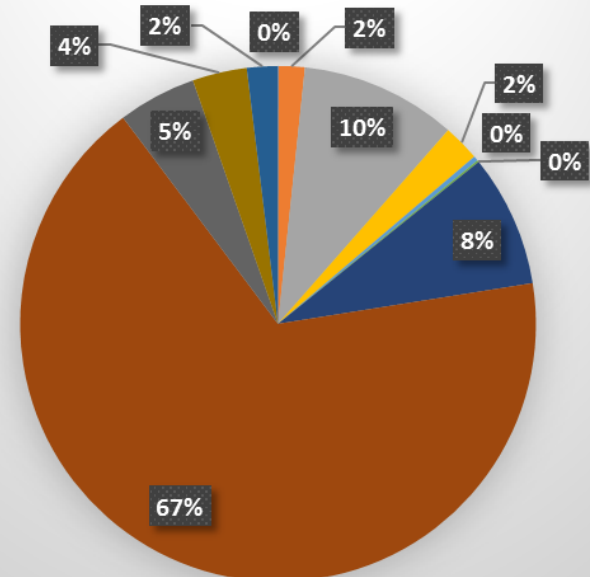
# C&I MMBTU Savings and Benefits by End Use



## C&I MMBTU Savings by End Use



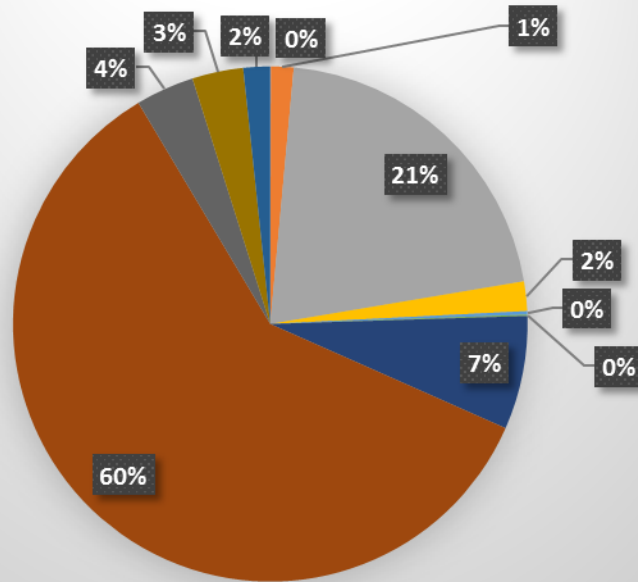
## C&I Total Benefits by End Use



# C&I Lifetime MWh and Benefits by End Use

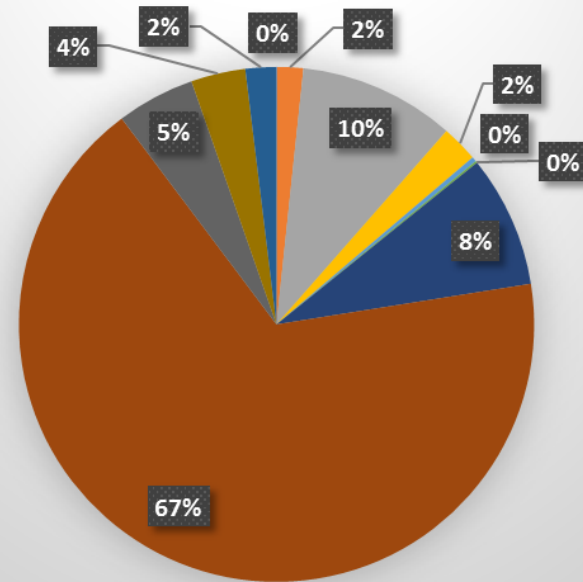


## C&I Lifetime MWh by End Use



- Behavior
- Compressed Air
- Custom Measures
- Envelope
- Food Service
- Hot Water
- HVAC
- Lighting
- Motors/Drives
- Process
- Refrigeration

## C&I Total Benefits by End Use



- Behavior
- Compressed Air
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# Electric Portfolio GHG Savings



