

# CONSULTANT TEAM PRESENTATION ON PA Q4 2020 REPORT

▶ **March 24, 2021**

# 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



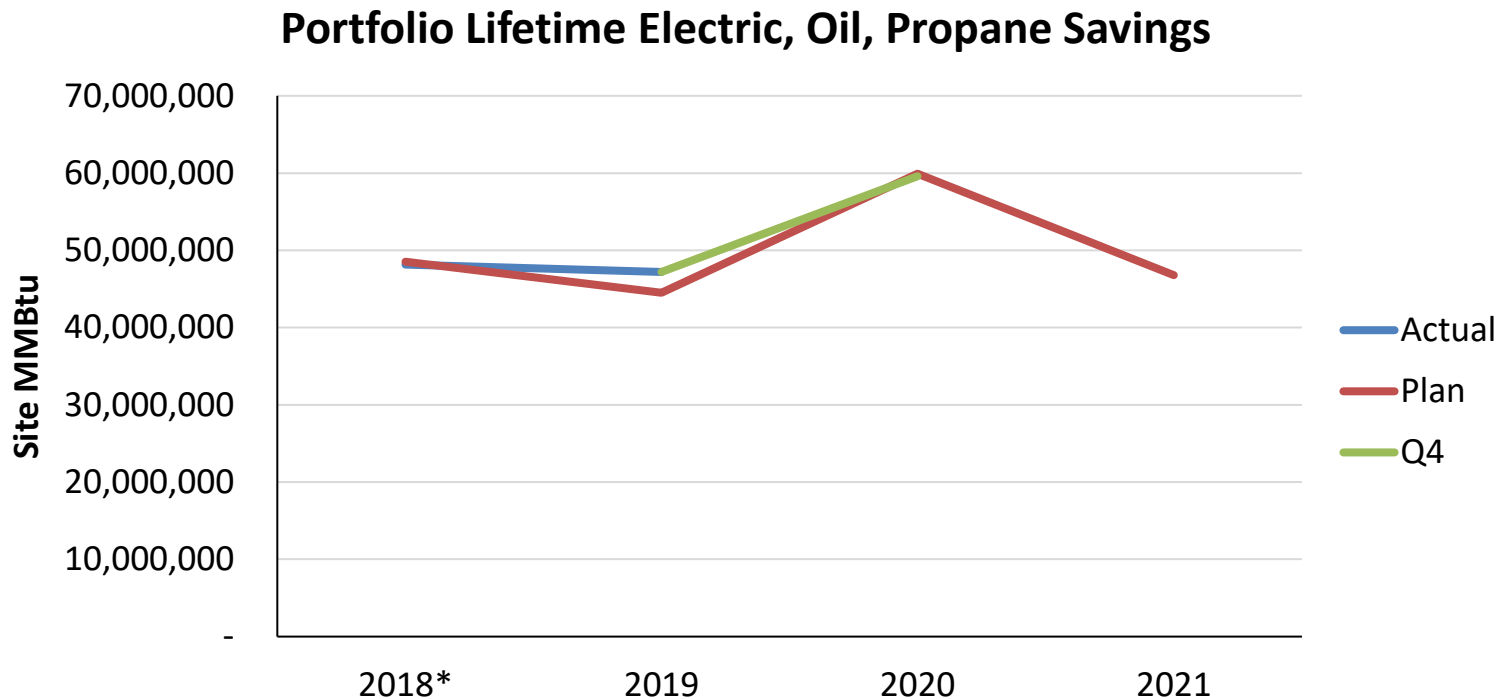
# PORTFOLIO

# 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)

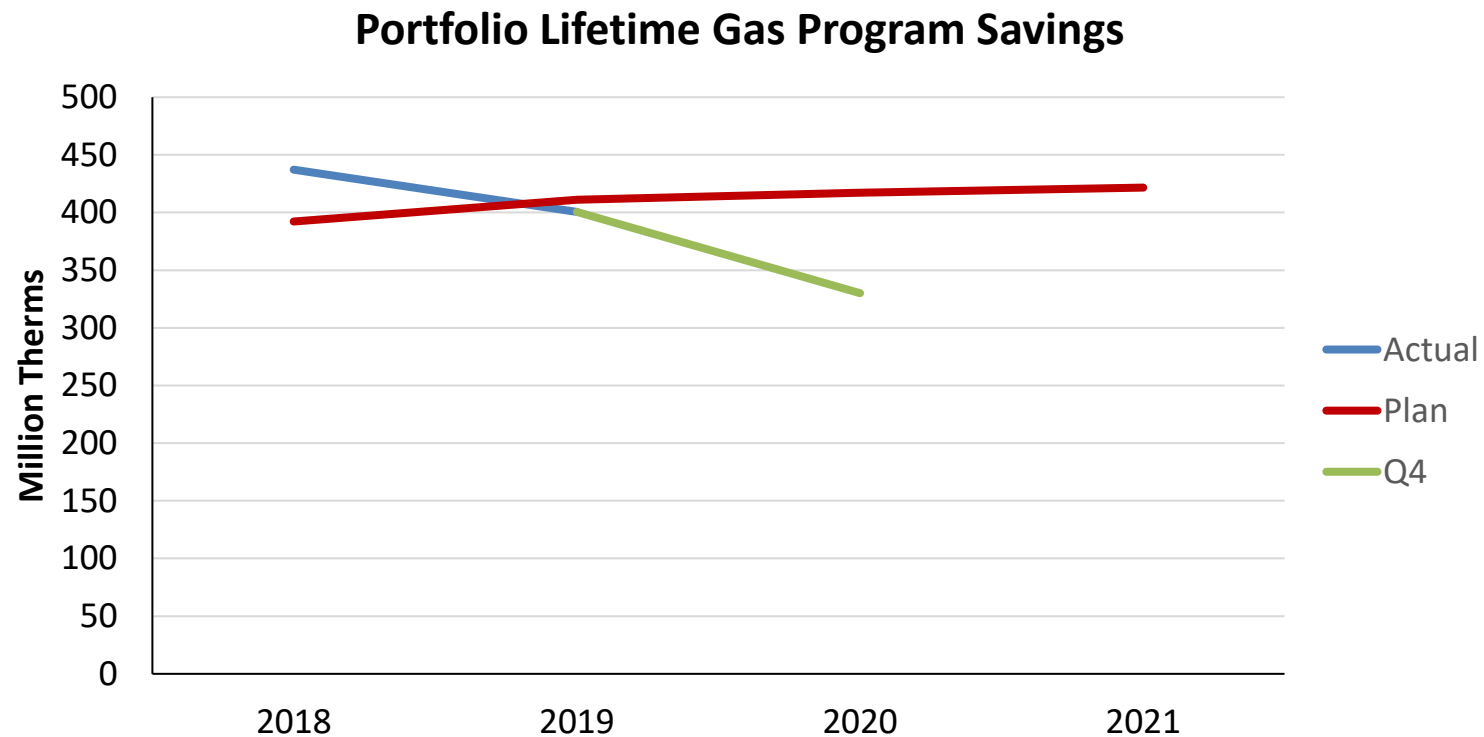
## ► Tracked closely to plan in 2020



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

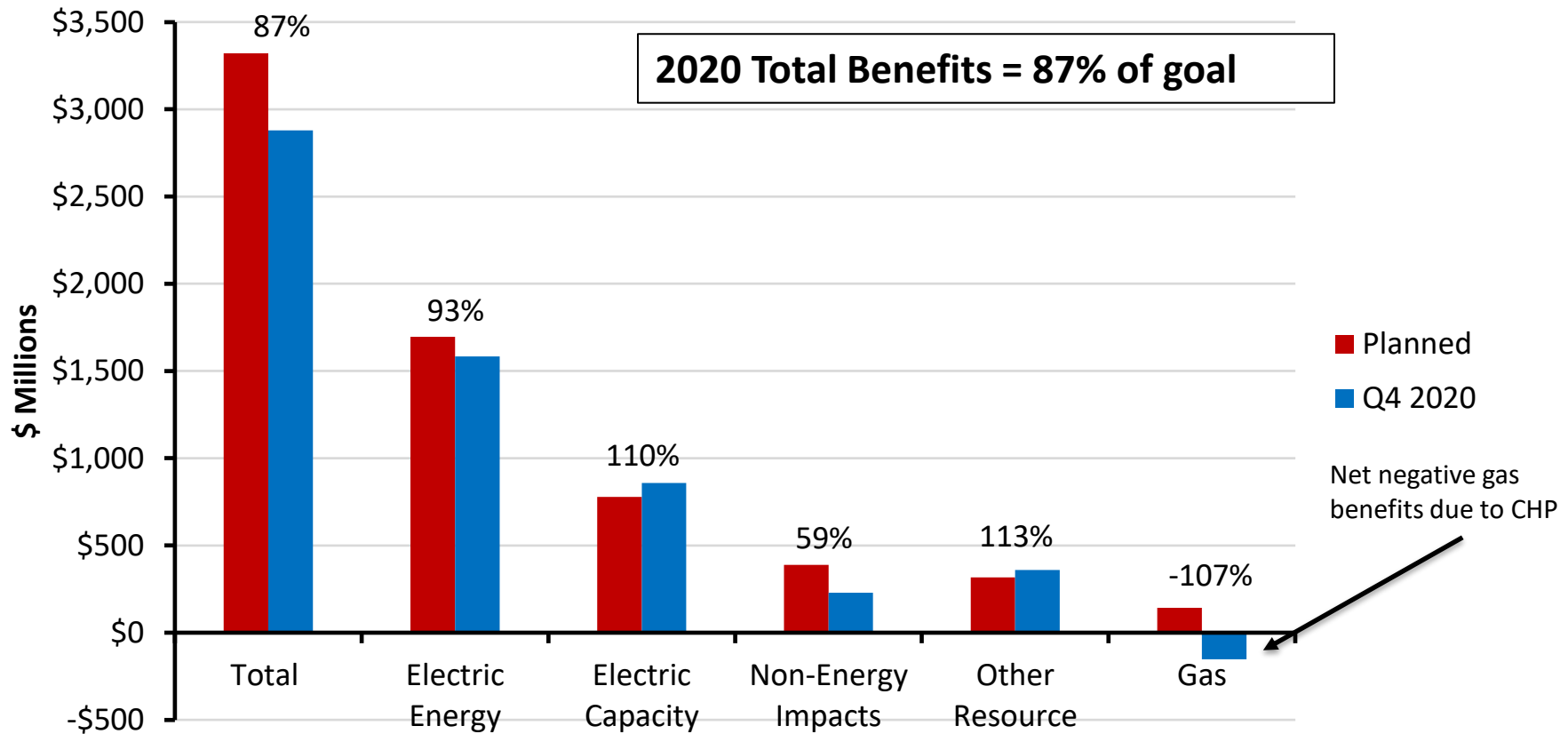
