

# CONSULTANT TEAM PRESENTATION ON PA Q4 2020 REPORT

► April 14, 2021

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# INTRODUCTION



- ▶ **Q4 provides a first look at 2020 complete results**
  - Additional work and analysis will be done when final evaluated results are available
  - Q4 is the last program data available before April 30<sup>th</sup> Plan
- ▶ **Purpose of this presentation is to:**
  - Provide a deeper dive on 2020 results across sectors, initiatives, and PAs
  - Highlight and address most important Council priorities
  - Discuss conclusions drawn from KPI results
  - Identify key considerations for 2022-2024 Plan



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# PORTFOLIO

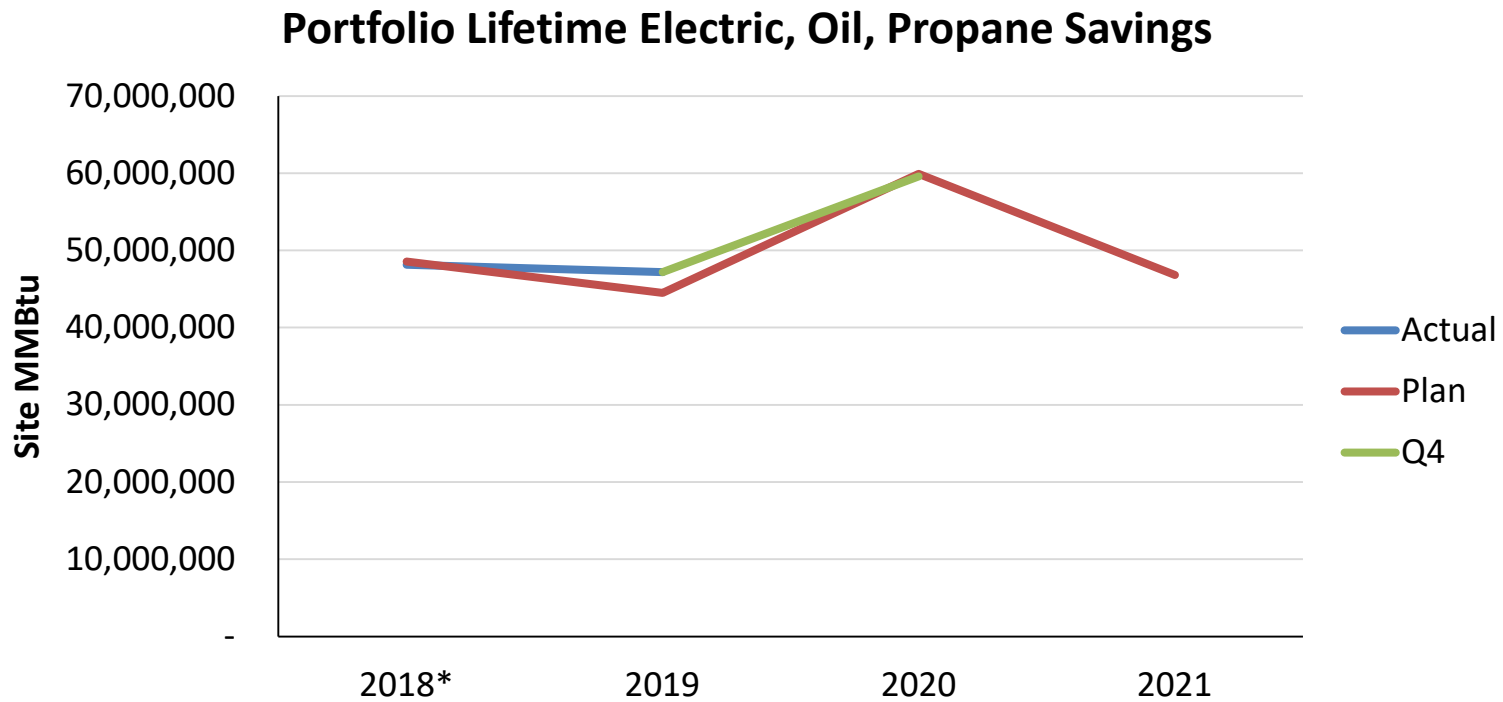
# PORTFOLIO TAKEAWAYS



- ▶ **Electric program results close to plan for 2020**
- ▶ **Underachievement in gas programs**
- ▶ **Some effects of the COVID pandemic and program pause**
- ▶ **Results best understood by looking at sector-specific results**

# LIFETIME ELECTRIC PROGRAM SAVINGS (ELECTRIC + DELIVERED FUELS)

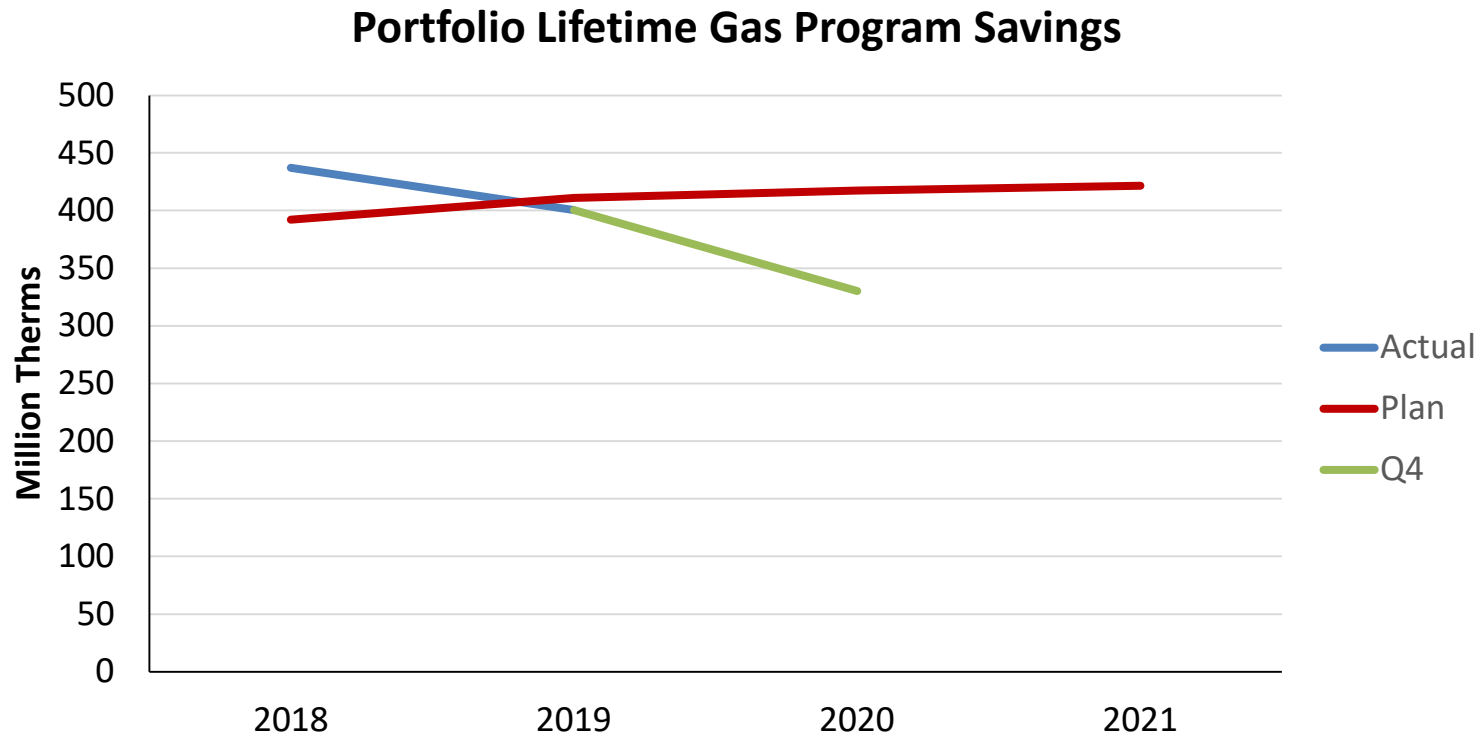
## ► Tracked closely to plan in 2020



\*Lifetime Oil and Propane savings were not reported prior to 2019.

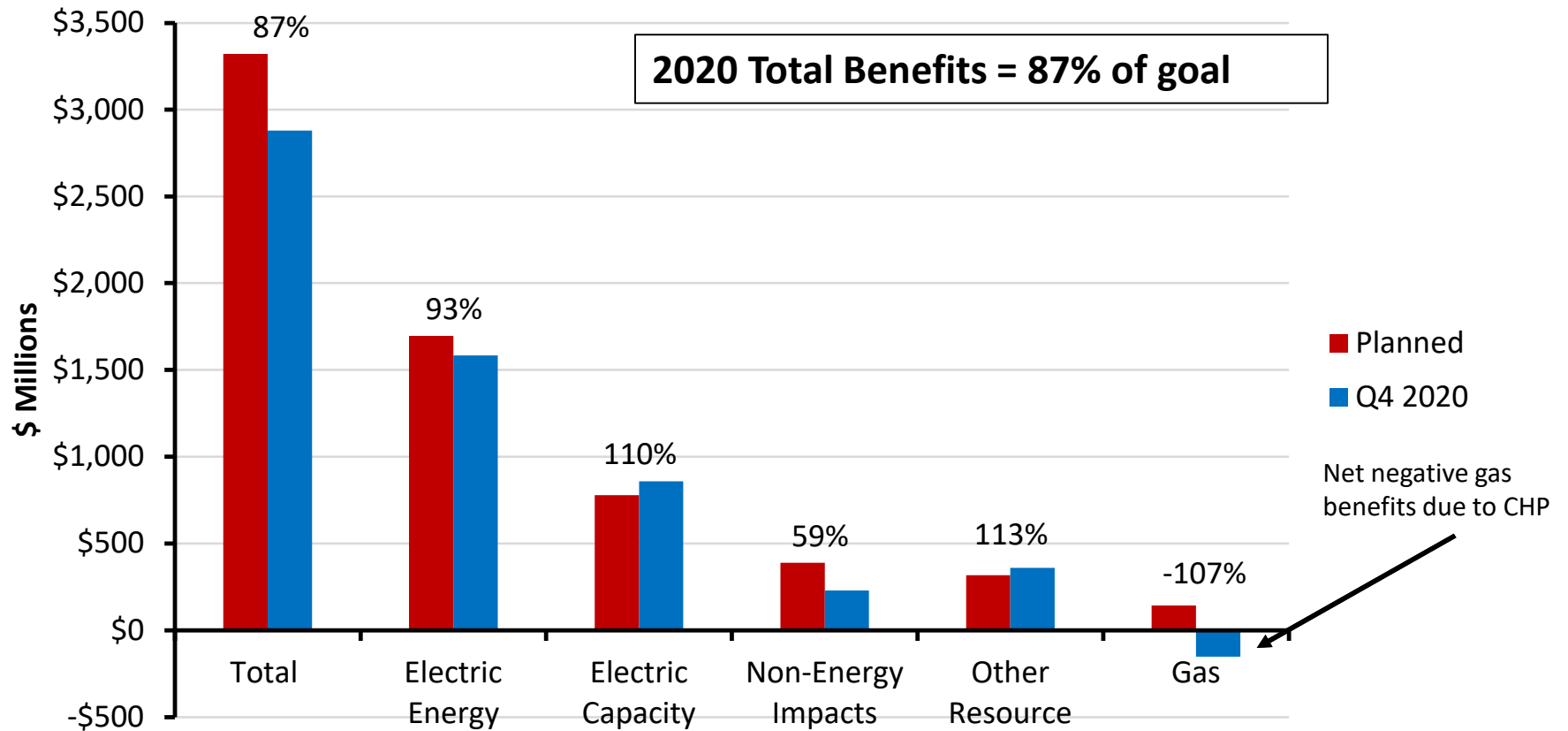
# LIFETIME GAS PROGRAM SAVINGS

- ▶ After being slightly under in 2019, gas savings significantly lower than planned in 2020