	CO <sub>2</sub> (Tons)	SO <sub>2</sub> (tons)	Nox (tons)
Residential	447,900.4	41.01	15.9
Income Eligible	24,128.5	1.6	6.2
C&I	290,778.2	29.6	114.6
Portfolio	762,807.2	72.2	279.6
<b>% to Planned</b>	<b>112.0%</b>	<b>114.8%</b>	<b>114.8%</b>



233,695 homes powered for a year through electric savings



12,617,178 tree seedlings grown for 10 years



146,976 car emissions for year through electric and gas savings



165 wind turbines running for a year

- Achieved 129% of summer kW goal in the residential sector, 82% of the C&I goal, and 85% of the portfolio goal.
- Demonstrated daily dispatch offerings and officially filed for inclusion in Demand Reduction core initiatives.
- Achieved over 130% of residential participation goal.

# Active Demand Reduction



PA	Sector	Dispatch Type	Participants	Unit	2019 Planned (MW)	2019 Enrolled (MW)	2019 Performed (MW)	2019 PYR (MW)
National Grid	Resi	DLC	9,300	tstats	5.20	6.50	6.70	4.72
National Grid	Resi	Storage - Daily	40	accts	-	0.14	0.14	.2
National Grid	C&I	Targeted - Summer	414	accts	66.00	82.00	76.92	55.7
National Grid	C&I	Targeted - Winter	116	accts	12.96	42.10	25.20	
Eversource	Resi	DLC	7,500	tstats	2.00	3.70	4.60	4.45
Eversource	C&I	Targeted- Summer	173	accts	30.00	36.50	22.80	19.47
Eversource	C&I	Targeted - Winter	60	accts	9.2	12.24	14.69	
Eversource	C&I	Storage - Daily	1	accts	0.50	0.50	0.40	.321
Eversource	C&I	Storage - Targeted	2	accts	0.50	1.70	1.30	1.00
Unitil	Resi	DLC	45	tstats	0.09	0.03	0.03	.08
Unitil	C&I	Targeted- Summer	3	accts	0.20	0.95	0.85	.696



# Gas Performance

# Gas Performance



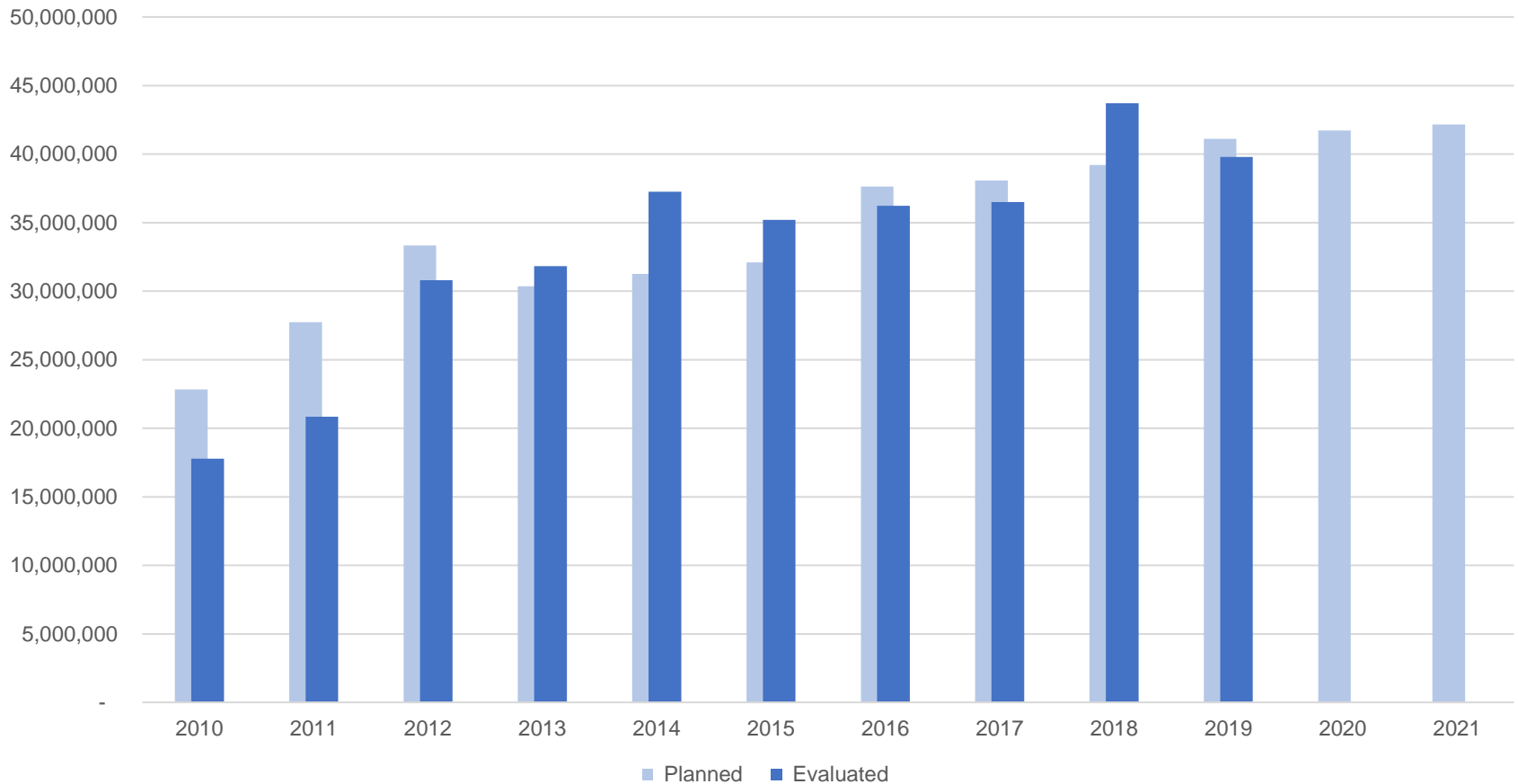
Gas	Goal	Achieved/Spent	Percent to Planned
Annual Savings (MMBTU)	3,154,046	2,946,334	93%
Lifetime Savings (MMBTU)	41,108,350	39,789,544	97%
Benefits (\$)	\$758,981,540	\$754,395,836	99%
Expenditures (\$)	\$259,494,054	\$277,779,188	107%

