MA ENERGY EFFICIENCY ADVISORY COUNCIL

→ CONSULTANT TEAM

2023 Q4 RESULTS

▶ March 15, 2023

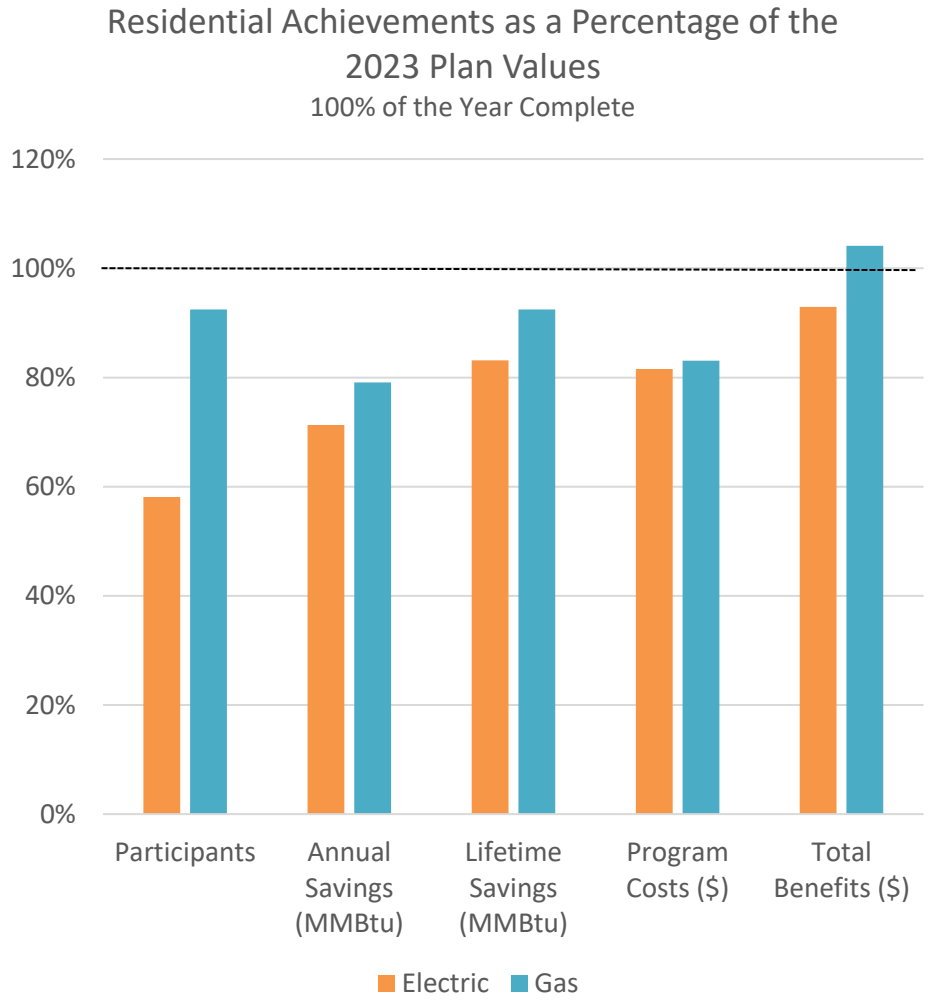
www.ma-eeac.org

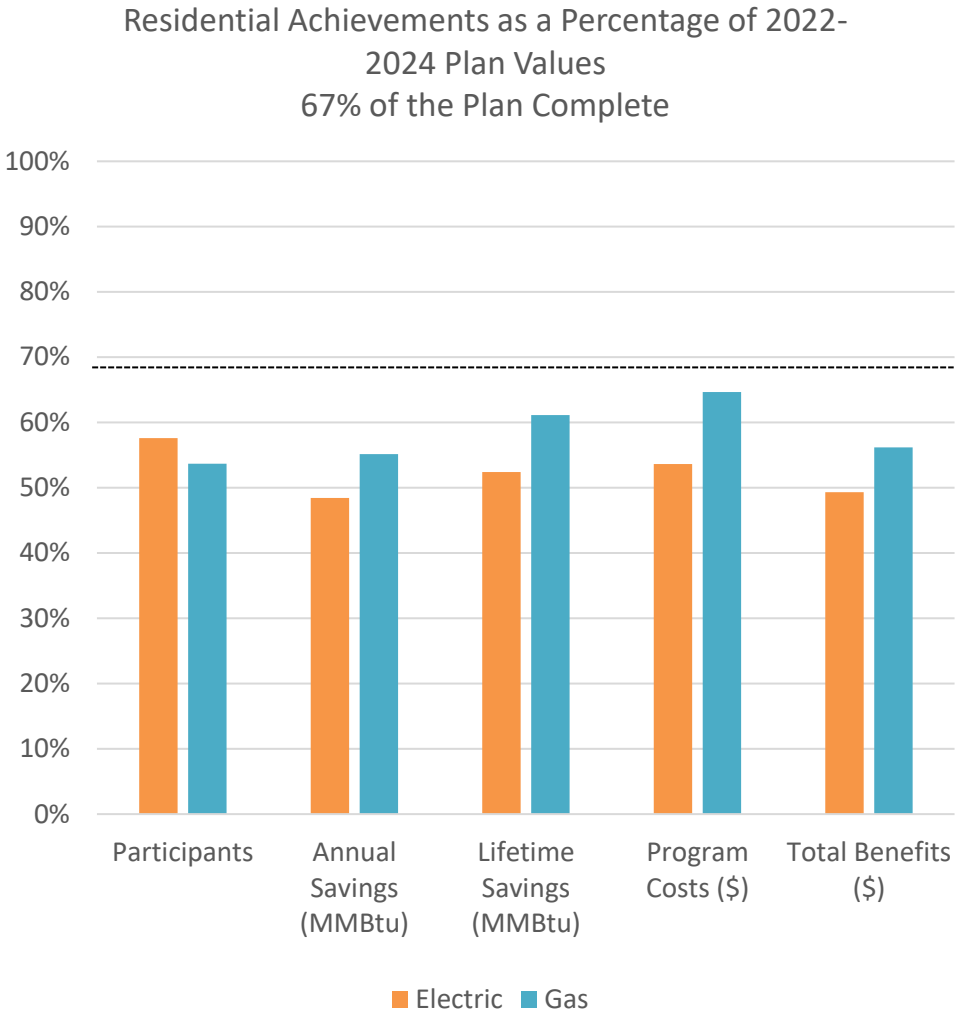
INTRODUCTION

- **Q4 provides a first look at 2023 complete results**
  - Additional work and analysis will be done when final evaluated results are available
- **Purpose of this presentation is to prioritize discussion of matters that most impact progress toward PA goals**
  - Highlight and address most important Council priorities
  - Discuss conclusions drawn from KPI results
  - Focus on progress toward achieving equity targets
  - Identify key considerations for 2025-2027 Plan
- **Additional content provided in appendix slides**