# Q4 2020 TOTAL PORTFOLIO BENEFITS BY CATEGORY

2020 Electric and Gas Program Benefits





# RESIDENTIAL AND INCOME ELIGIBLE



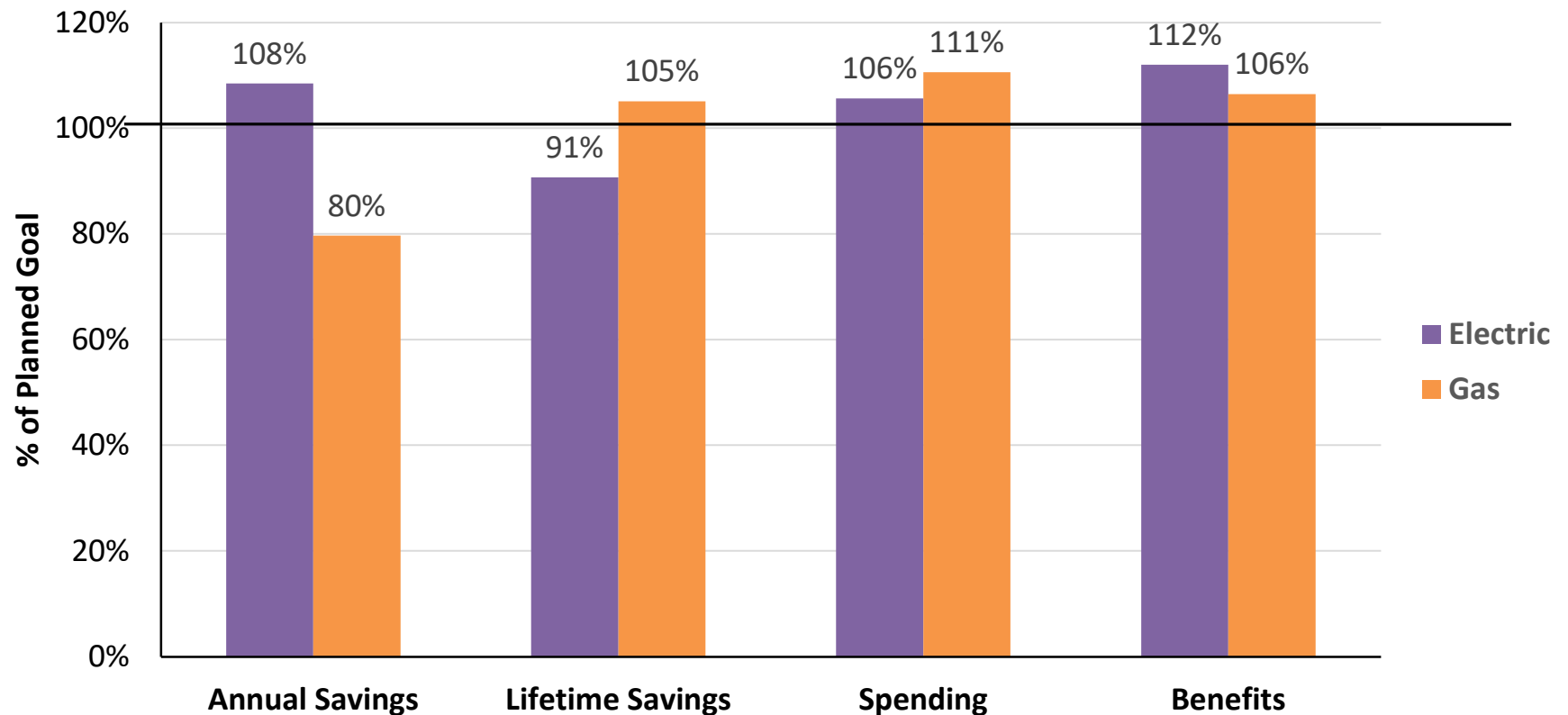
# RESIDENTIAL TAKEAWAYS



- ▶ **Most Residential Sector goals were achieved in 2020 despite Covid's impacts on implementation activities**
- ▶ **Covid had a greater impact on Income Eligible Sector results, which are comparatively farther behind goals**
- ▶ **Cold climate heat pump units lag Term Sheet targets**
- ▶ **The decline in claimable lighting savings has increased proportion of savings from delivered fuels**
- ▶ **Virtual audits and a time-limited 100% insulation incentive dampened Covid's impacts on the Res Sector**

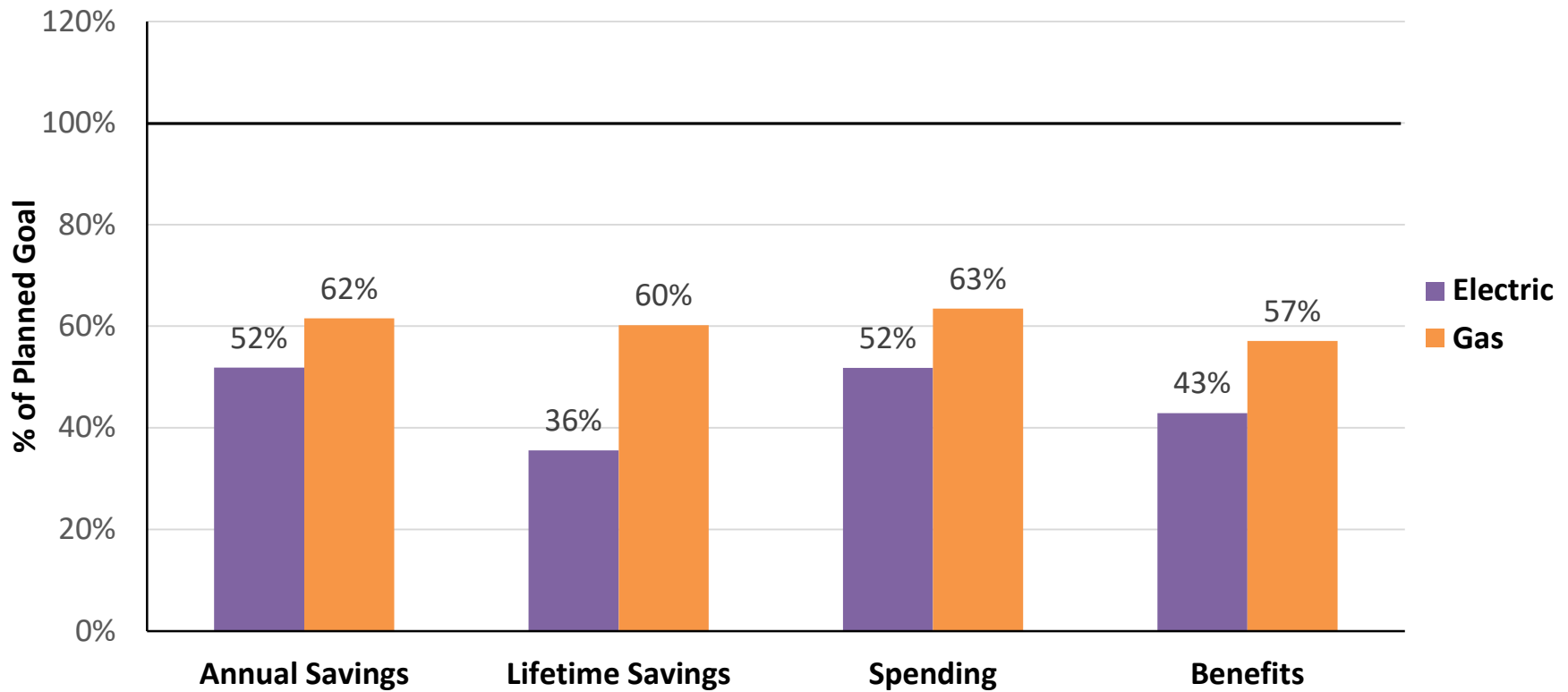
# RESIDENTIAL STATEWIDE GOAL ACHIEVEMENT 2020

## Q4 Residential Statewide Goal Achievement - Gas and Electric



# INCOME ELIGIBLE STATEWIDE GOAL ACHIEVEMENT 2020

## Q4 Income Eligible Statewide Goal Achievement - Gas and Electric



# COMPARING RES AND INCOME ELIGIBLE COORDINATED DELIVERY INITIATIVE RESULTS IN 2020

## % of 2020 Lifetime Savings Goal for Coordinated Delivery Initiatives

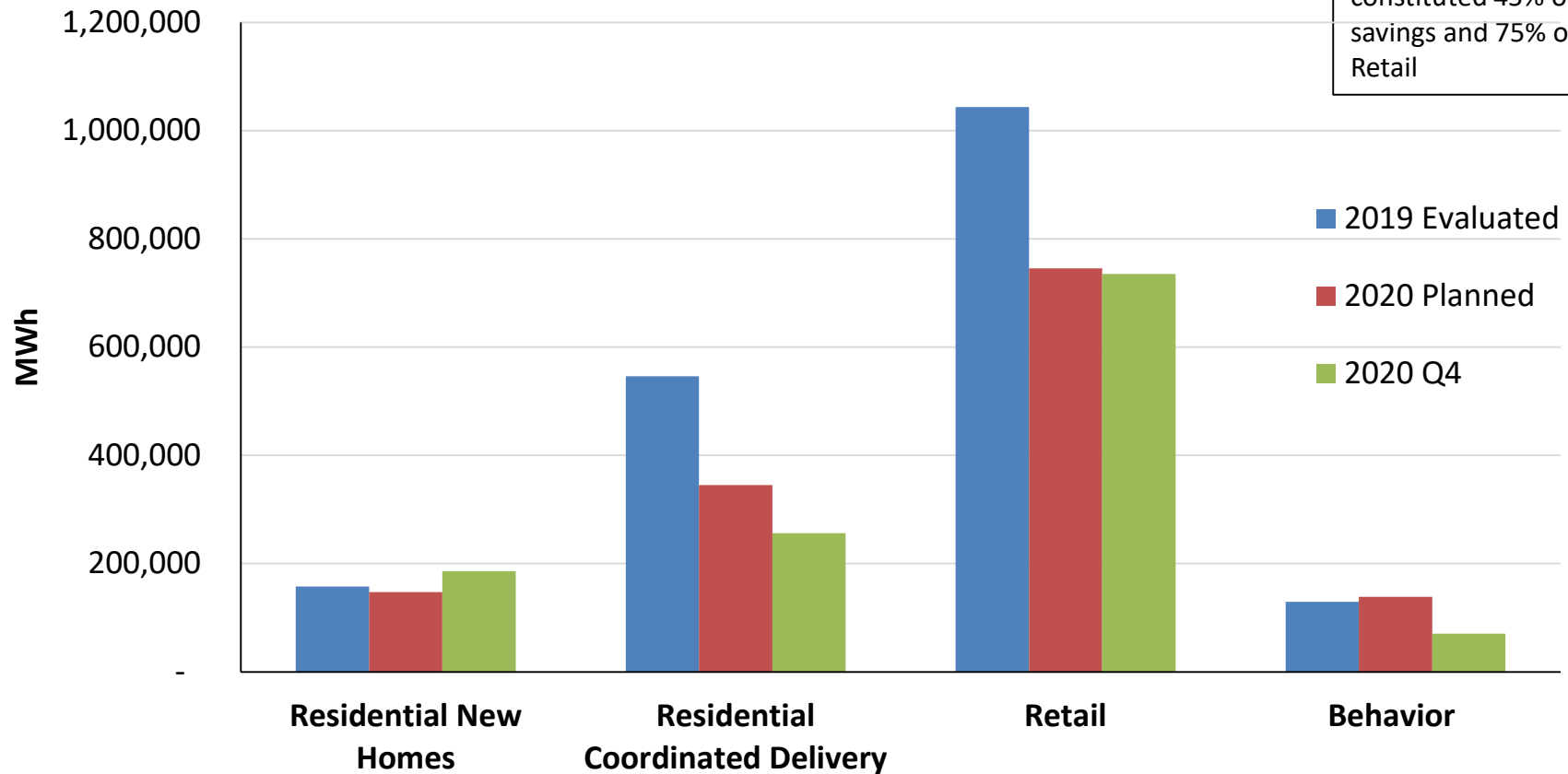
Electric	Cape Light Compact	Eversource	National Grid	Unitil	Statewide
<b>Residential</b>	54%	58%	94%	176%	<b>74%</b>
<b>Income Eligible</b>	22%	56%	24%	263%	<b>36%</b>

Gas	Berkshire	EGMA (formerly CMA)	Eversource	Liberty	National Grid	Unitil	Statewide
<b>Residential</b>	105%	87%	115%	63%	99%	63%	<b>98%</b>
<b>Income Eligible</b>	30%	60%	49%	71%	66%	51%	<b>60%</b>