# LIFETIME GAS PROGRAM SAVINGS

- ▶ 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

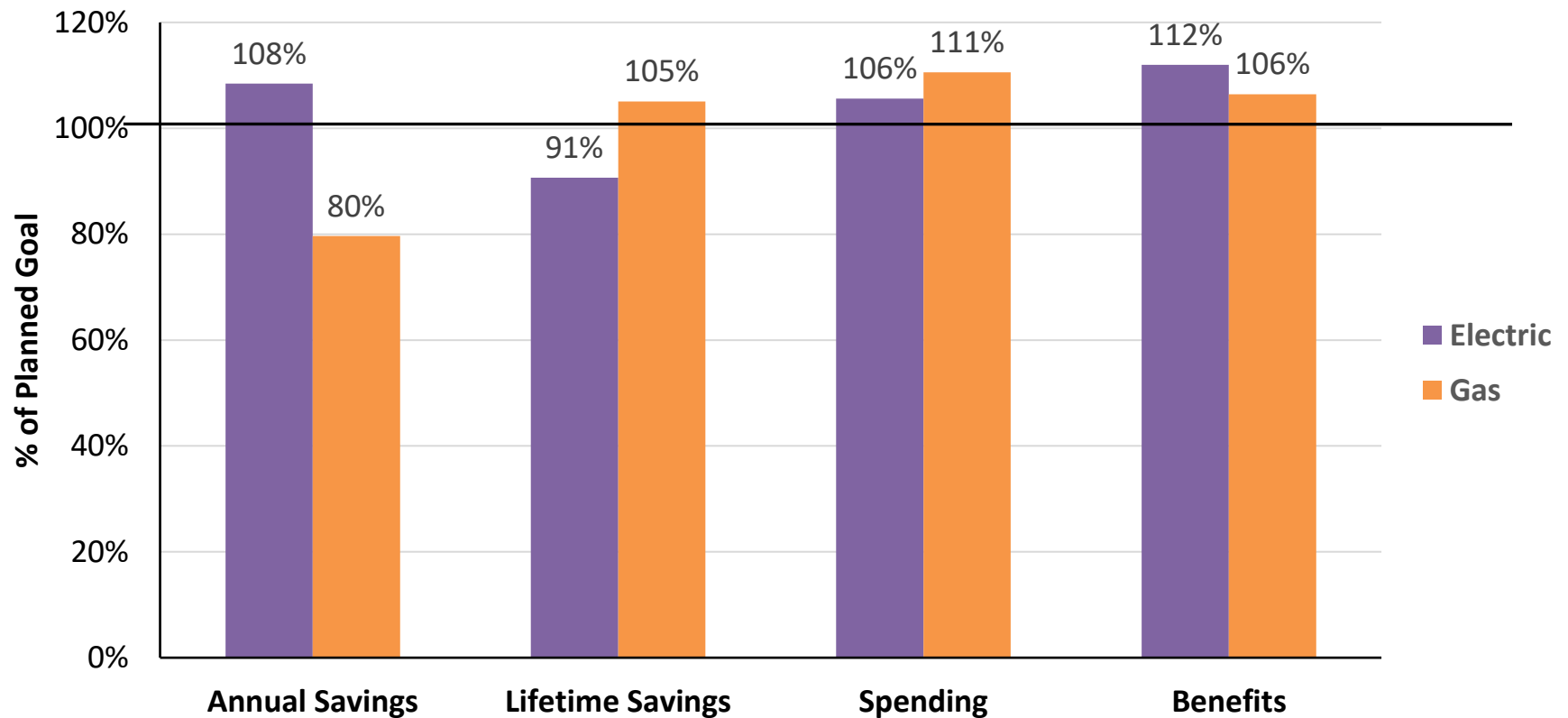


# RESIDENTIAL TAKEAWAYS

- ▶ **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**

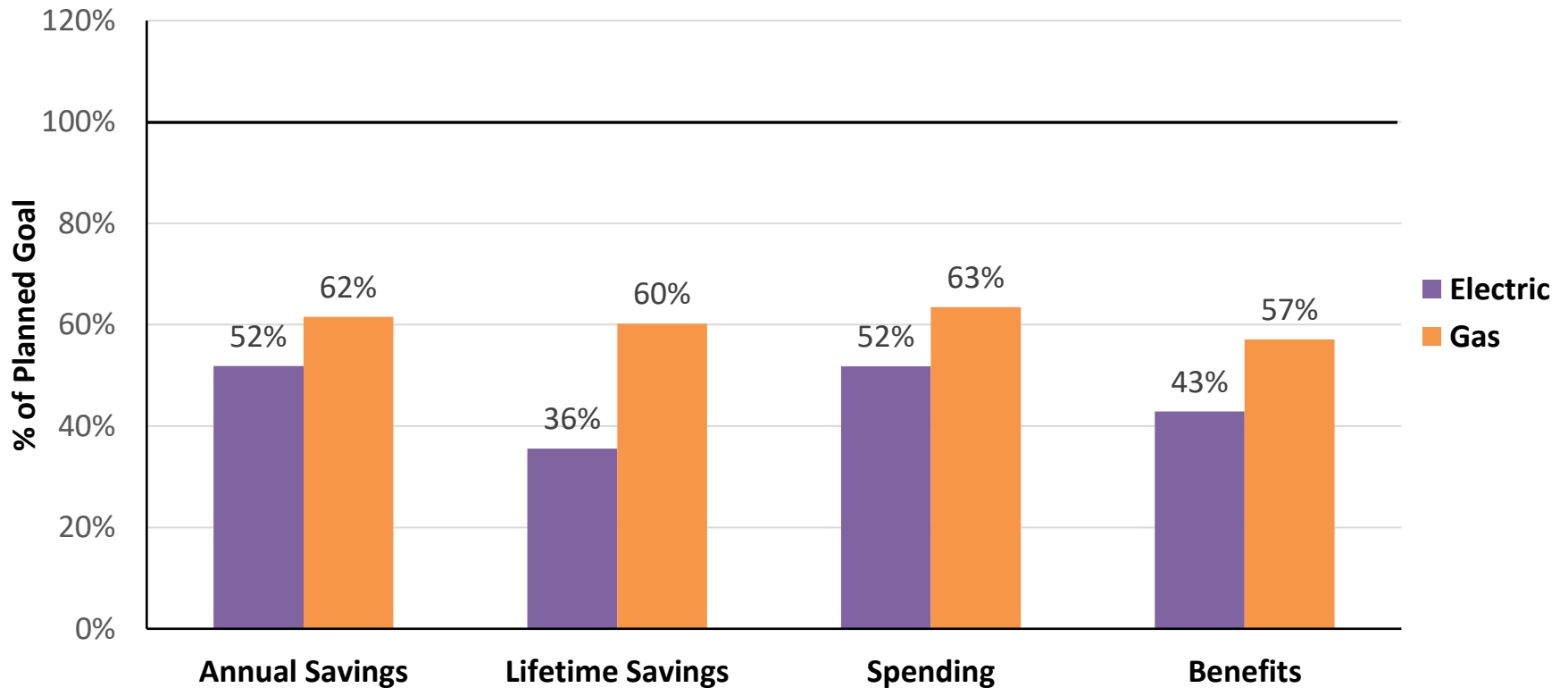
# RESIDENTIAL STATEWIDE GOAL ACHIEVEMENT 2020

## 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

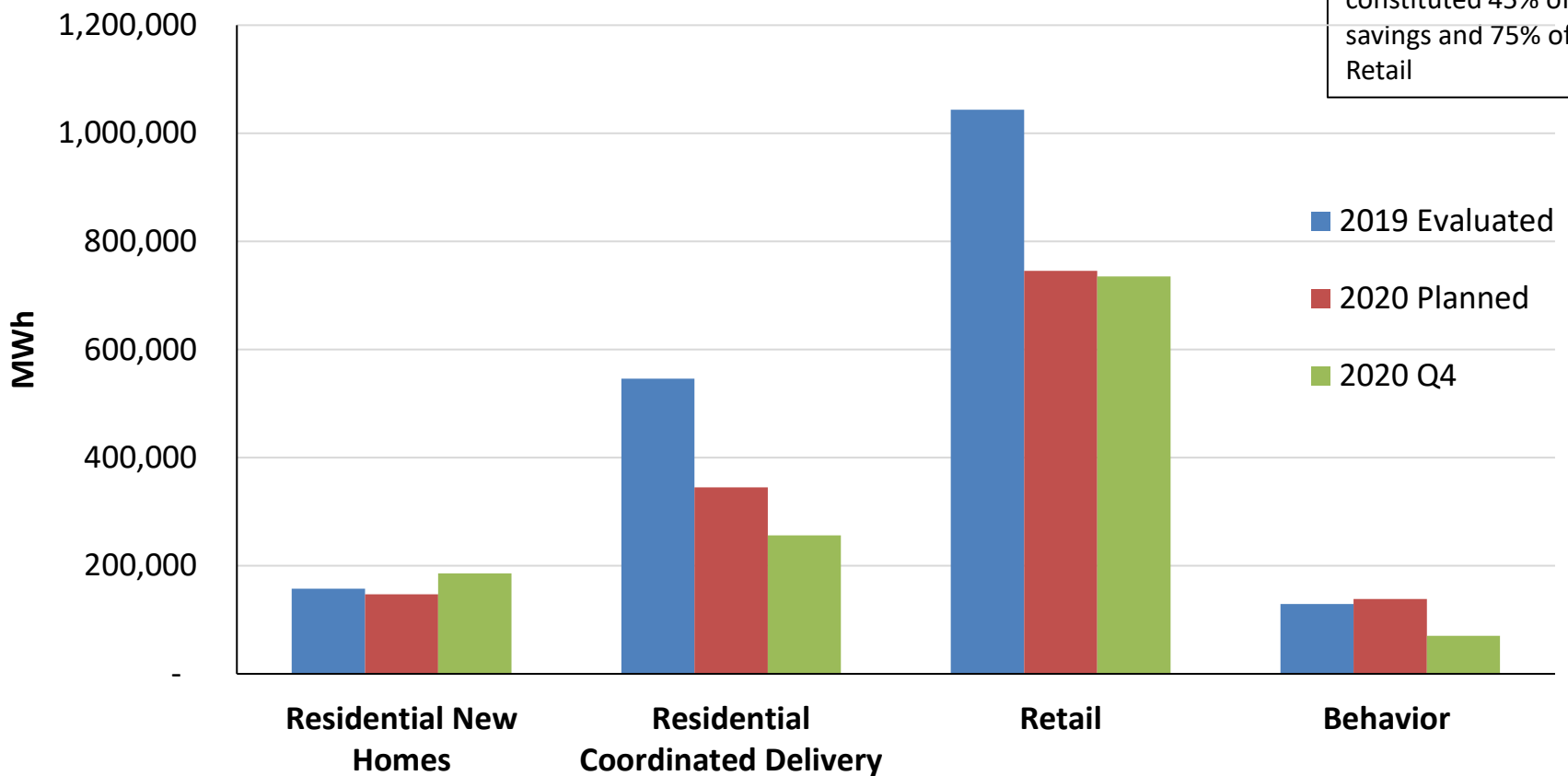
## % of 2020 Lifetime Savings Goal for Coordinated Delivery Initiatives