RESIDENTIAL

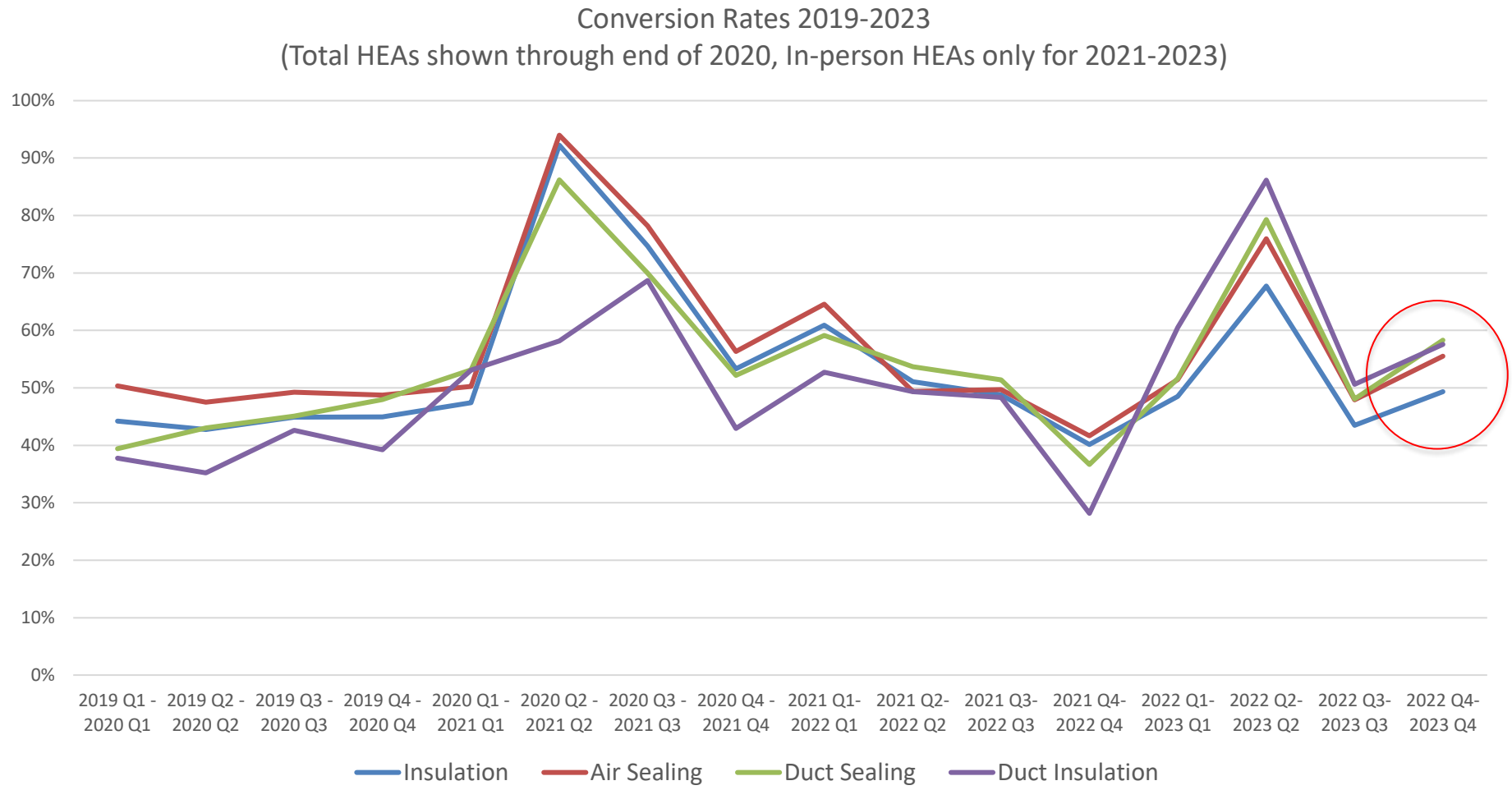
RES Q4 RESULTS OVERVIEW



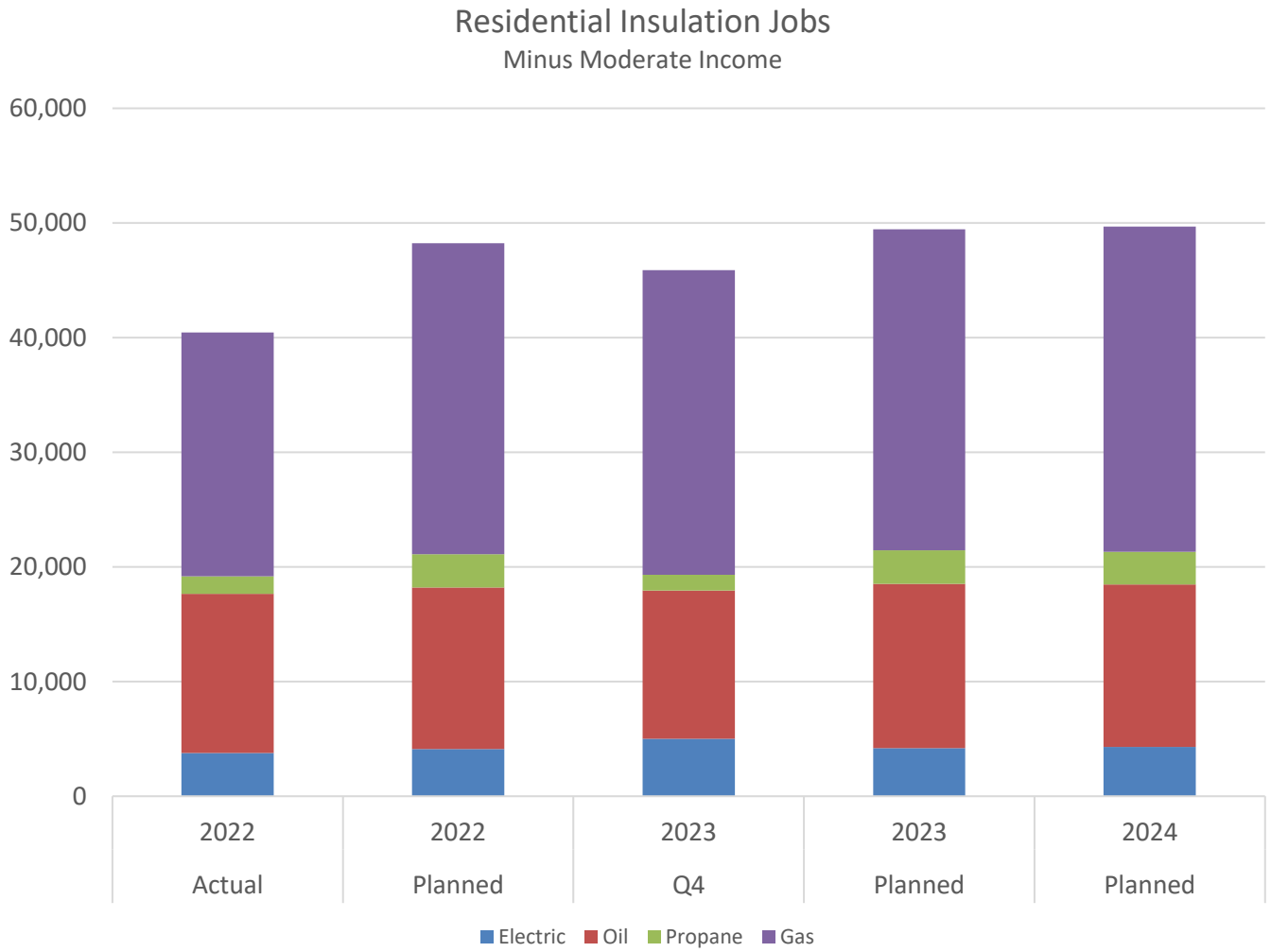


*Participants exclude behavior and demand management

CONVERSIONS



RESIDENTIAL INSULATION



- **Weatherization production continues to lag planned values**
  - Eversource reports it set ambitious goals for the term that it has yet to meet

HEAT PUMPS+WEATHERIZATION

- **PAs tracking weatherization as a requirement for higher electrification performance incentive payout rates**
  - In 2023 roughly 50% of heat pumps installed had verified weatherization
- **Weatherization is required for whole house HP incentive and for moderate income enhanced incentives, but not for partial displacement HPs**
  - PAs offering $500 bonus to customers who install a heat pump after weatherizing: 5 bonuses reported in 2023
- **At recent Residential Management Committee, Consultants and PAs discussed opportunities to increase pairing of these measures**
  - Boost promotion of $500 bonus
  - Distinguish Heat Pump Installers Network members who offer both services