# ELECTRIC ONLY INITIATIVE-SPECIFIC RESULTS

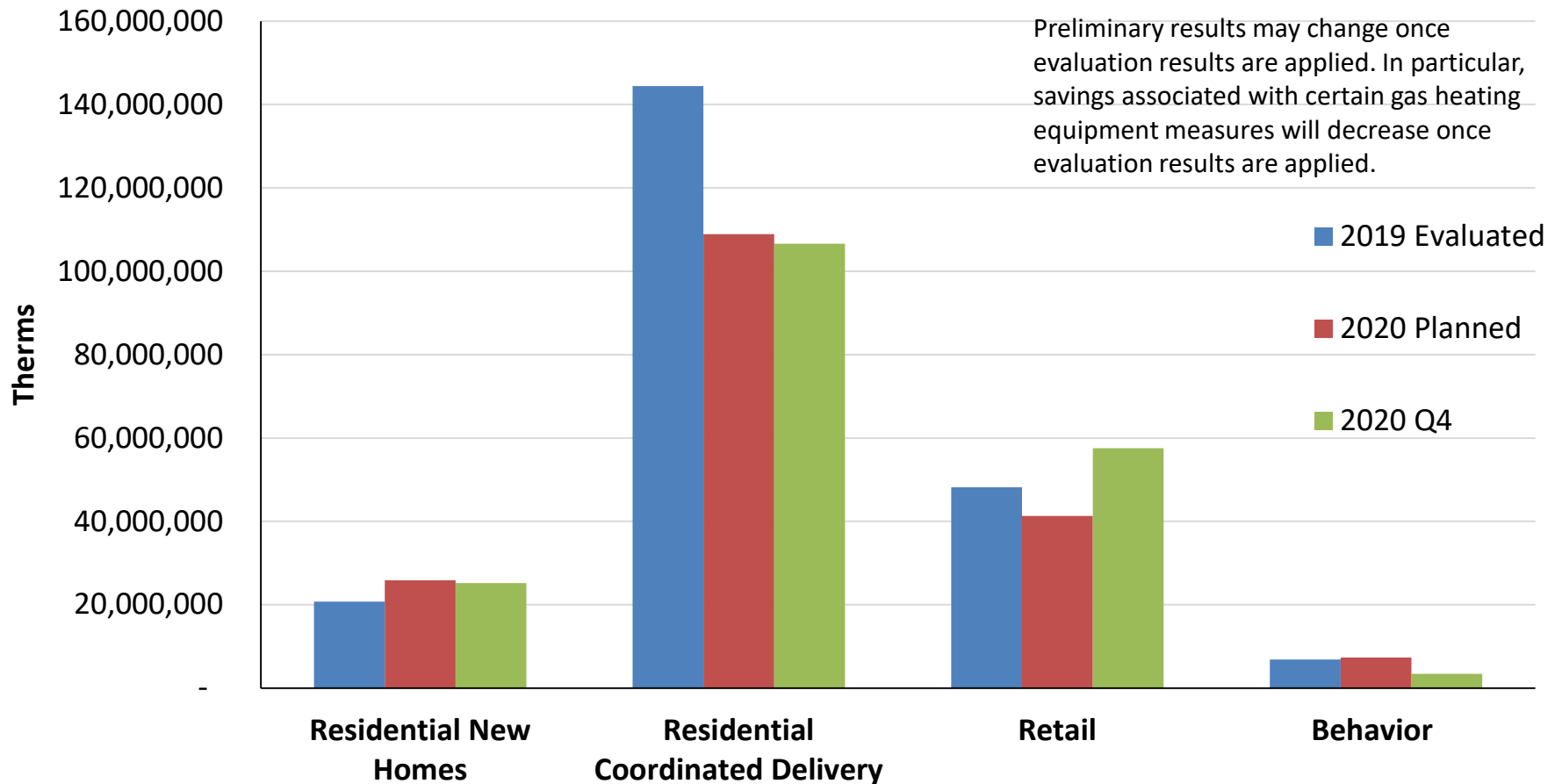
## Residential Electric Initiative Savings

In 2019, lighting constituted 45% of RCD savings and 75% of Retail



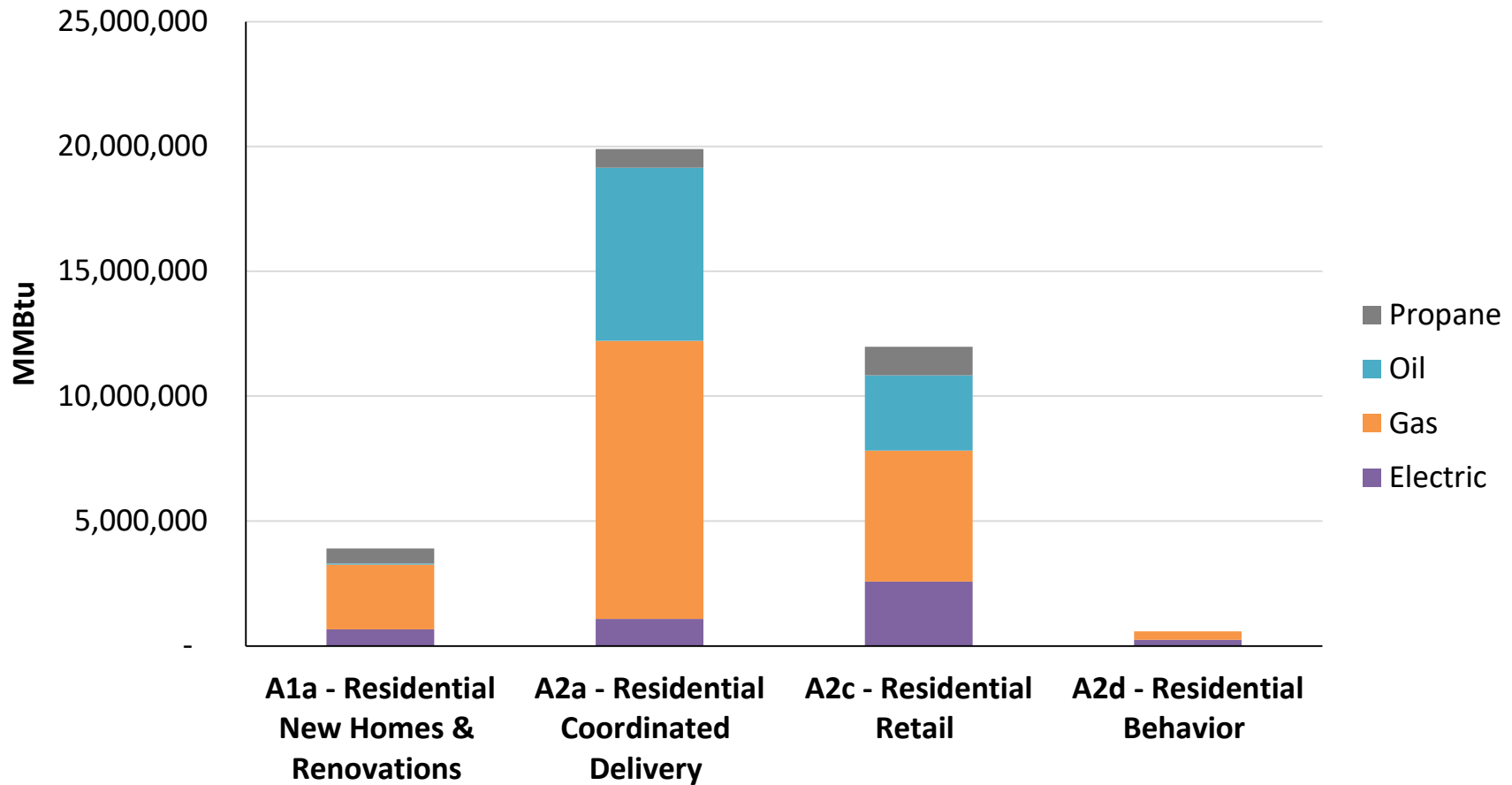
# GAS ONLY INITIATIVE-SPECIFIC RESULTS

## Residential Gas Initiative Savings



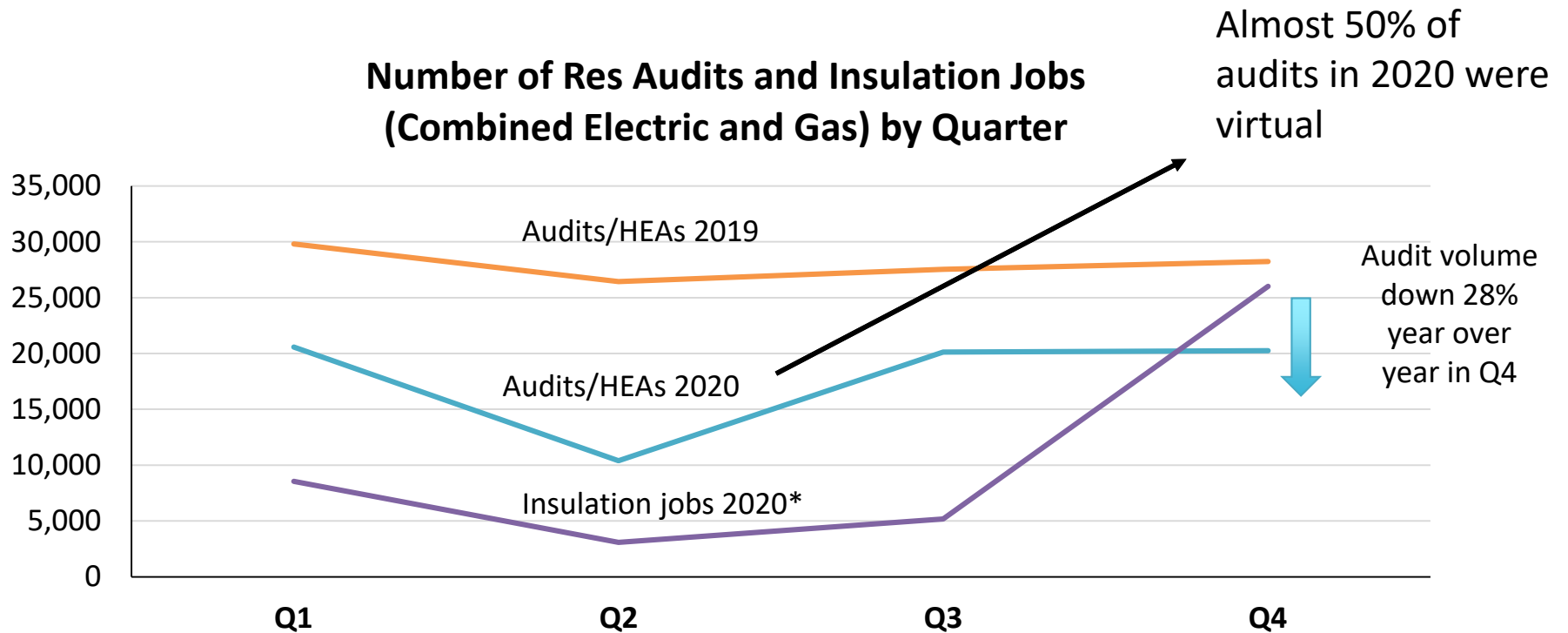
# ALL FUELS SAVINGS BY INITIATIVE

## Q4 2020 Lifetime Savings by Fuel and Initiative



# KPI# 1: RESIDENTIAL AUDIT ACTIVITY WAS LOWER THROUGHOUT 2020; INSULATION WORK INCREASED

**Number of Res Audits and Insulation Jobs (Combined Electric and Gas) by Quarter**



\*2019 KPI data for the insulation measures were not usable due to errors and/or omissions



# BI-ANNUAL KPI #3: HEAT PUMP ACTIVITY

	Description	2019 Evaluated	2020 Planned	2020 Q4	Term Sheet
<b>Residential</b>					
Lost opportunity	Efficiency upgrade of assumed baseline heat pump	8,276	7,502	6,787	
Energy optimization	Displacement of electric resistance space heat	1,001	574	571	
→ Fuel switching	Displacement of oil or propane	2,372	2,193	3,542	
<b>TOTAL</b>		<b>11,649</b>	<b>10,269</b>	<b>10,900</b>	
<b>Income Eligible</b>					
Lost opportunity	Efficiency upgrade of assumed baseline heat pump	0	0	0	
Energy optimization	Displacement of electric resistance space heat	658	597	159	
→ Fuel switching	Displacement of oil or propane	2	158	11	
<b>TOTAL</b>		<b>660</b>	<b>755</b>	<b>170</b>	