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

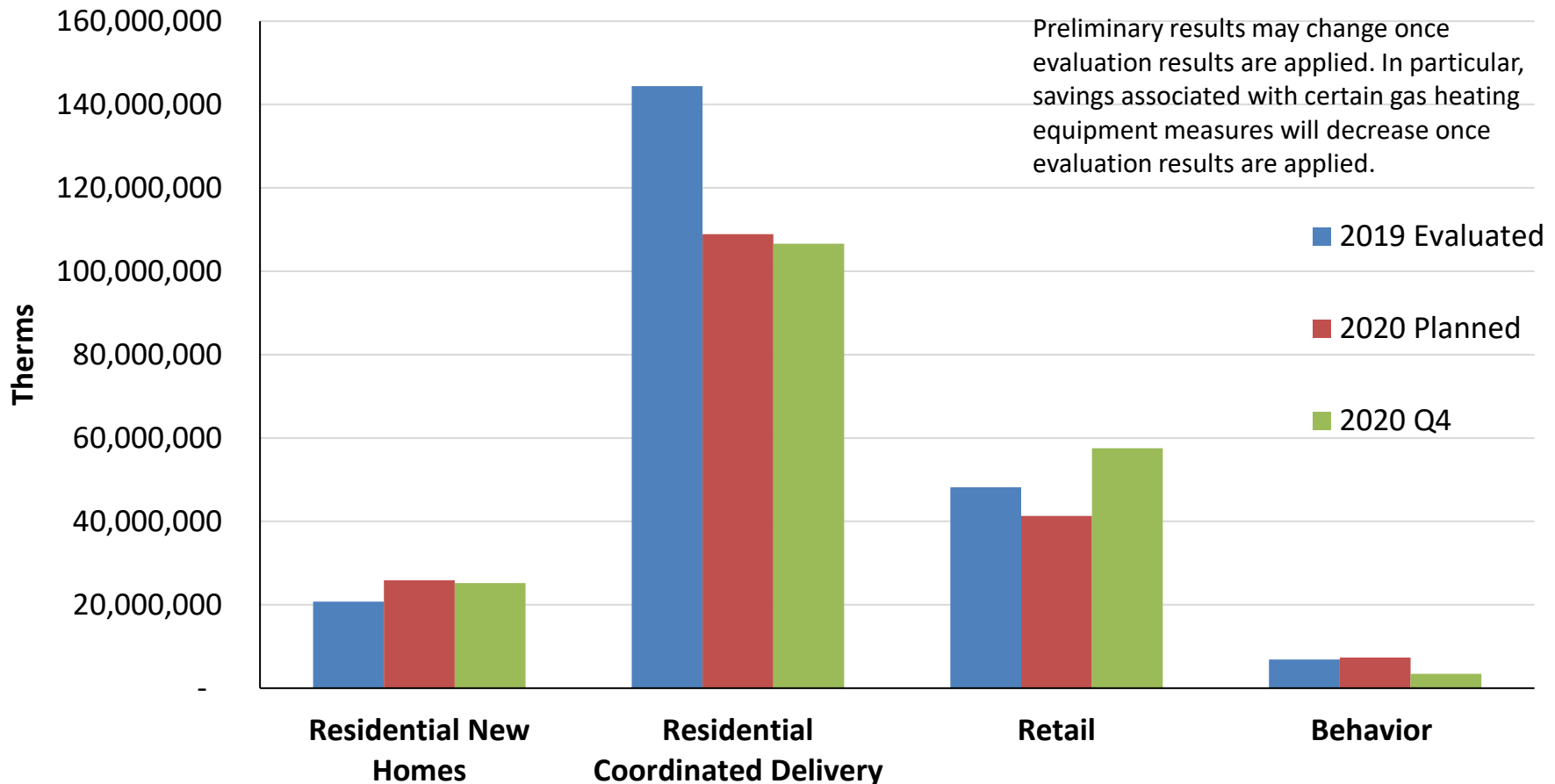


In 2019, lighting constituted 45% of RCD savings and 75% of Retail

■ 2019 Evaluated  
■ 2020 Planned  
■ 2020 Q4

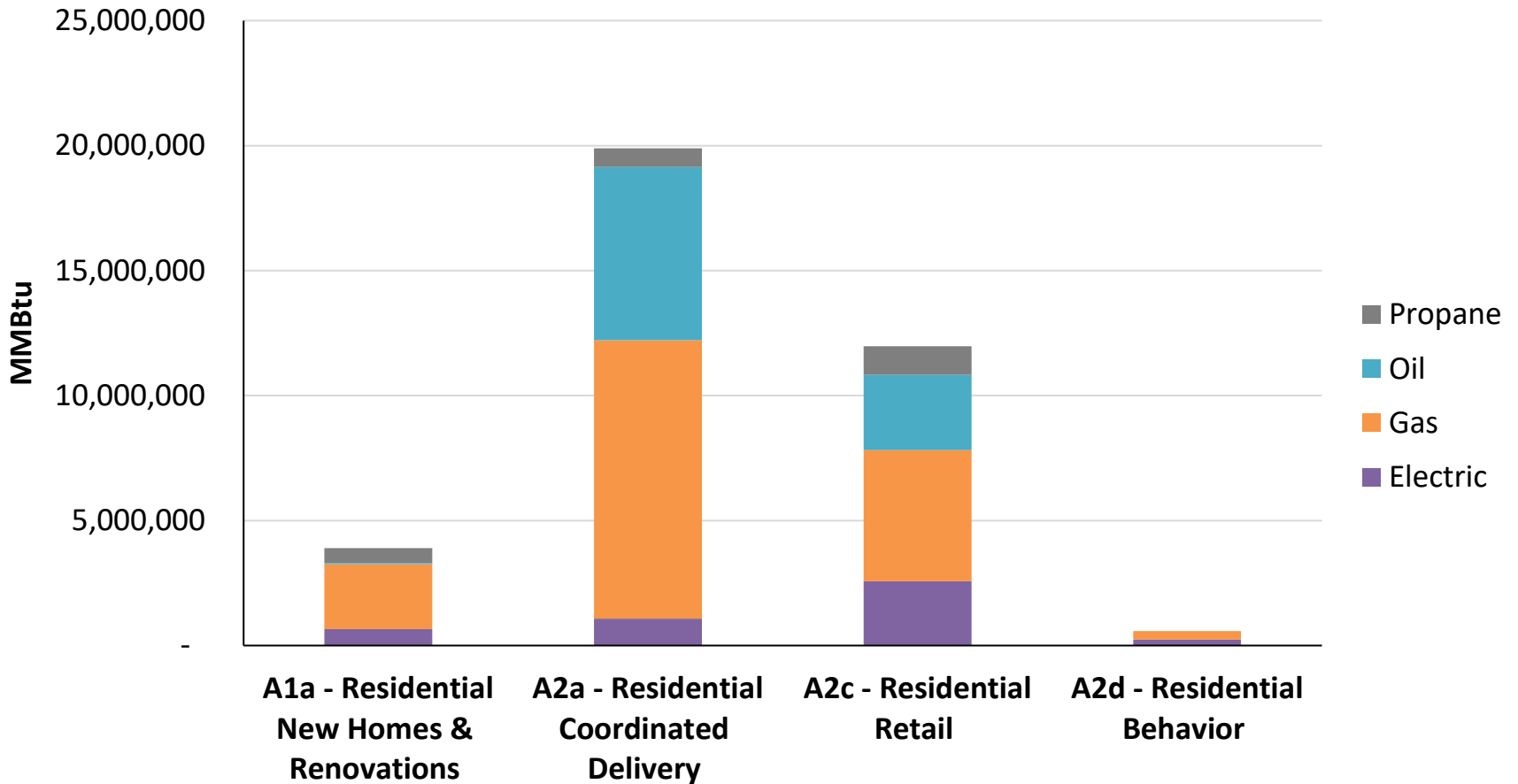
# GAS ONLY INITIATIVE-SPECIFIC RESULTS

## Residential Gas Initiative Savings



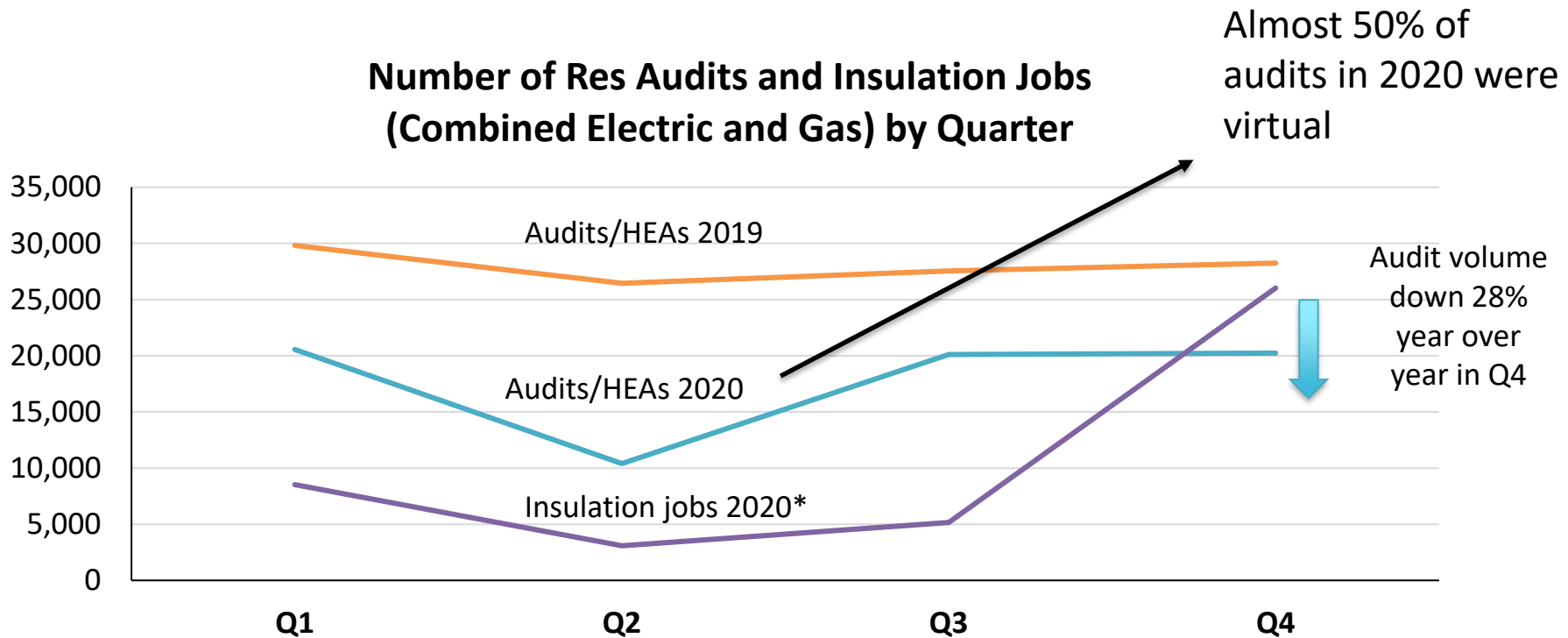
# ALL FUELS SAVINGS BY INITIATIVE

## 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>	



# COMMERCIAL & INDUSTRIAL

# C&I TAKEAWAYS

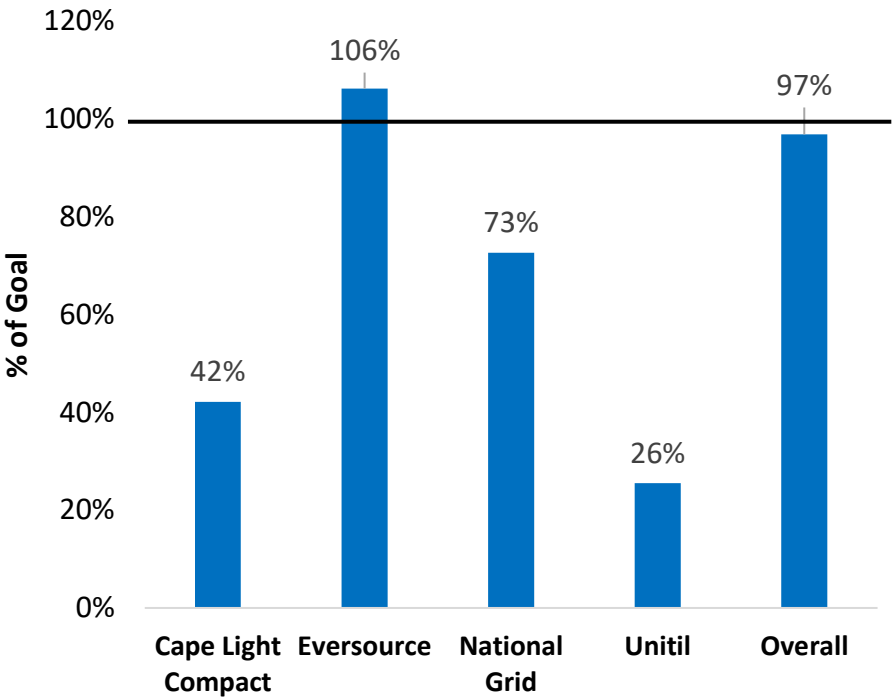
- ▶ **Large CHP project from Eversource key driver of statewide C&I retrofit performance achievement**
- ▶ **Second consecutive year of low C&I gas achievement (2019 = 71%; 2020 = 58%)**