NEW CONSTRUCTION BY HEATING FUEL

Fuel	2022 Units	2023 Units	% change
Electric	1,754	4,077	132%
Gas	5,258	7,679	46%
Oil	6	-	-100%
Propane	1,384	1,052	-24%

Includes both single and multifamily units

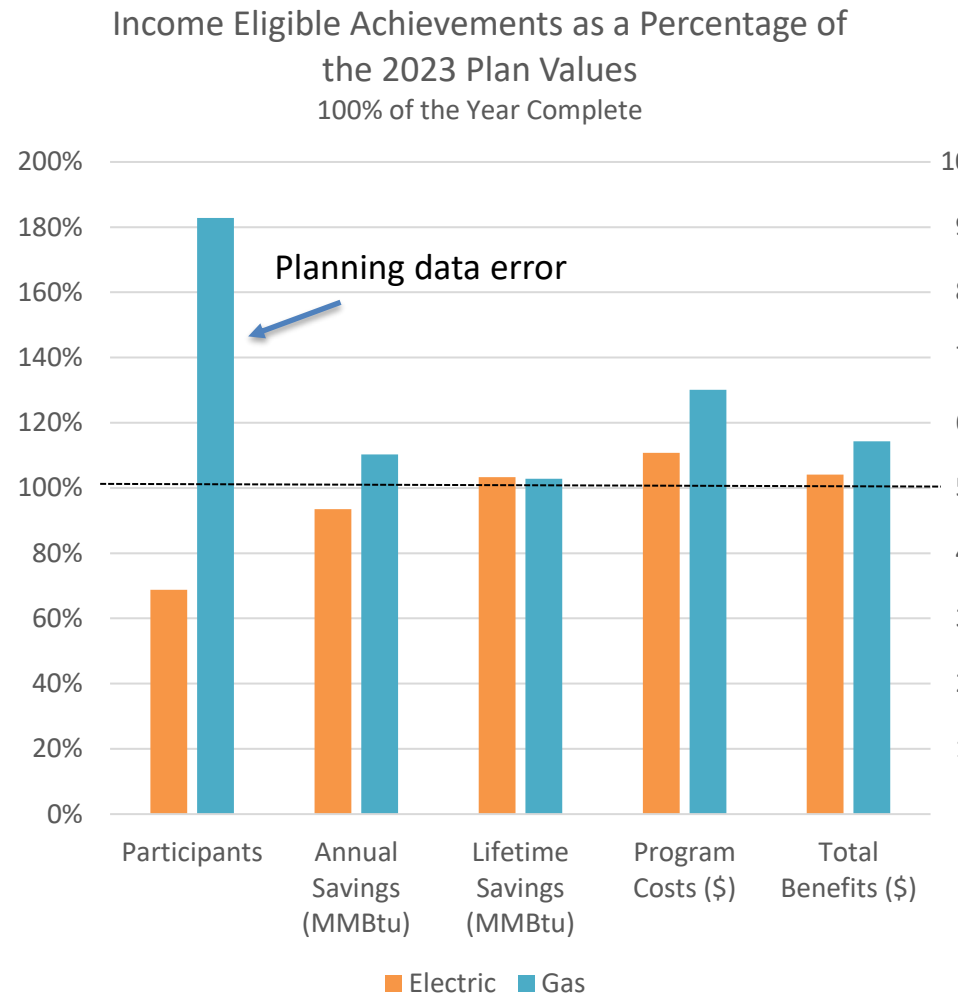
- Large increase in new electric units is very positive
- Large number of new gas and propane units in 2023 (68% of production)
  - In 2025 the program will no longer be providing incentives for these per legislative mandate
  - **Risk of significant drop in program production without proactive steps to convert gas and propane builders to electric**