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# COMMERCIAL & INDUSTRIAL

# C&I TAKEAWAYS



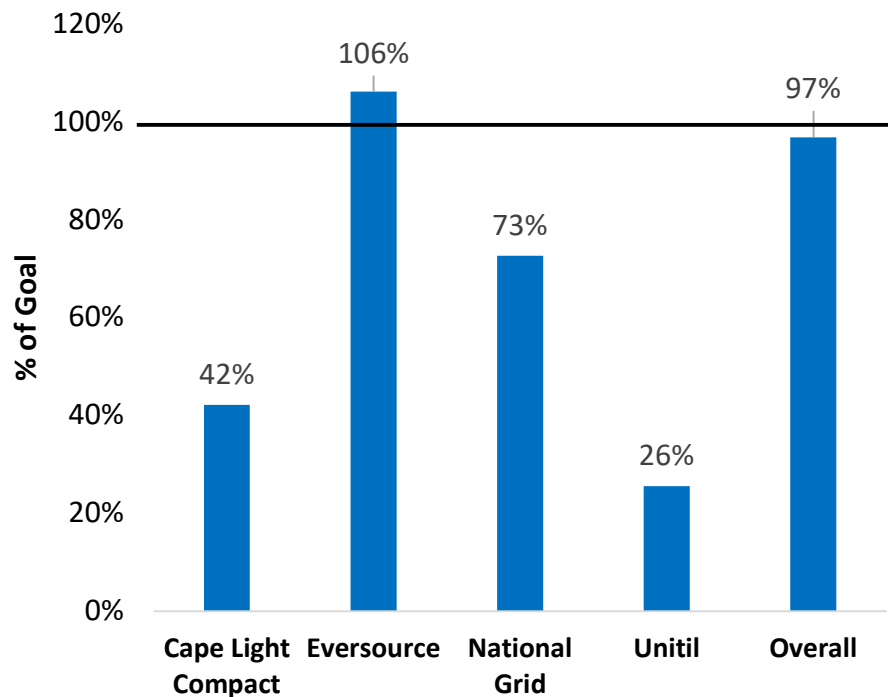
- ▶ **Large CHP project from Eversource key driver of statewide C&I retrofit performance achievement**
- ▶ **Second consecutive year of low C&I gas achievement (2019 = 71%; 2020 = 58%)**
- ▶ **Custom HVAC savings is critically important and performance is still lagging well behind planned savings**
- ▶ **Apparent progress on small commercial weatherization (as shown through KPI #6 small biz measure diversity)**
- ▶ **COVID impacts**
  - Small business direct install and industrial initiative experienced pause due to COVID, most other C&I programs continued
  - Some business activity/construction did slow down, though difficult to directly quantify impact on programs

# C&I STATEWIDE PERFORMANCE

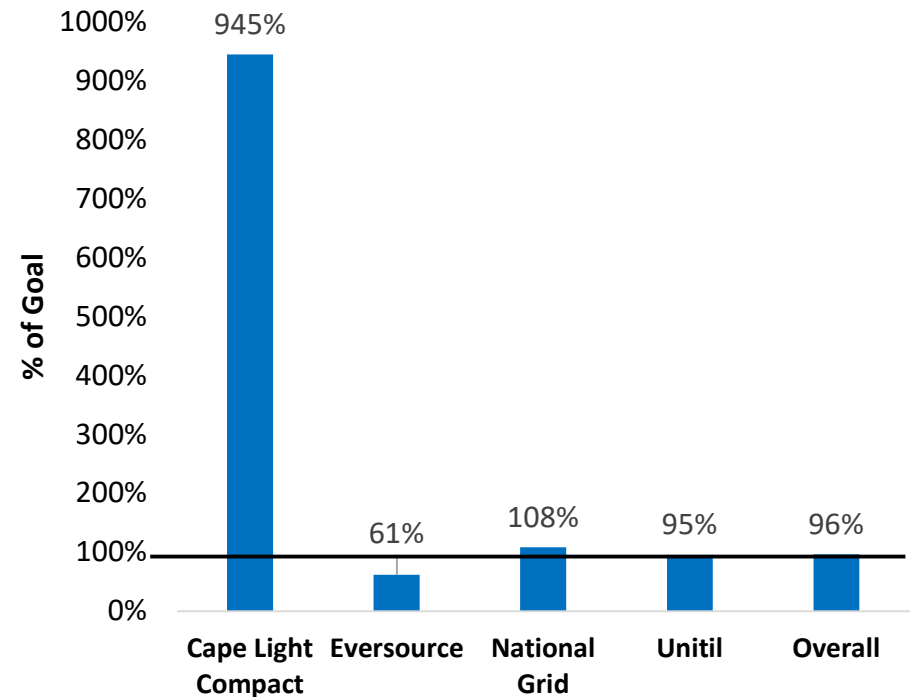
	Planned	Actual	Performance
<b>Statewide Electric Savings</b>			
Net Lifetime MWh	<b>13,058,022</b>	<b>12,694,826</b>	<b>97%</b>
Existing Building Retrofit	10,680,442	10,344,515	97%
New & Replacement Equipment	1,652,009	1,590,770	96%
New Buildings & Major Renovations	725,571	759,541	105%
<b>Statewide Gas Savings</b>			
Net Lifetime Therms	<b>188,329,307</b>	<b>110,029,058</b>	<b>58%</b>
Existing Building Retrofit	93,755,639	49,419,860	53%
New & Replacement Equipment	50,292,482	35,408,114	70%
New Buildings & Major Renovations	44,281,186	25,201,084	57%

# C&I ELECTRIC SAVINGS ACHIEVEMENT NOTABLE DIFFERENCES BY PA

**Existing Building Retrofit 2020  
Lifetime MWh Savings**



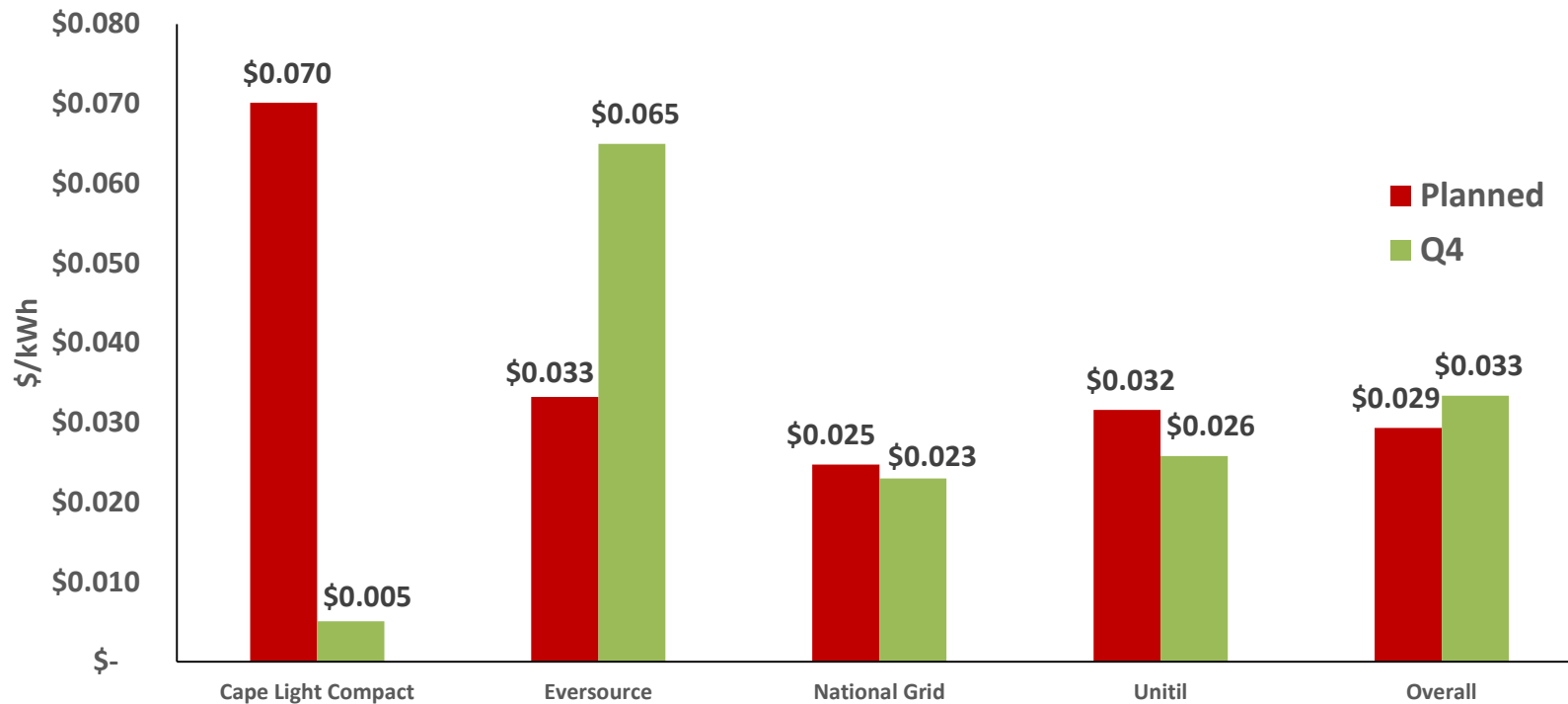
**New & Replacement Equipment 2020  
Lifetime MWh Savings**



- ▶ Large CHP project a significant contributor to Eversource 2020 savings
- ▶ 1 large CLC project driving New & Replacement savings

# C&I NEW AND REPLACEMENT EQUIPMENT - ELECTRIC

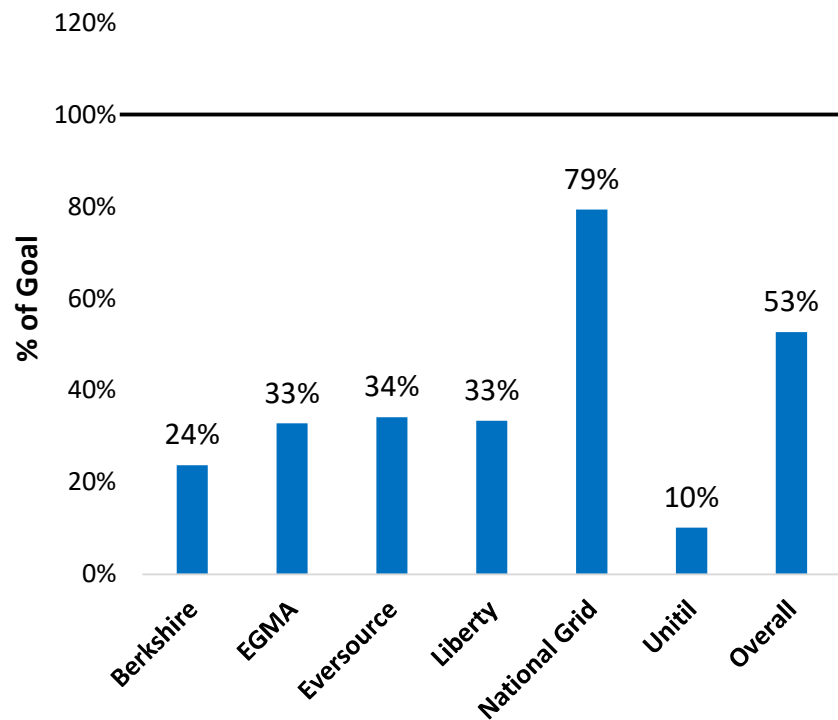
**New & Replacement Equipment 2020 Net Lifetime Electric Costs to Achieve**



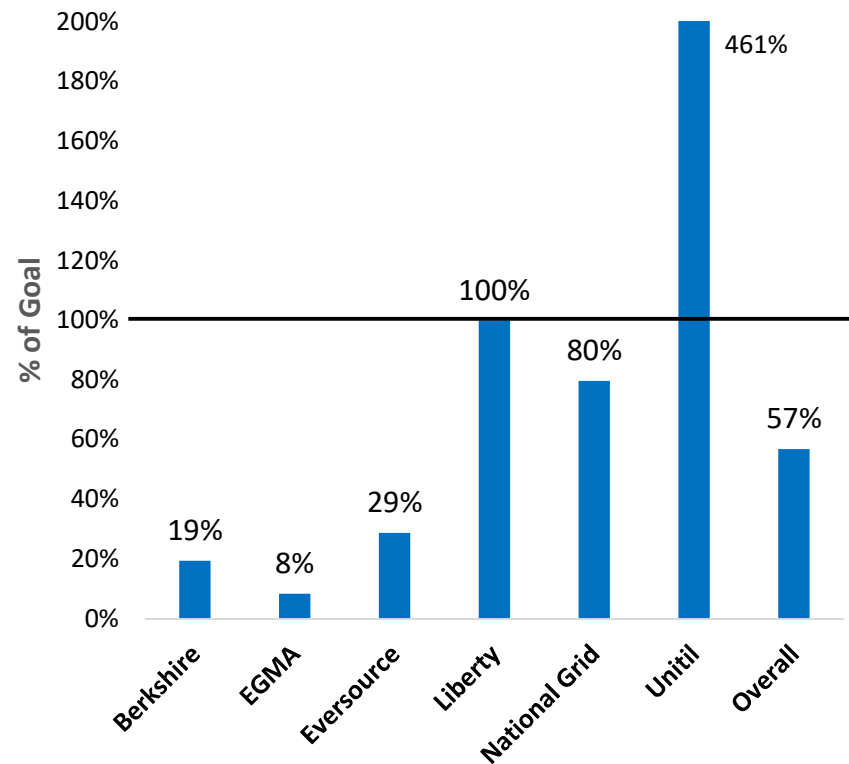
- ▶ Much higher than planned savings for CLC = lower \$/kWh
- ▶ Less than planned savings for Eversource = higher \$/kWh