- Participants encouraged to pursue measures with longer lives, like weatherization and HVAC systems
- Low cost of gas affects C&I customer payback; the program instituted more aggressive commercial incentives to mitigate that challenge

# Growth in Gas Savings



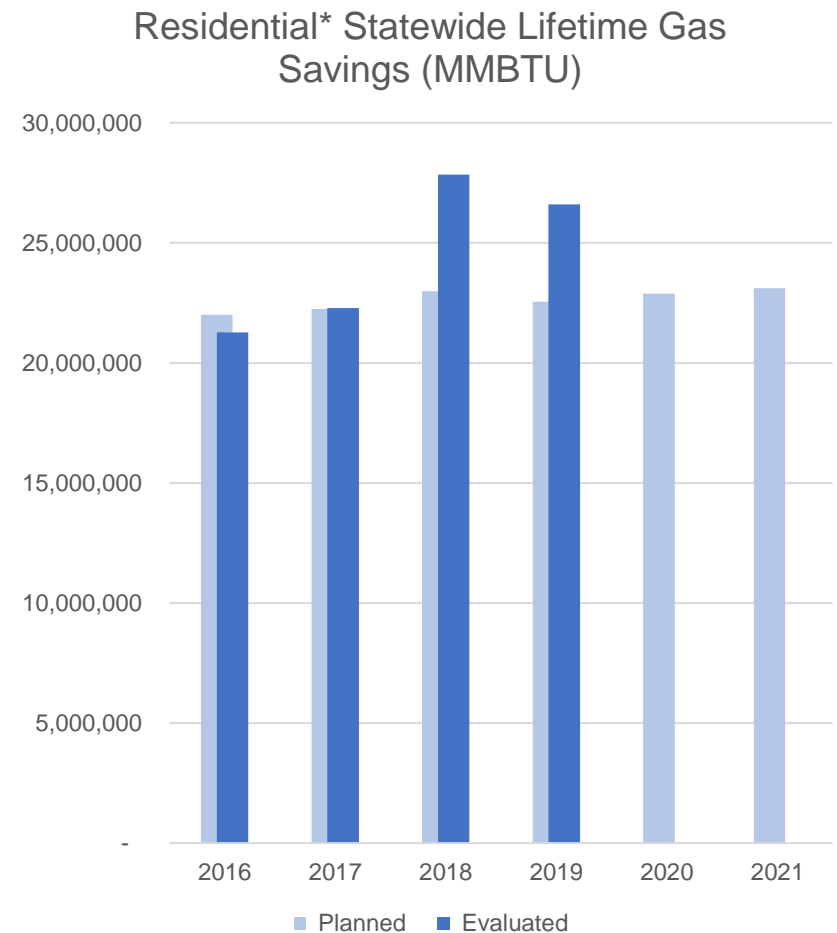
Statewide Lifetime Gas Savings (MMBTU)