- ▶ **Custom HVAC savings is critically important and performance is still lagging well behind planned savings**
- ▶ **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

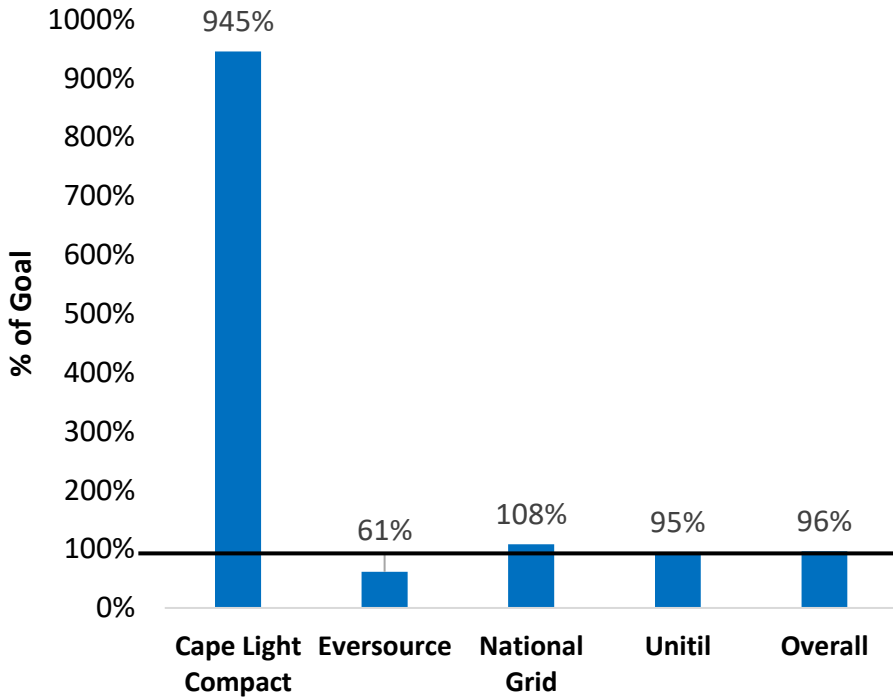
	Planned	Actual	Performance
<b>Statewide Electric Savings</b>			
Net Lifetime MWh	<b>13,058,022</b>	<b>12,694,826</b>	<b>97%</b>
Existing Building Retrofit	10,680,442	10,344,515	97%
New & Replacement Equipment	1,652,009	1,590,770	96%
New Buildings & Major Renovations	725,571	759,541	105%
<b>Statewide 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

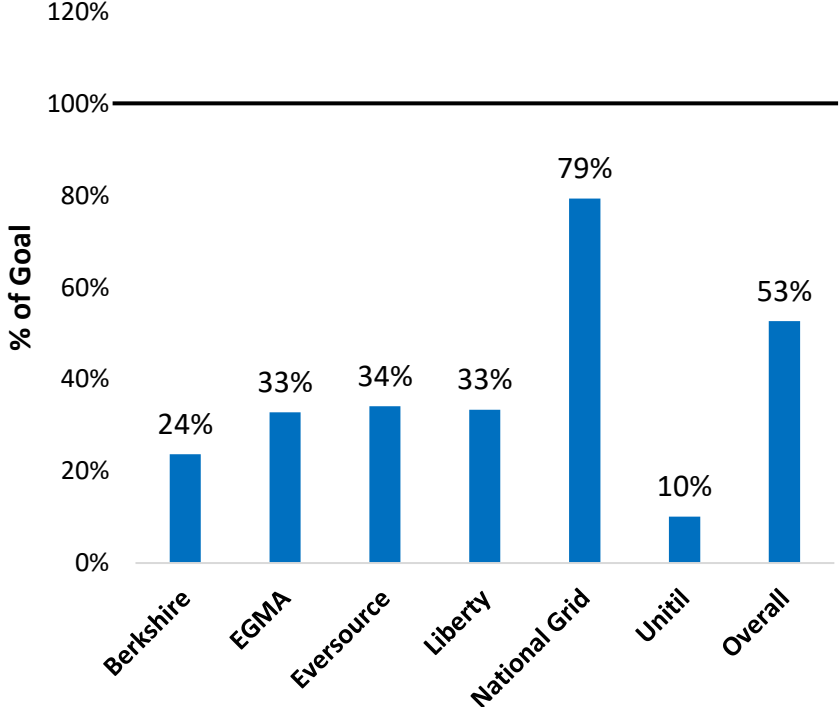
**New & Replacement Equipment 2020 Net Lifetime Electric Costs to Achieve**



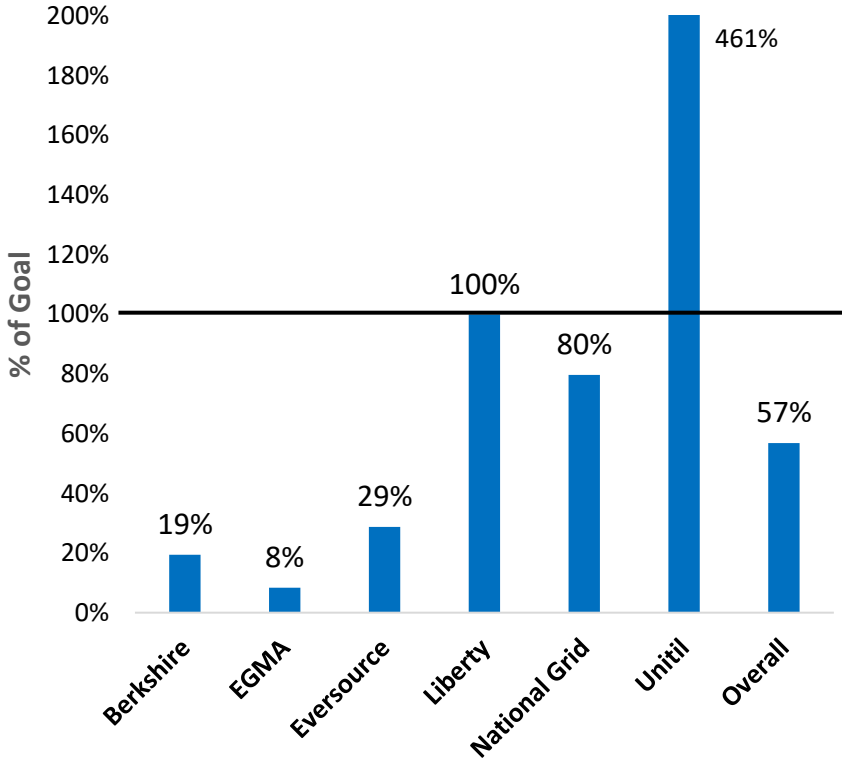
- ▶ Much higher than planned savings for CLC = lower \$/kWh
- ▶ Less than planned savings for Eversource = higher \$/kWh