# C&I GAS SAVINGS ACHIEVEMENT NOTABLE DIFFERENCES BY PA

**Existing Buildings 2020 Lifetime Therm Savings**



**New Buildings 2020 Lifetime Therm Savings**



► **C&I gas savings largely under-performed again in 2020**

- 71% of goal in 2019;
- 58% of goal in 2020

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# KPI #5: ELECTRIC AND GAS NET LIFETIME SAVINGS FROM CUSTOM HVAC PROJECTS

## ► Observations for Q4 Data

### – Electric HVAC Savings

- **36.3%** achievement towards 2020 planned values for these measures
  - ▶ Grid achieved 52% of planned
  - ▶ Eversource achieved 31% of planned
  - ▶ CLC achieved 55% of planned
  - ▶ Unitil achieved 0% of planned

### – Gas HVAC Savings

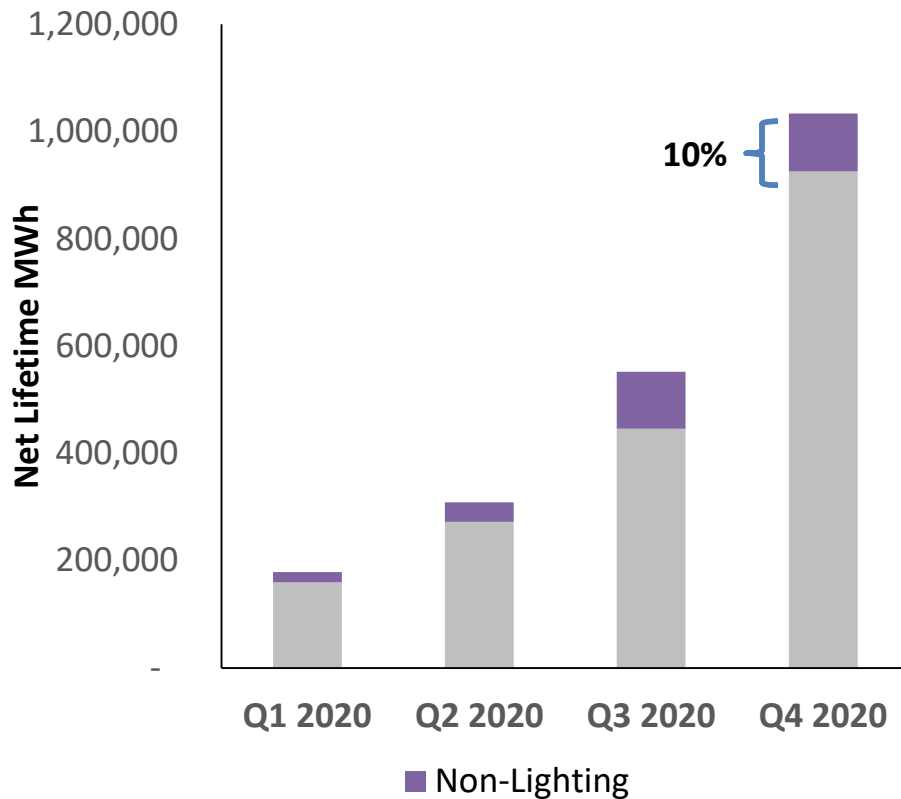
- **45%** achievement towards 2020 planned values for these measures
  - ▶ Grid achieved **135%** of planned
  - ▶ Eversource achieved 9.4% of planned
  - ▶ EGMA (formerly Columbia) achieved 17.5% of planned
  - ▶ Smaller PAs did not report custom HVAC gas due to small # of projects and customer privacy issues



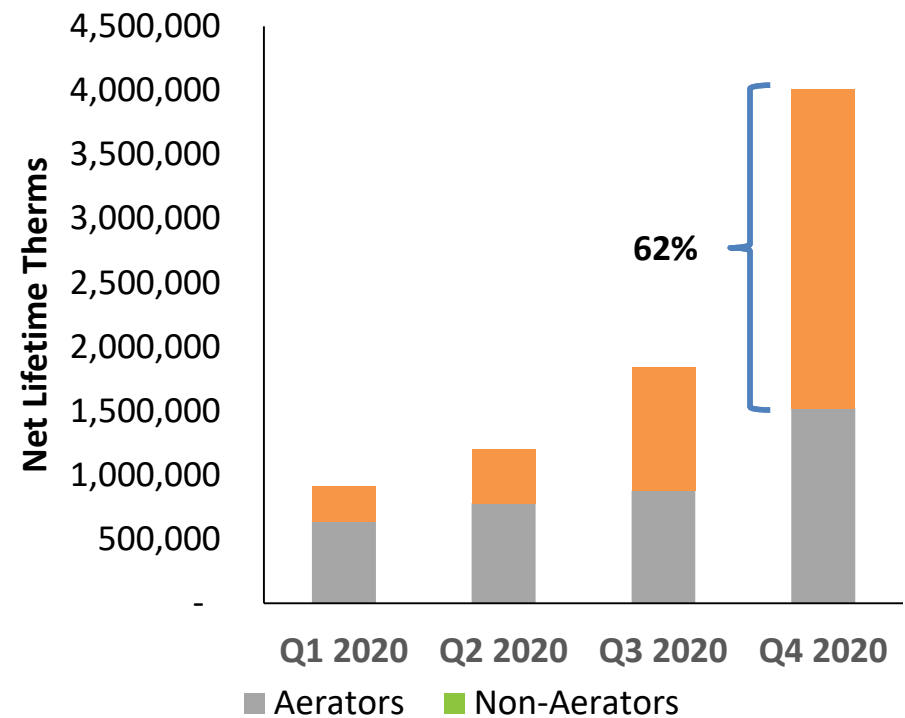


# KPI #6: SMALL BIZ TURNKEY MEASURE DIVERSITY

**Cumulative Turnkey Savings - Electric**



**Cumulative Turnkey Savings - Gas**



\* "Aerators" are defined as aerators, showerheads and spray nozzles.

## ► Significant progress on small biz gas weatherization

# C&I ACTIVE DEMAND PERFORMANCE

Bi-Annual #1: The PAs will report on active and passive demand savings, and break down savings by demand approaches (including without limitation, residential storage, C&I storage, residential direct load control, and C&I curtailment)

PA	Sector	Dispatch Type	Technology	Season	2020 Planned (MW)	2020 Enrolled (MW)	2020 Performed (MW)	2020 Evaluated (MW)
National Grid	C&I	Targeted	Agnostic	Summer	72.0	90.9	57.1	46.7
Eversource	C&I	Targeted	Agnostic	Summer	47.0	88.0	55.4	43.2
Unitil	C&I	Targeted	Agnostic	Summer	0.4	0.8	1.0	0.9
CLC	C&I	Targeted	Agnostic	Summer	12.5	1.2	1.0	0.8
National Grid	C&I	Daily	Agnostic	Summer	5.0	7.8	9.1	9.1
Eversource	C&I	Targeted	Storage	Summer	5.0	0.4	0.3	0.3
CLC	C&I	Targeted	Storage	Summer	2.0	0.3	0.2	0.2
Eversource	C&I	Daily	Storage	Summer	5.0	4.4	2.8	2.9
National Grid	C&I	Targeted	Agnostic	Winter*	21.5	61.2	TBD	TBD
Eversource	C&I	Targeted	Agnostic	Winter*	20.0	30.0	TBD	TBD
CLC	C&I	Targeted	Agnostic	Winter*	3.1	0.3	TBD	TBD
CLC	C&I	Targeted	Storage	Winter*	2.0	0.8	TBD	TBD

- **Evaluated Summer 2020 performance lower than what PAs initially reported in Q3 right at end of Summer season**
- **Winter values represent 2020/2021 season which runs until 3/31/2021**

# C&I HEAT PUMP PERFORMANCE TOWARD GOAL

Bi-Annual #3: Number of heat pump installations, including specifying the number of heat pumps related to fuel switching.				
			2nd Quarter	4th Quarter
Measure Name	# per Customer		Total	Total
<b>C&amp;I</b>			<b>605</b>	<b>1,902</b>
Mini Split HP - Upstream	Varies		296	385
Central HP - Upstream	Varies		309	1,517
HVAC - Custom (Fuel Switching)	1			6

- ▶ **Combined 2019/2020 C&I heat pumps installed = 3,177 units**
  - Term sheet goal for C&I heat pumps = 17,980 units
- ▶ **Not fully captured in reported numbers**
  - Newly launched Prescriptive EO offering
  - Custom retrofit
  - New construction

# WHAT TO WATCH FOR TO INFORM 2022-2024 PLAN

## Res and IES

### Q1 and Q2 KPIs

- IES performance post-COVID
- Residential audit and insulation activity levels post 100% insulation incentive
- Heat pump numbers, esp. for fuel switching, focus on IES

### 2020 Plan Year Report

- Renter participation and language data, only reported once a year
- Share of savings from lighting

## C&I

### Q1 and Q2 KPIs

- C&I gas retrofit savings
- Custom HVAC projects
- Small business measure diversity

### 2020 Plan Year Report

- CHP savings
- C&I heat pumps/Energy Optimization
- Share of savings from lighting

# THANK YOU

## Questions?

▶ April 14, 2021

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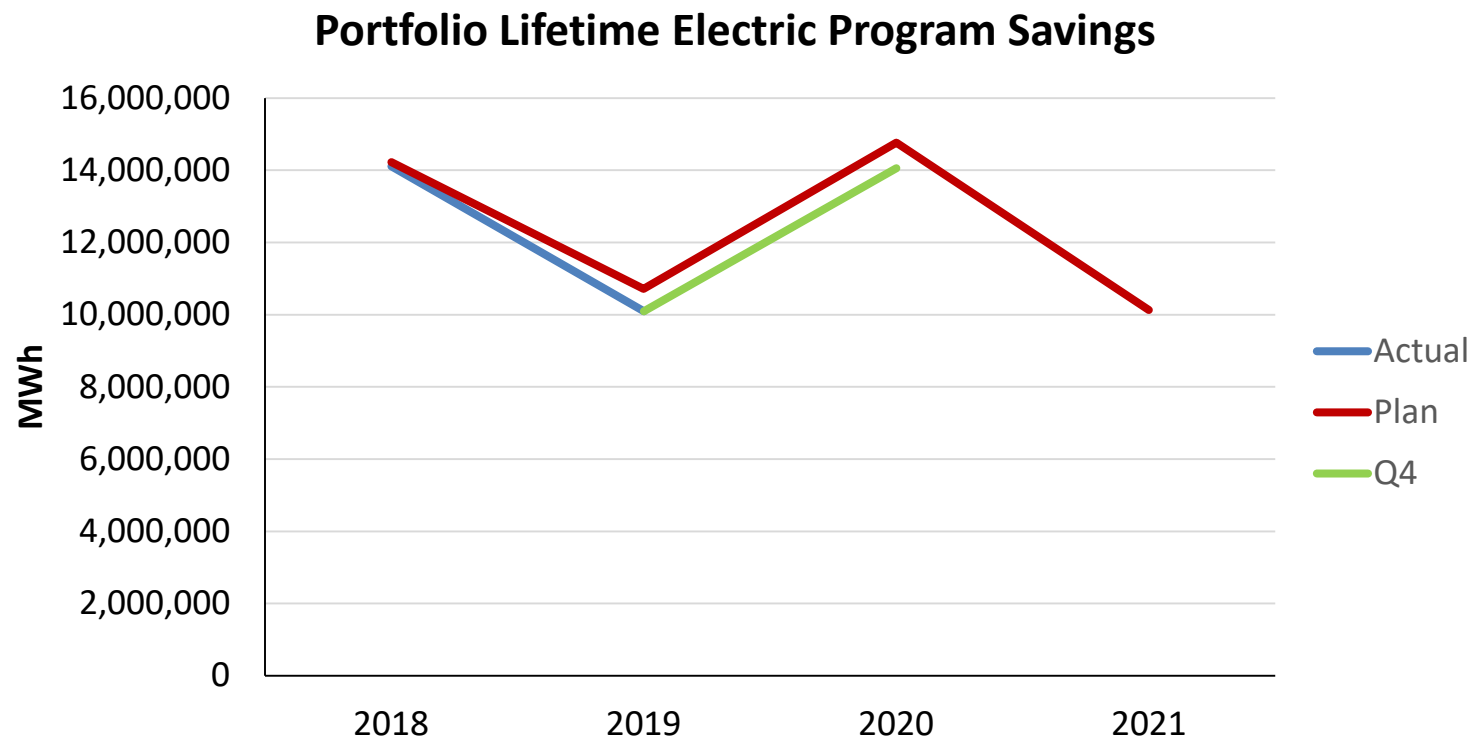