# Success in Residential\* Gas



2019 Residential* Gas Program	Percent to Planned
Annual Savings (MMBTU)	113%
Lifetime Savings (MMBTU)	118%
Benefits (\$)	116%
Expenditures (\$)	113%



\*includes Income-Eligible / Low-Income Programs



# Thank you

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# Appendix

# Electric Residential Performance



Electric	Goal	Achieved/Spent	Percent to Planned
Annual Savings (MWh*)	414,184	544,126	131%
Lifetime Savings (MWh*)	1,895,492	2,053,459	108%
Lifetime Savings (MMBTU)	20,082,614	26,572,694	132%
Passive Summer kW	61,701	88,935	144%
Active Summer kW	7,289	9,378	129%
Benefits (\$)	\$608,184,238	\$840,129,724	138%
Expenditures (\$)	\$260,312,188	\$299,856,423	115%

\* Annual and Lifetime MWh are presented as MWh savings with no fuel switching or active demand response as seen in the PAs data tables

# Electric Income Eligible Performance



Electric	Goal	Achieved/Spent	Percent to Planned
Annual Savings (MWh*)	36,687	37,429	102%
Lifetime Savings (MWh*)	359,165	311,815	87%
Lifetime Savings (MMBTU)	3,985,376	3,580,338	90%
Passive Summer kW	5,406	4,793	89%
Active Summer kW	N/A	N/A	N/A
Benefits (\$)	\$168,465,740	\$147,900,438	88%
Expenditures (\$)	\$71,224,587	\$70,255,892	99%

\* Annual and Lifetime MWh are presented as MWh savings with no fuel switching or active demand response as seen in the PAs data tables



# Electric C&I Performance



Electric	Goal	Achieved/Spent	Percent to Planned
Annual Savings (MWh*)	686,584	617,855	90%
Lifetime Savings (MWh*)	8,558,582	7,913,918	92%
Lifetime Savings (MMBTU)	48,444,859	41,521,892	86%
Passive Summer kW	96,539	146,866	152%
Active Summer kW	94,700	77,196	82%
Benefits (\$)	\$1,429,430,326	\$1,249,042,035	87%
Expenditures (\$)	\$303,217,010	\$250,375,095	83%

\* Annual and Lifetime MWh are presented as MWh savings with no fuel switching or active demand response as seen in the PAs data tables

# Gas Residential Performance



Gas	Goal	Achieved/Spent	Percent to Planned
Annual Savings (MMBTU)	1,650,359	1,866,123	113%
Lifetime Savings (MMBTU)	18,743,071	22,620,736	121%
Benefits (\$)	\$348,487,156	\$426,703,602	122%
Expenditures (\$)	\$147,605,389	\$176,639,683	120%

# Gas Income Eligible Performance



Gas	Goal	Achieved/Spent	Percent to Planned
Annual Savings (MMBTU)	236,573	247,207	104%
Lifetime Savings (MMBTU)	4,634,680	4,835,447	104%
Benefits (\$)	\$130,903,215	131,149,966	100%
Expenditures (\$)	\$57,507,747	\$56,849,033	99%

# Gas C&I Performance



Gas	Goal	Achieved/Spent	Percent to Planned
Annual Savings (MMBTU)	1,344,785	920,020	68%
Lifetime Savings (MMBTU)	18,553,039	13,319,495	72%
Benefits (\$)	\$279,591,169	\$201,525,621	72%
Expenditures (\$)	\$54,380,919	\$46,977,451	86%