# 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

# 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

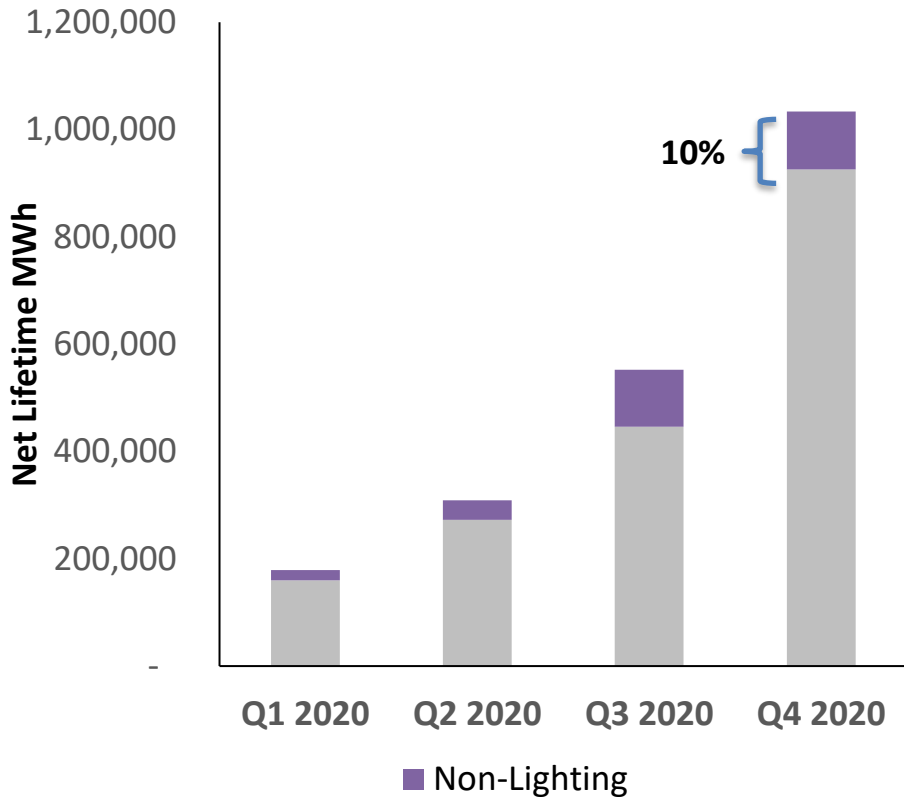
- **45%** achievement towards 2020 planned values for these measures
  - ▶ Grid achieved **135%** of planned
  - ▶ Eversource achieved 9.4% of planned
  - ▶ EGMA (formerly Columbia) achieved 17.5% of planned
  - ▶ Smaller PAs did not report custom HVAC gas due to small # of projects and customer privacy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