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# APPENDIX

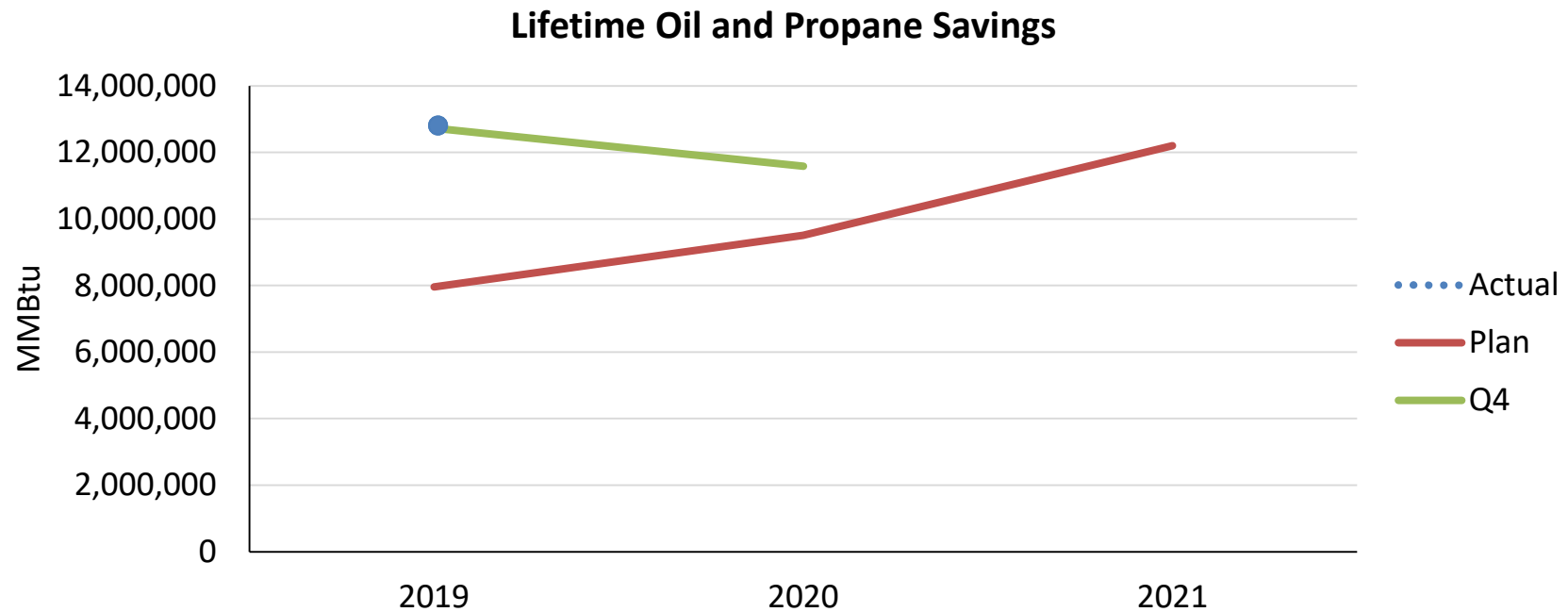
# LIFETIME ELECTRIC PROGRAM SAVINGS: ELECTRIC

► Tracked closely to plan in 2020



# LIFETIME ELECTRIC PROGRAM SAVINGS: DELIVERED FUELS

## ► Delivered fuel savings higher than planned in 2020

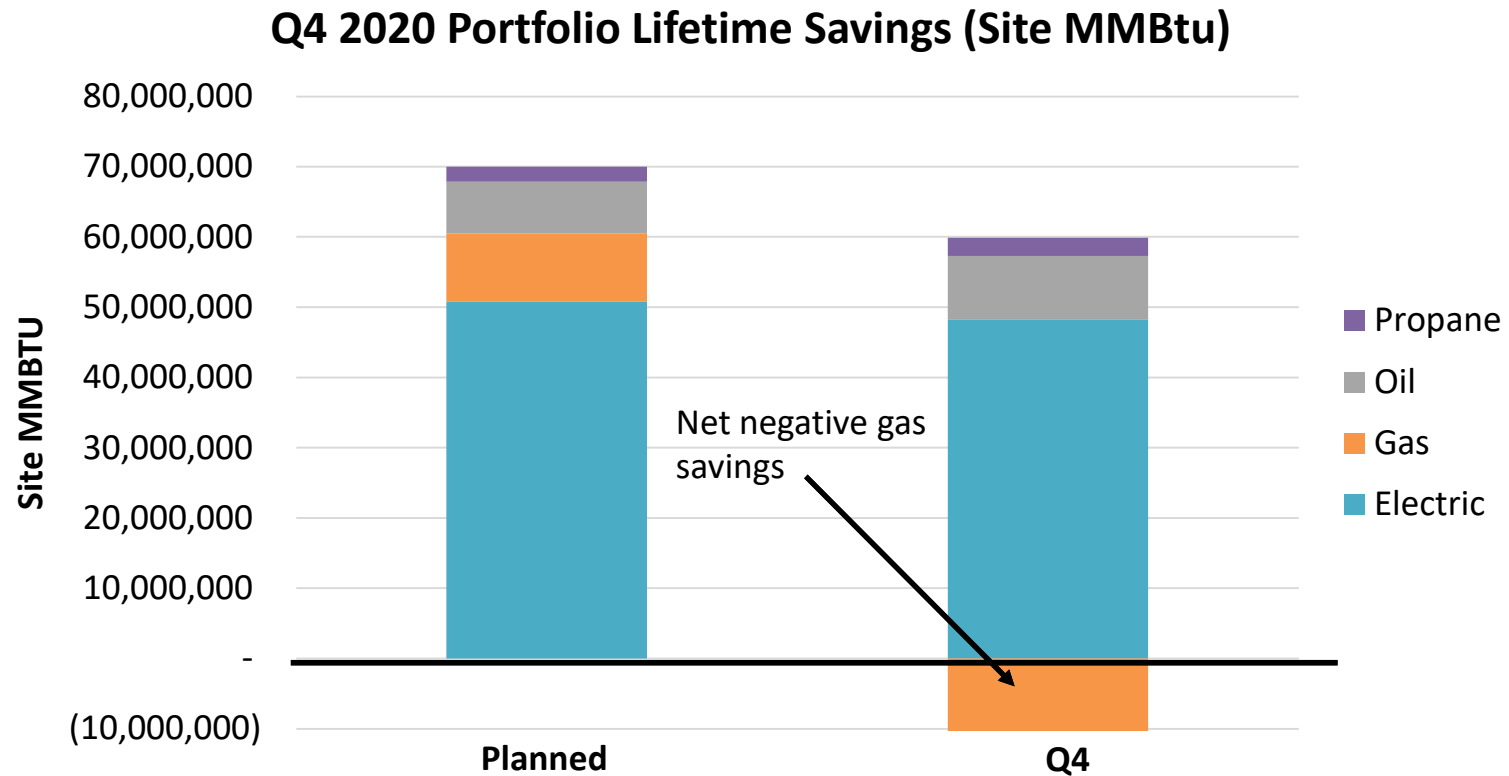


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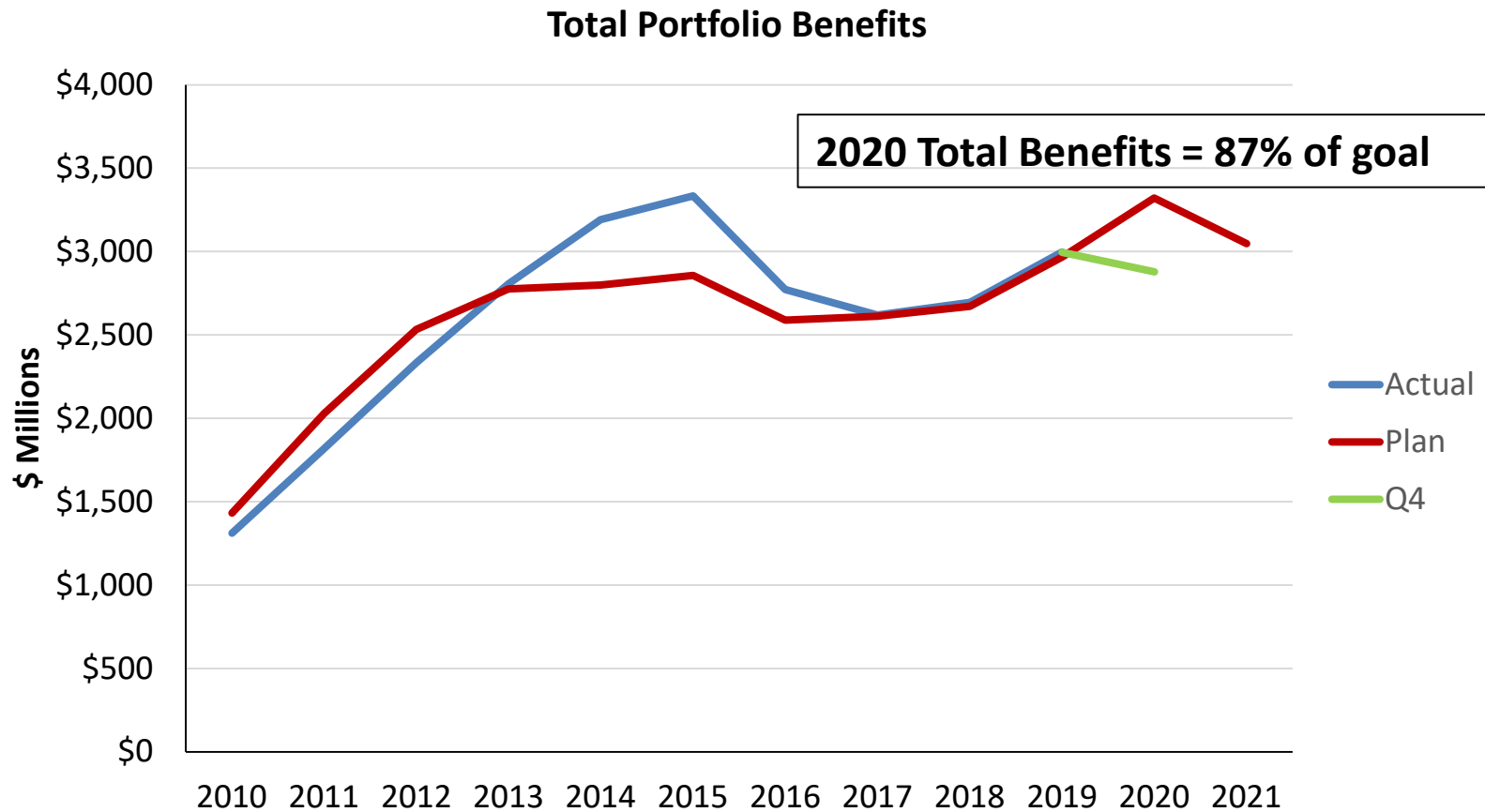


# PORTFOLIO 2020 Q4 LIFETIME SAVINGS, GAS AND ELECTRIC PROGRAMS COMBINED

- ▶ Total lifetime savings lower than planned, driven by higher than expected increased gas usage

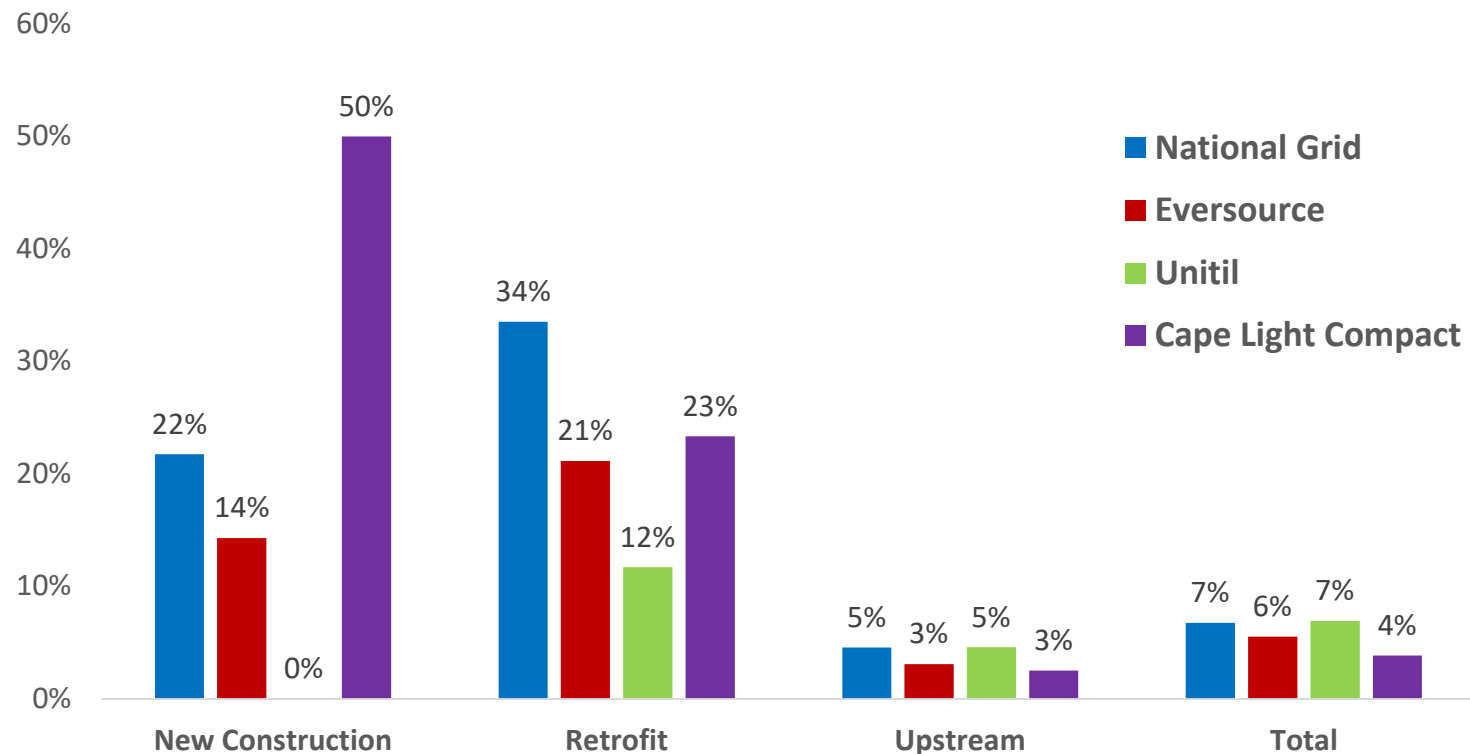


# TOTAL PORTFOLIO BENEFITS OVER TIME



# KPI #4: RATIO OF PROJECTS THAT INCLUDE LIGHTING CONTROLS (C&I)

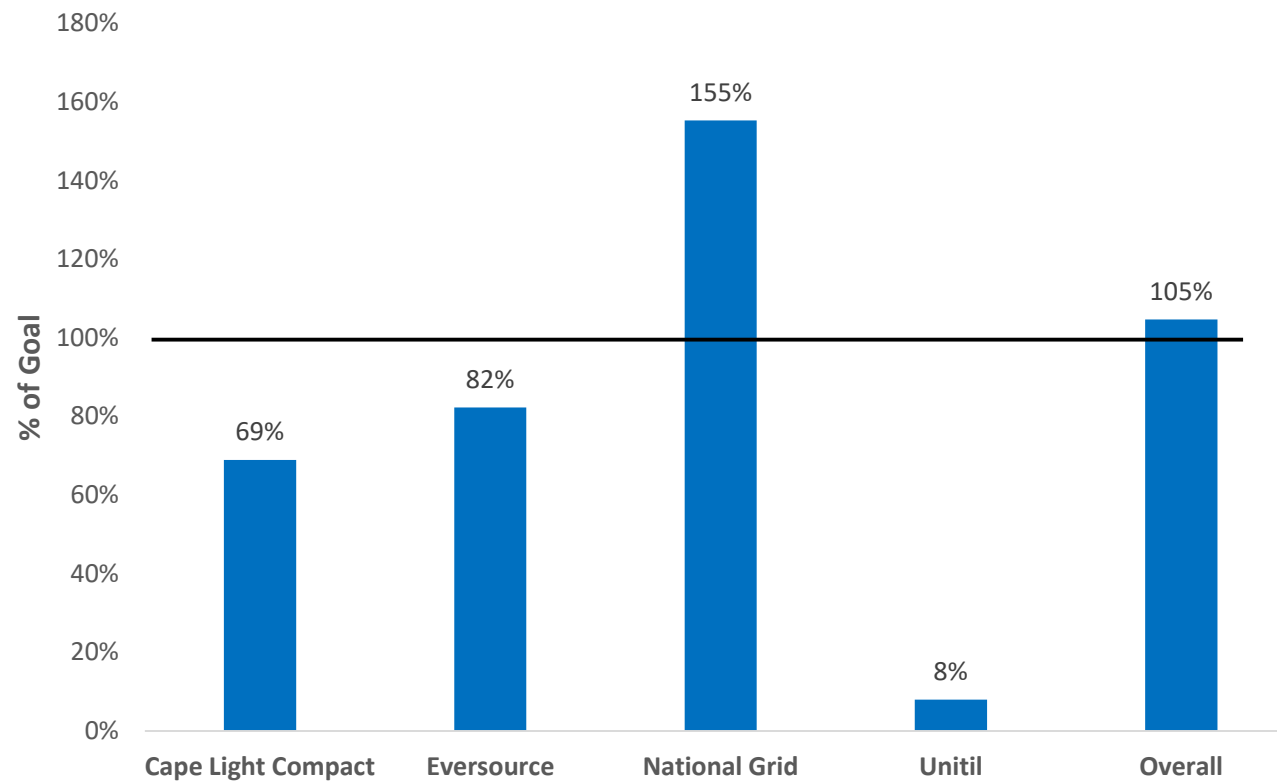
KPI #4 - Lighting Projects with Controls



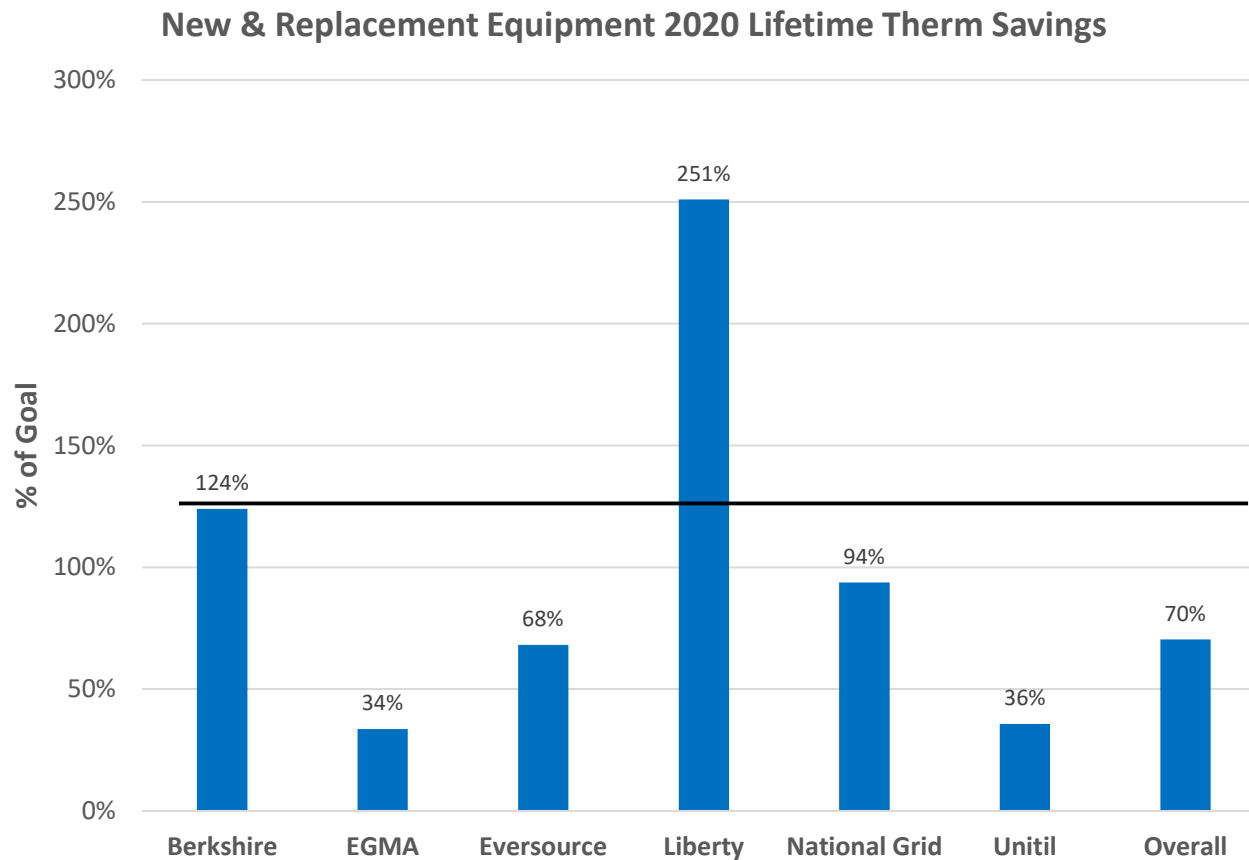
► Highest volume of projects (88%) go through Upstream