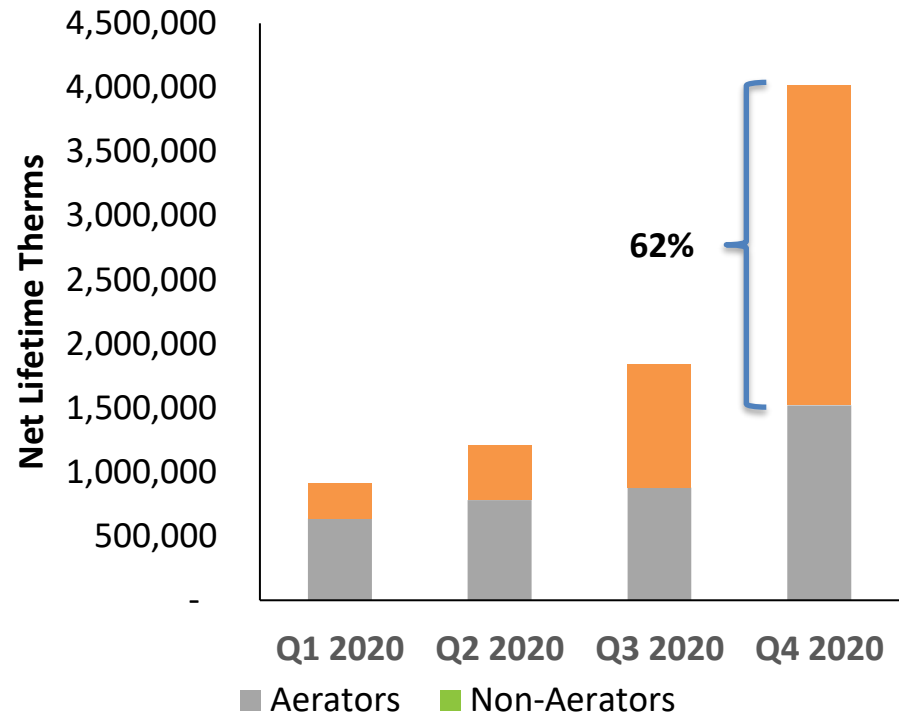


# KPI #6: SMALL BIZ TURNKEY MEASURE DIVERSITY

**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

# THANK YOU

## Questions?

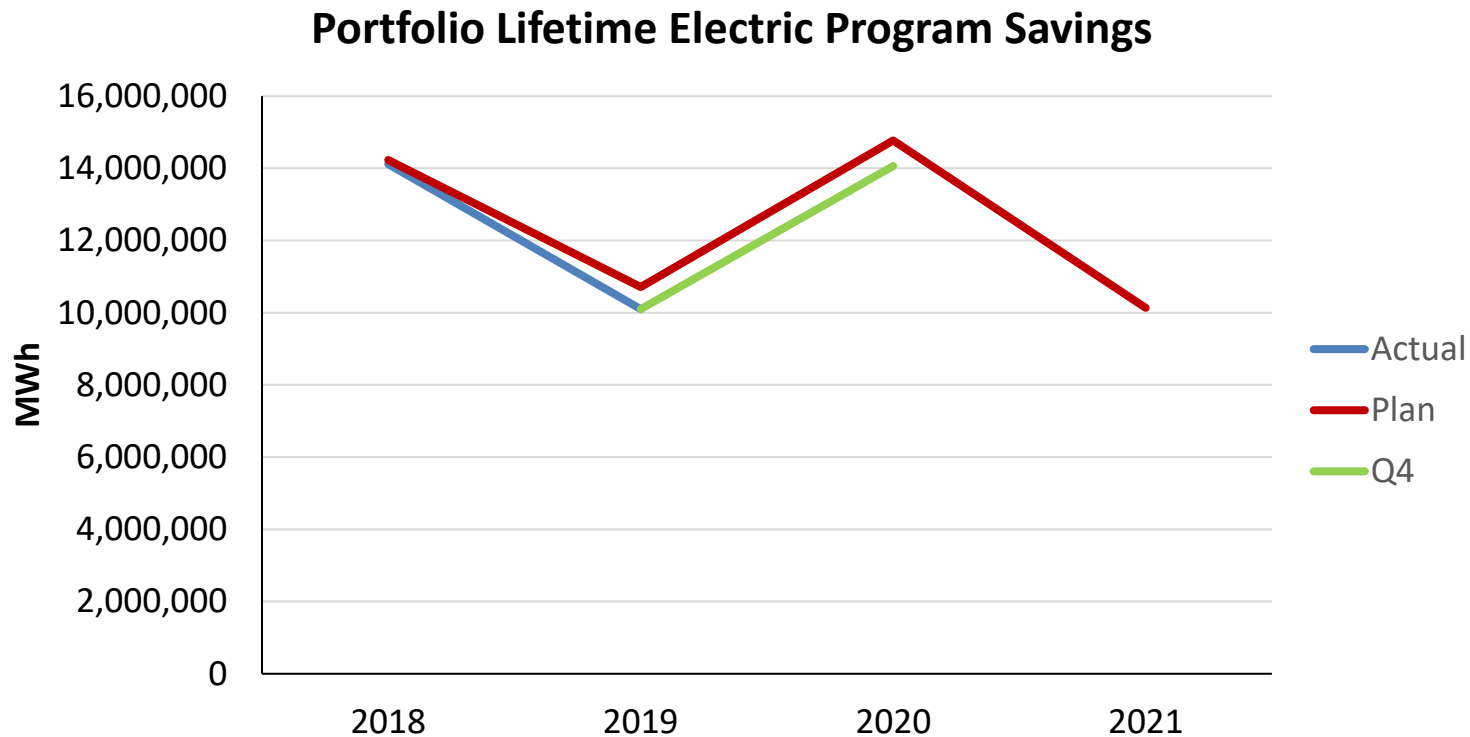
▶ **March 24, 2020**



# APPENDIX

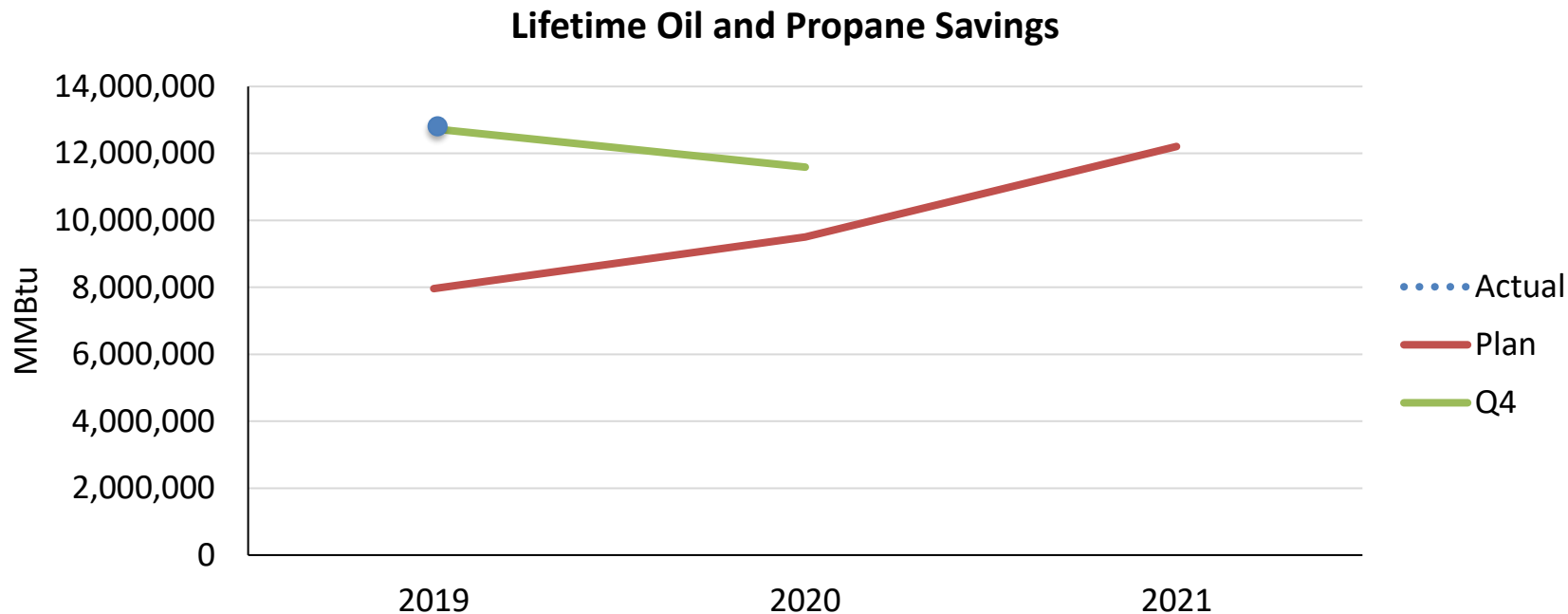
# LIFETIME ELECTRIC PROGRAM SAVINGS: ELECTRIC

## ► Tracked closely to plan in 2020



# LIFETIME ELECTRIC PROGRAM SAVINGS: DELIVERED FUELS

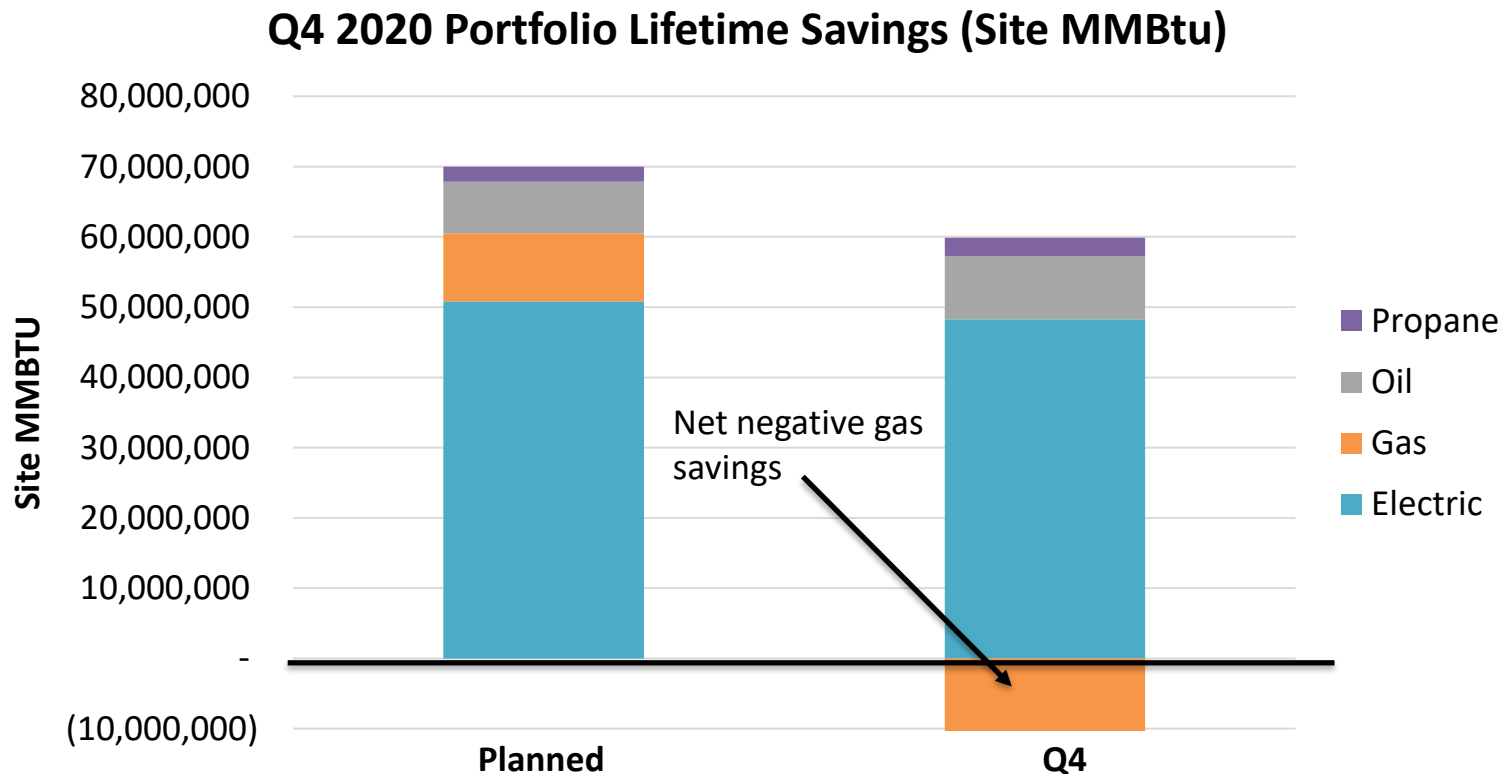
## ► Delivered fuel savings higher than planned in 2020