# C&I NEW CONSTRUCTION - ELEC

New Buildings 2020 Lifetime MWh Savings

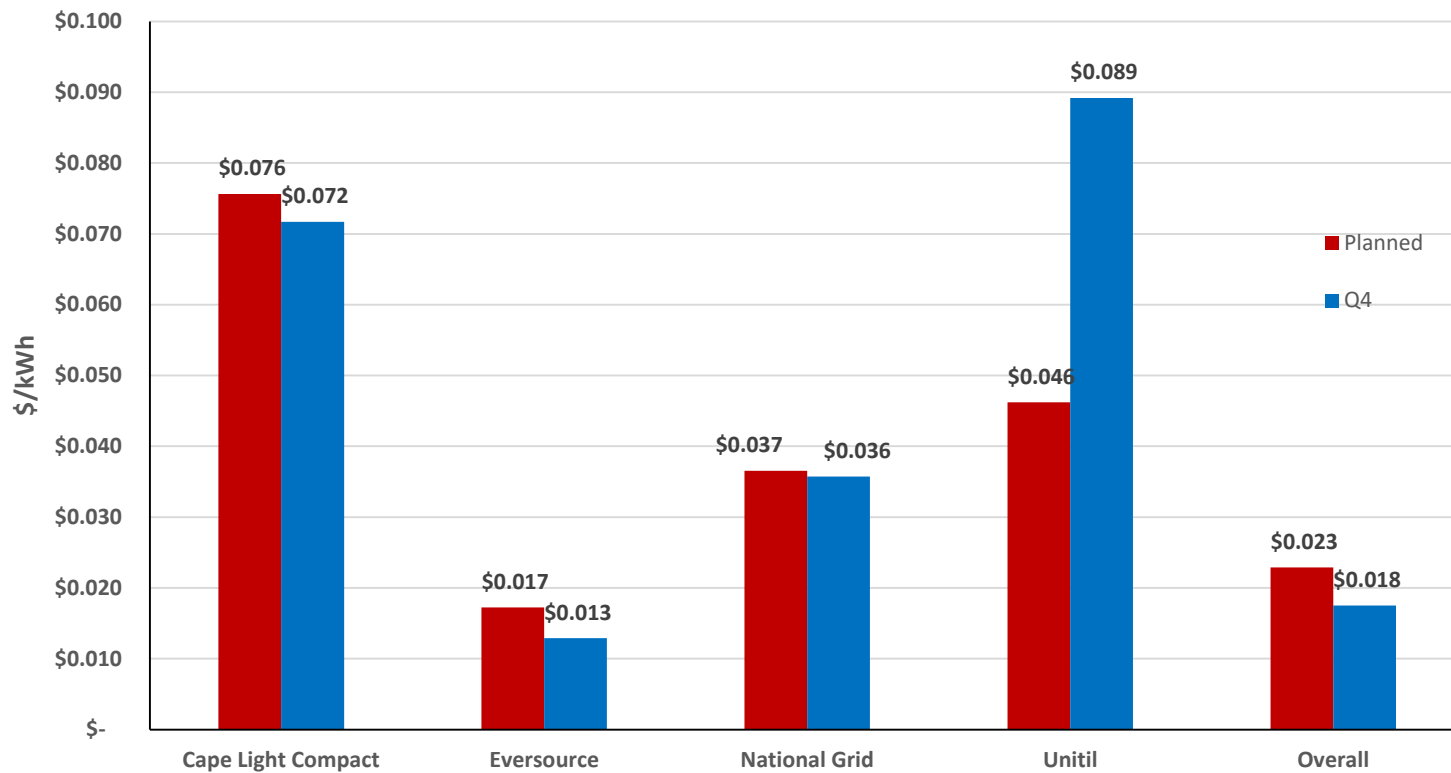


# C&I NEW AND REPLACEMENT EQUIPMENT - GAS



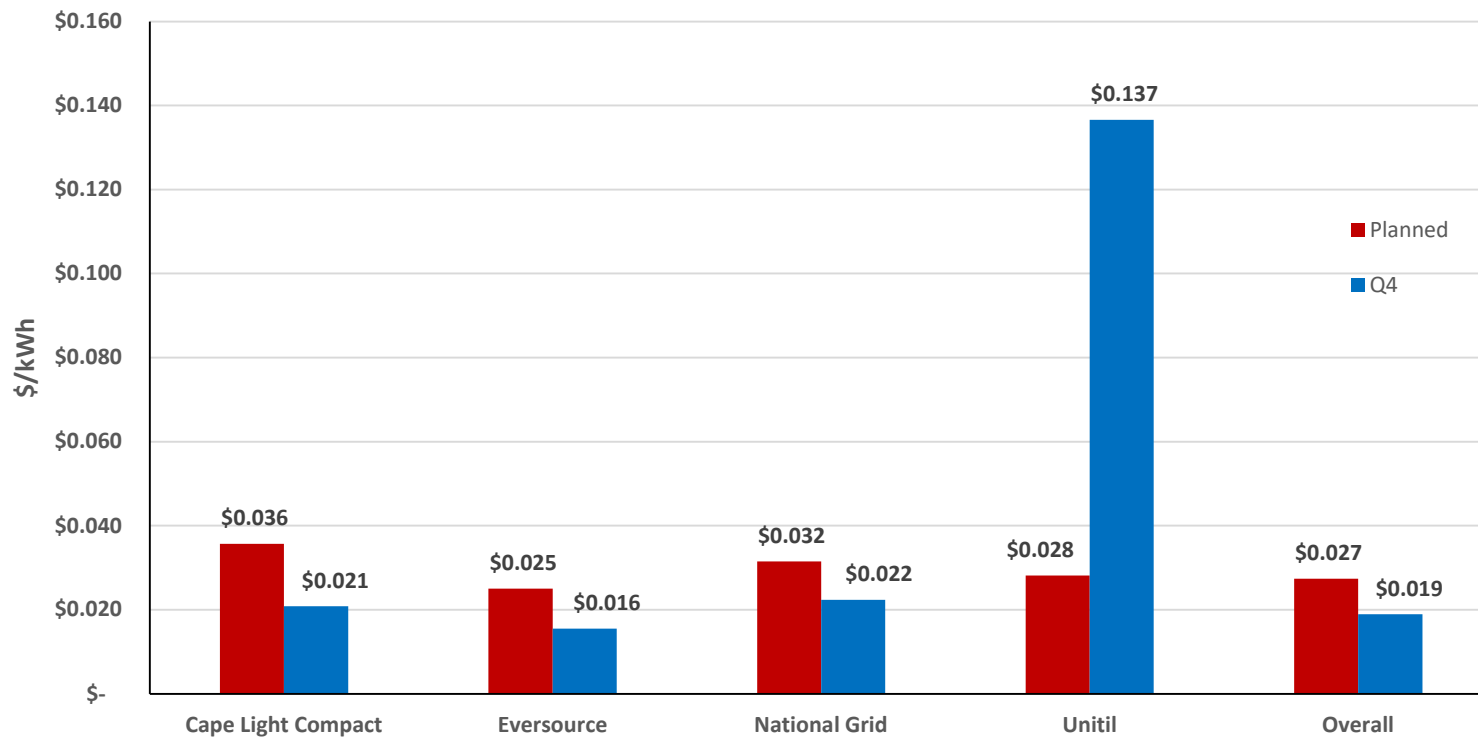
# C&I EXISTING BUILDING RETROFIT - ELECTRIC

Existing Buildings 2020 Net Lifetime Electric Costs to Achieve



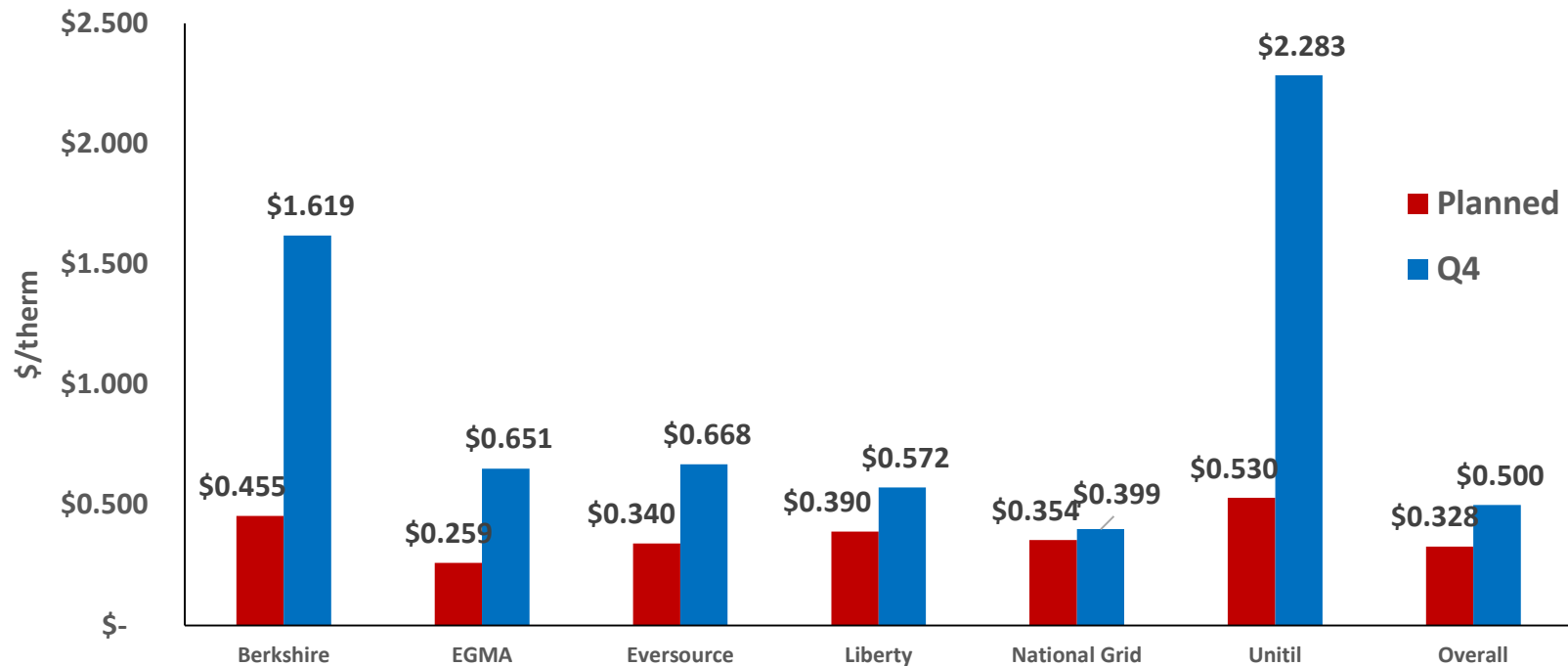
# C&I NEW CONSTRUCTION - ELECTRIC

New Buildings 2020 Net Lifetime Electric Costs to Achieve



# C&I EXISTING BUILDING RETROFIT – GAS

Existing Buildings 2020 Net Lifetime Gas Costs to Achieve

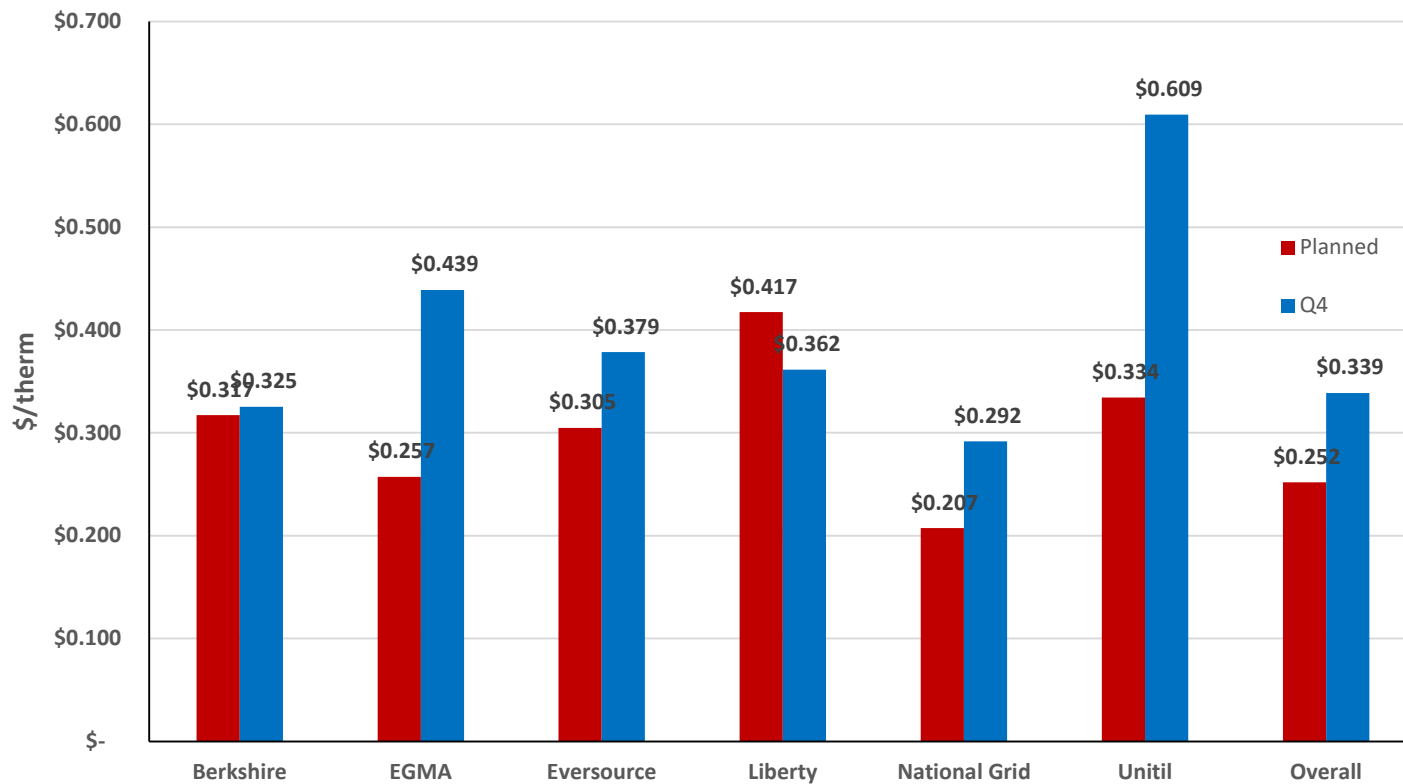


► Cost per unit savings generally came in higher than planned (~50% higher than planned statewide)



# C&I NEW AND REPLACEMENT EQUIPMENT - GAS

**New & Replacement Equipment 2020 Net Lifetime Gas Costs to Achieve**



# C&I NEW CONSTRUCTION - GAS

New Buildings 2020 Net Lifetime Gas Costs to Achieve