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

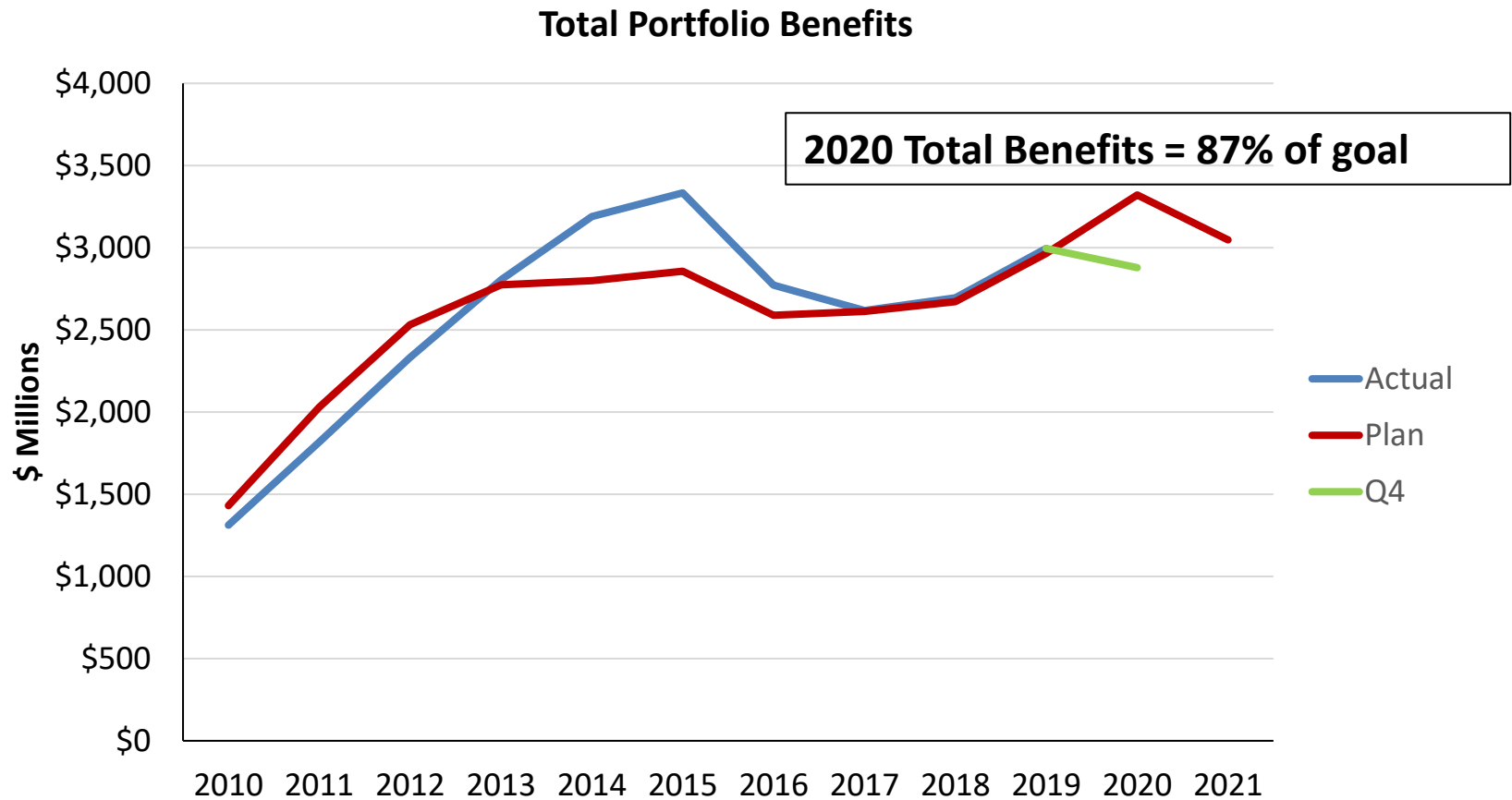
# PORTFOLIO 2020 Q4 LIFETIME SAVINGS, GAS AND ELECTRIC PROGRAMS COMBINED

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



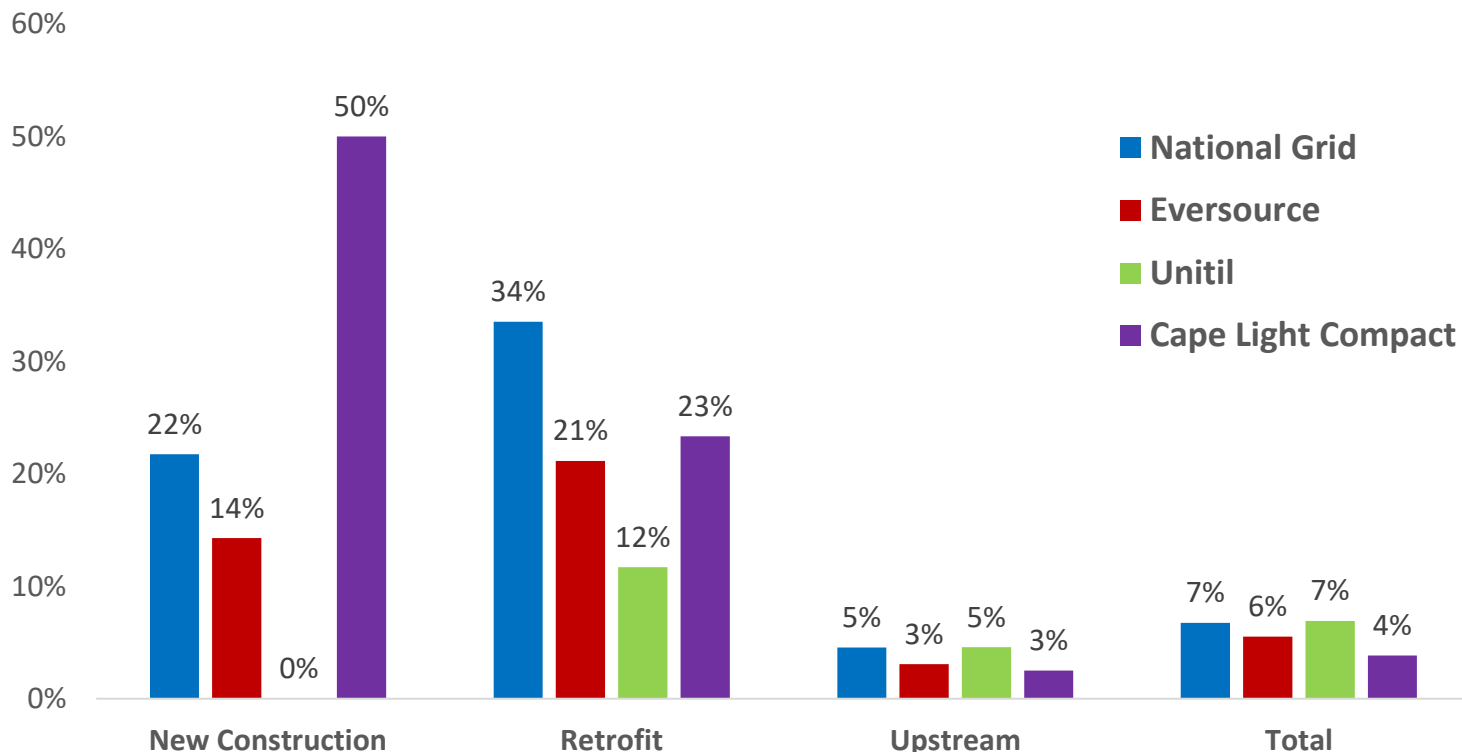


# TOTAL PORTFOLIO BENEFITS OVER TIME



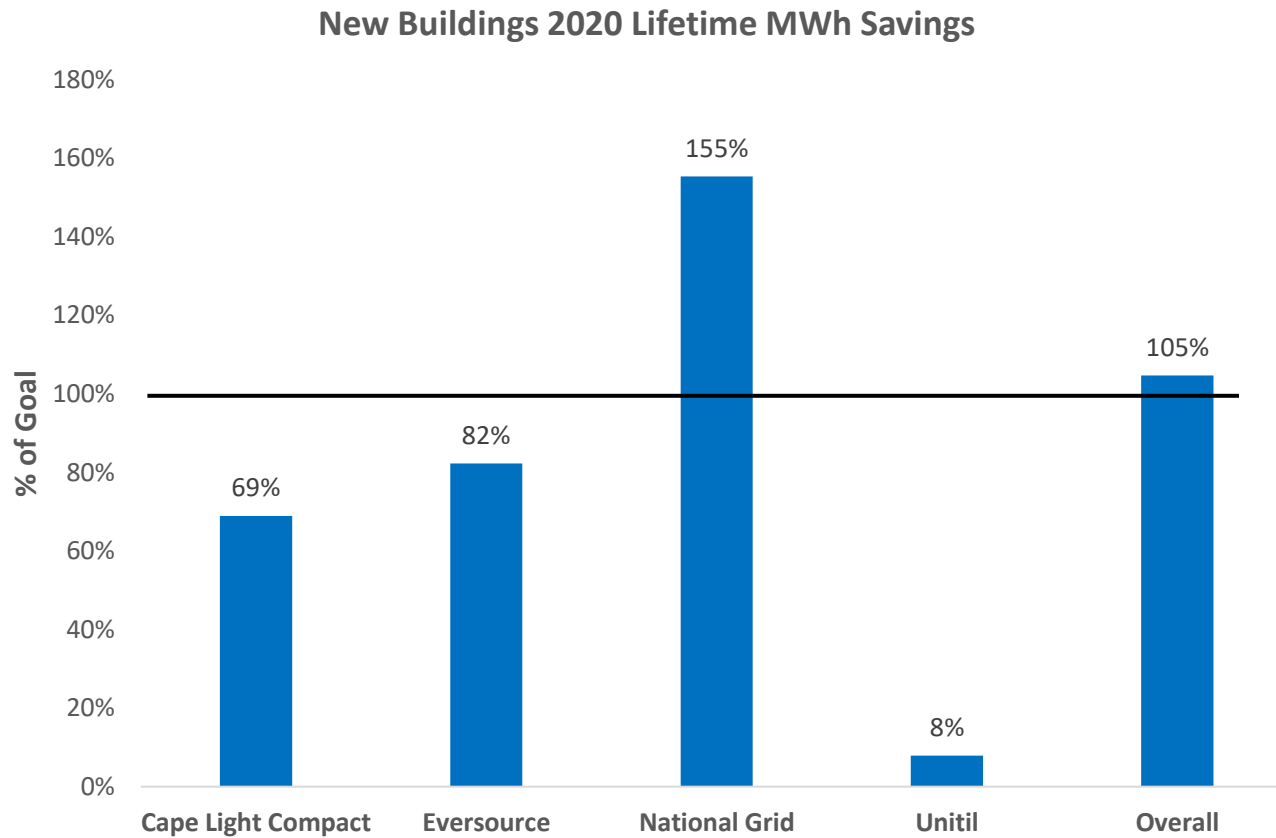
# KPI #4: RATIO OF PROJECTS THAT INCLUDE LIGHTING CONTROLS (C&I)

KPI #4 - Lighting Projects with Controls

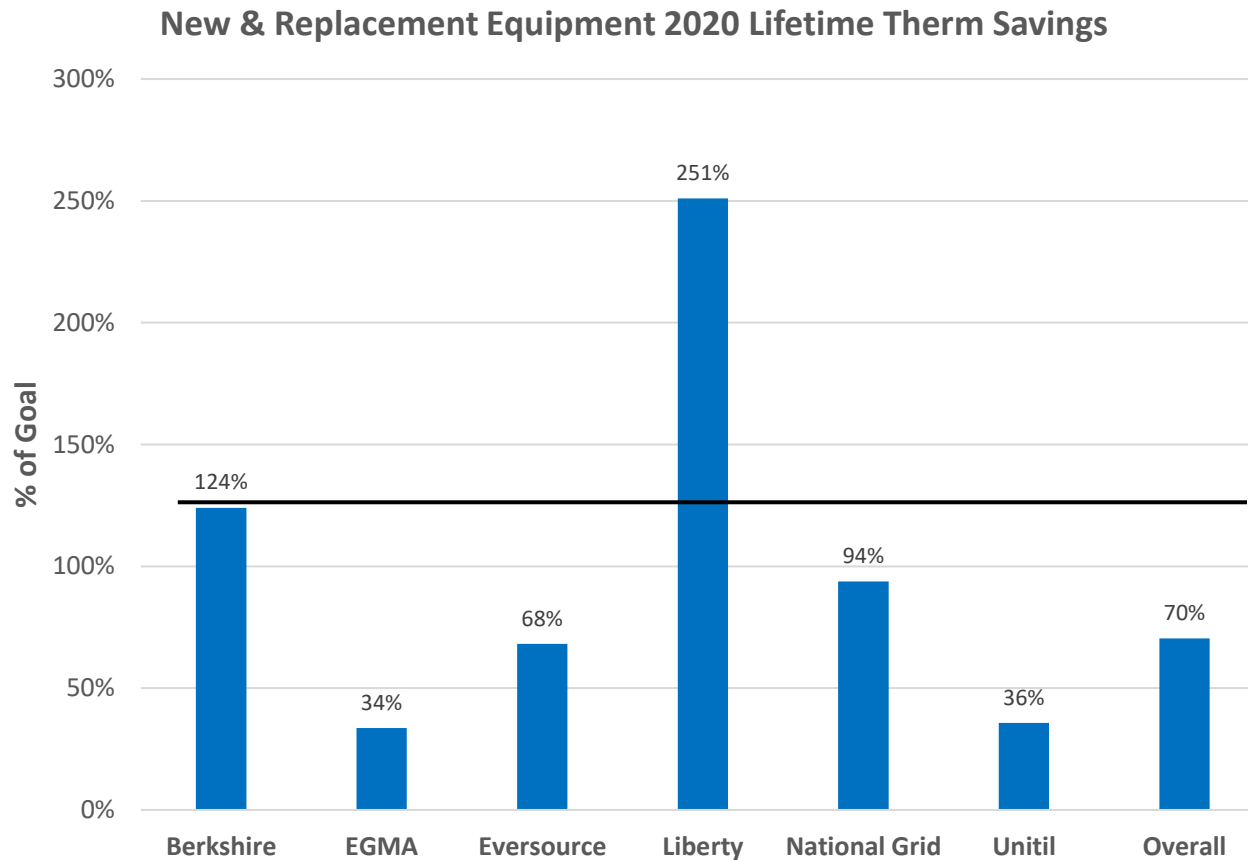


► Highest volume of projects (88%) go through Upstream

# C&I NEW CONSTRUCTION - ELEC

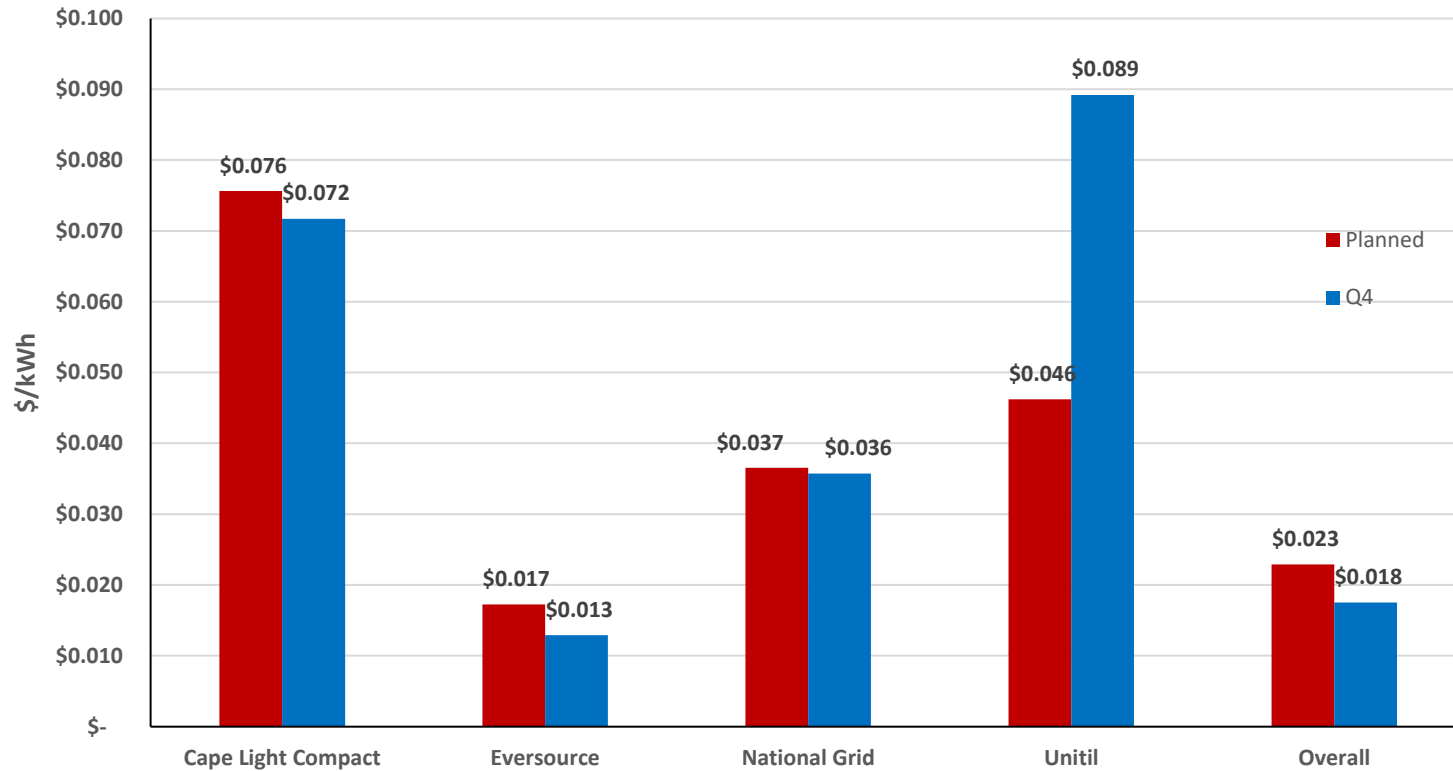


# C&I NEW AND REPLACEMENT EQUIPMENT - GAS



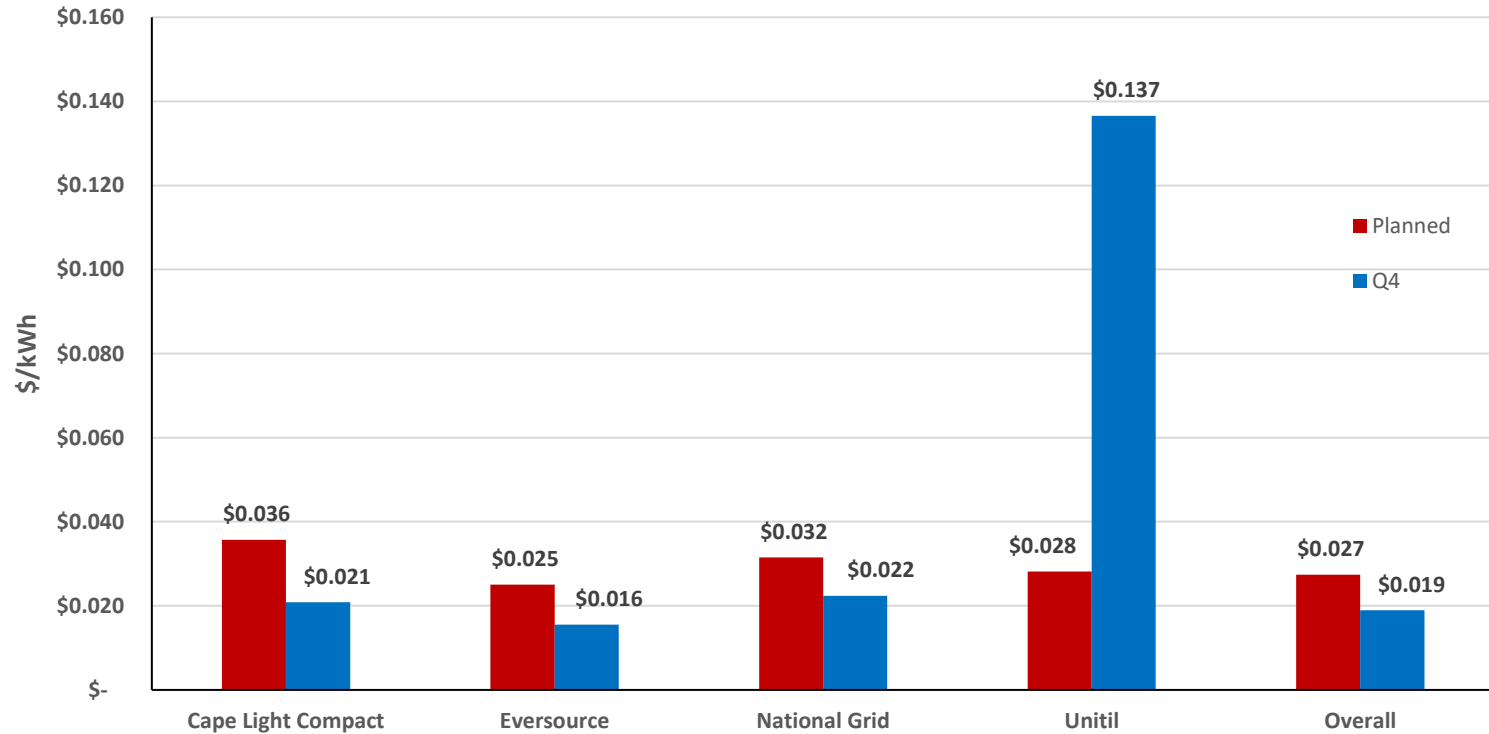
# C&I EXISTING BUILDING RETROFIT - ELECTRIC

Existing Buildings 2020 Net Lifetime Electric Costs to Achieve



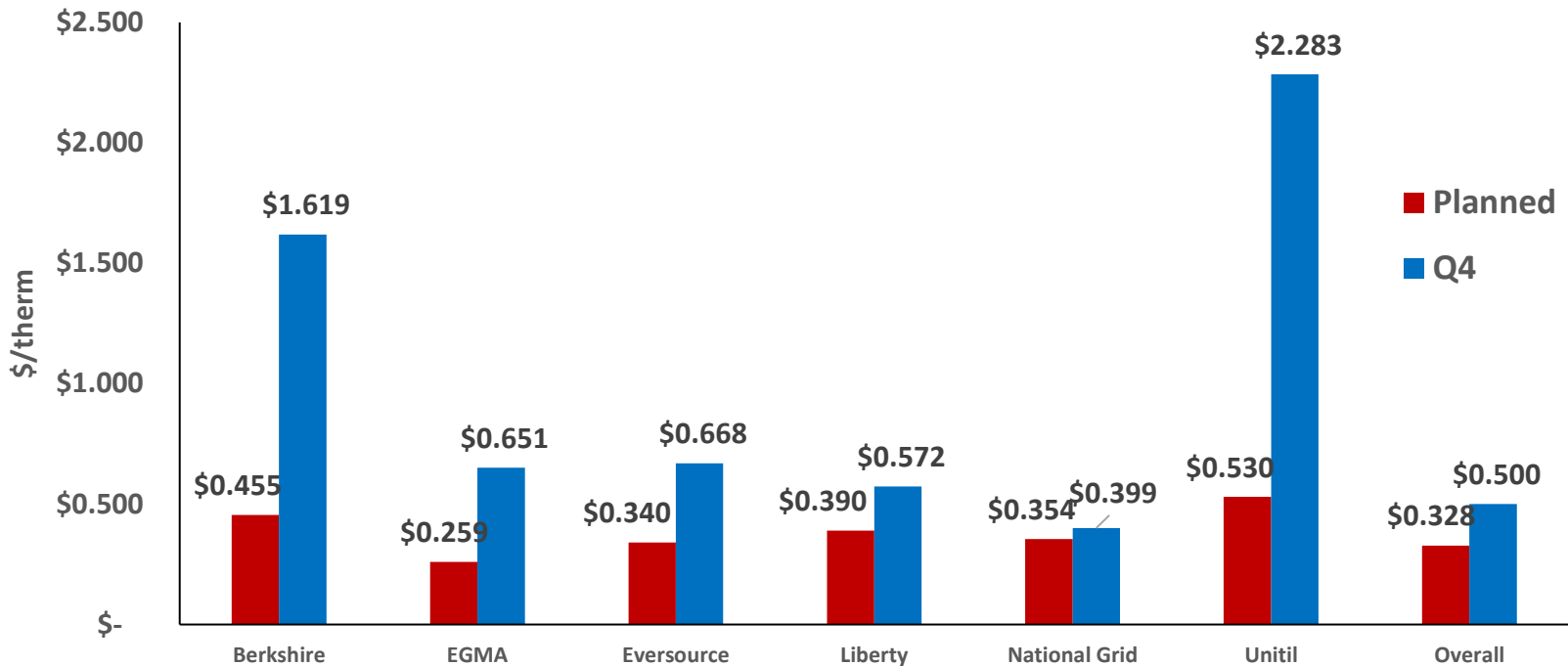
# C&I NEW CONSTRUCTION - ELECTRIC

## New Buildings 2020 Net Lifetime Electric Costs to Achieve



# C&I EXISTING BUILDING RETROFIT – GAS

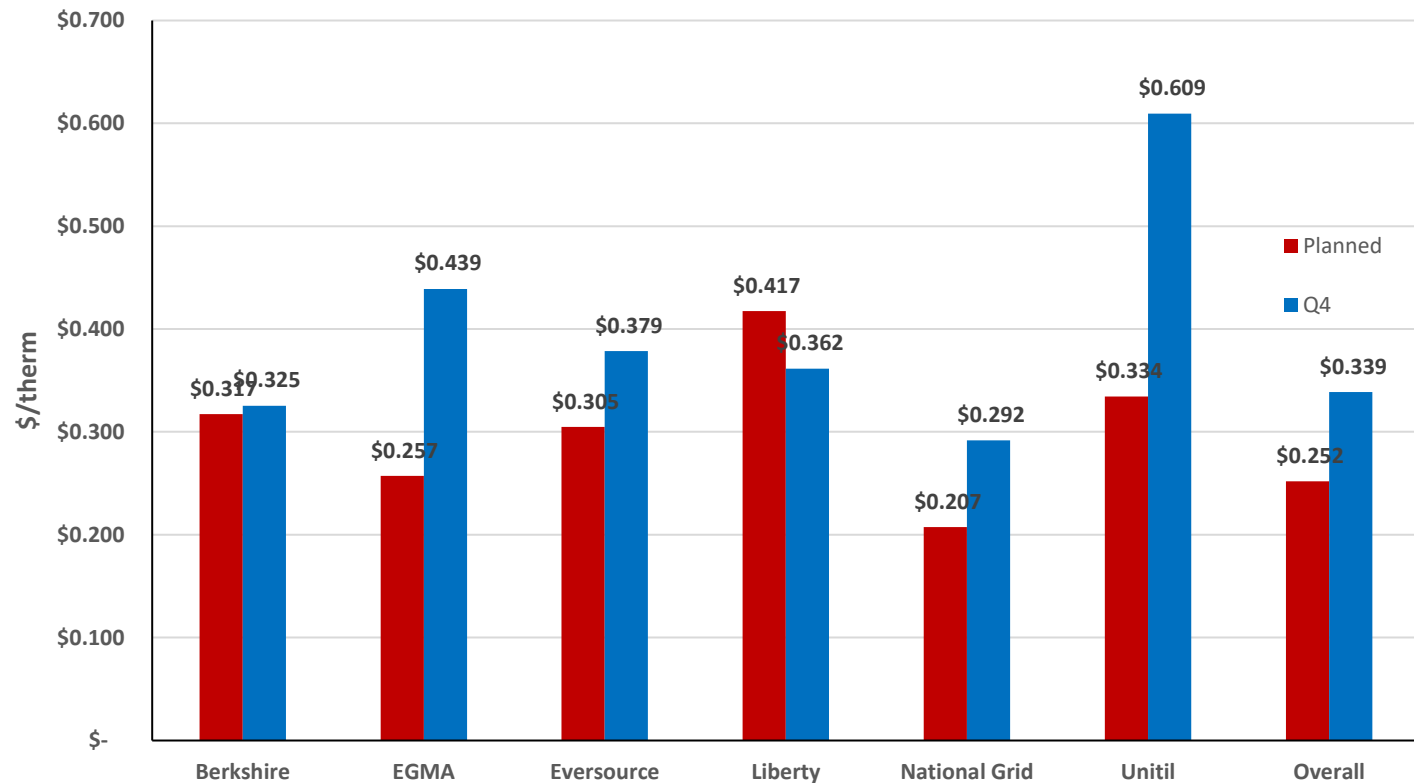
Existing Buildings 2020 Net Lifetime Gas Costs to Achieve



► 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