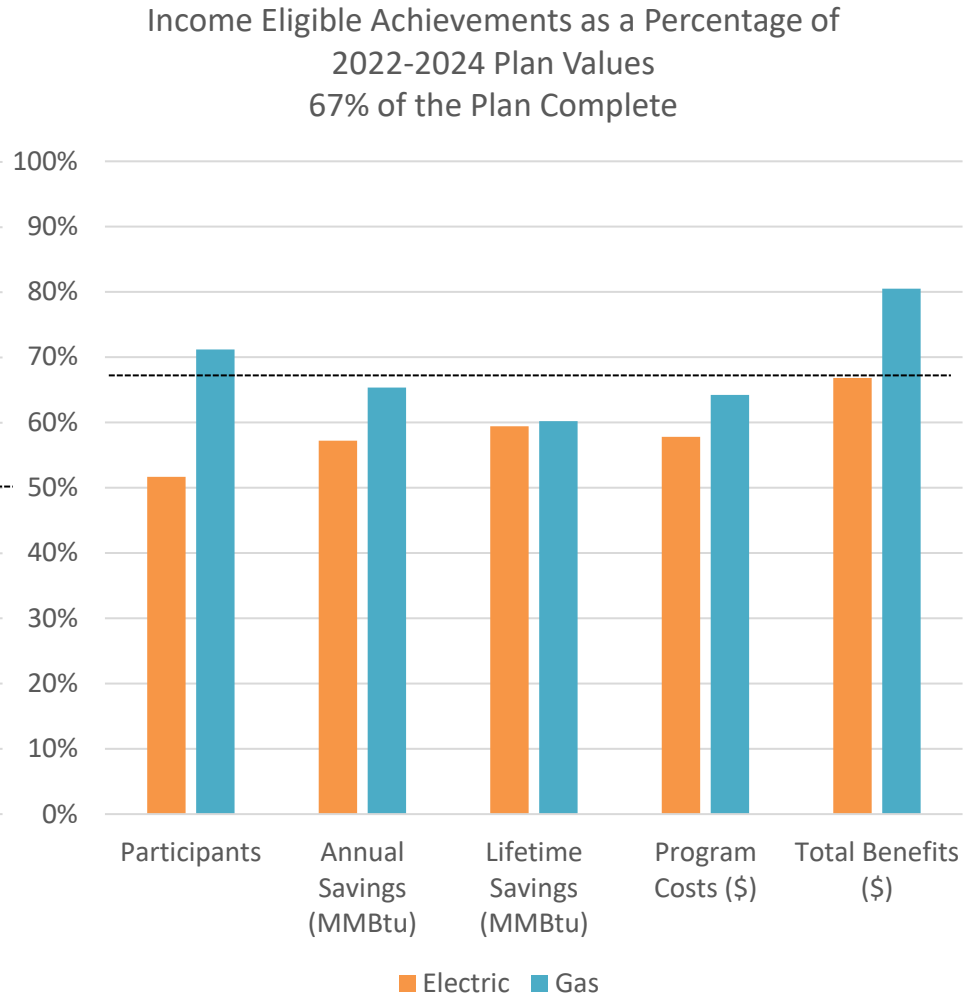
RES SUMMARY AND TAKEAWAYS

- **Results for both sectors are generally proportionally behind planned values for the year and term—more so for electric**
- **Heat pump unit activity is very strong in res sector**
  - Gas-to-heat pump activity is a significant proportion of activity
  - Success for res market rate not reaching moderate income
  - Tracking issues have not yet been addressed for multifamily
- **Home energy assessments (HEAs)/audits and insulation need continued strong focus**
- **New construction activity shows positive signs of transition to electrification, but the majority of production is still in gas**

INCOME ELIGIBLE

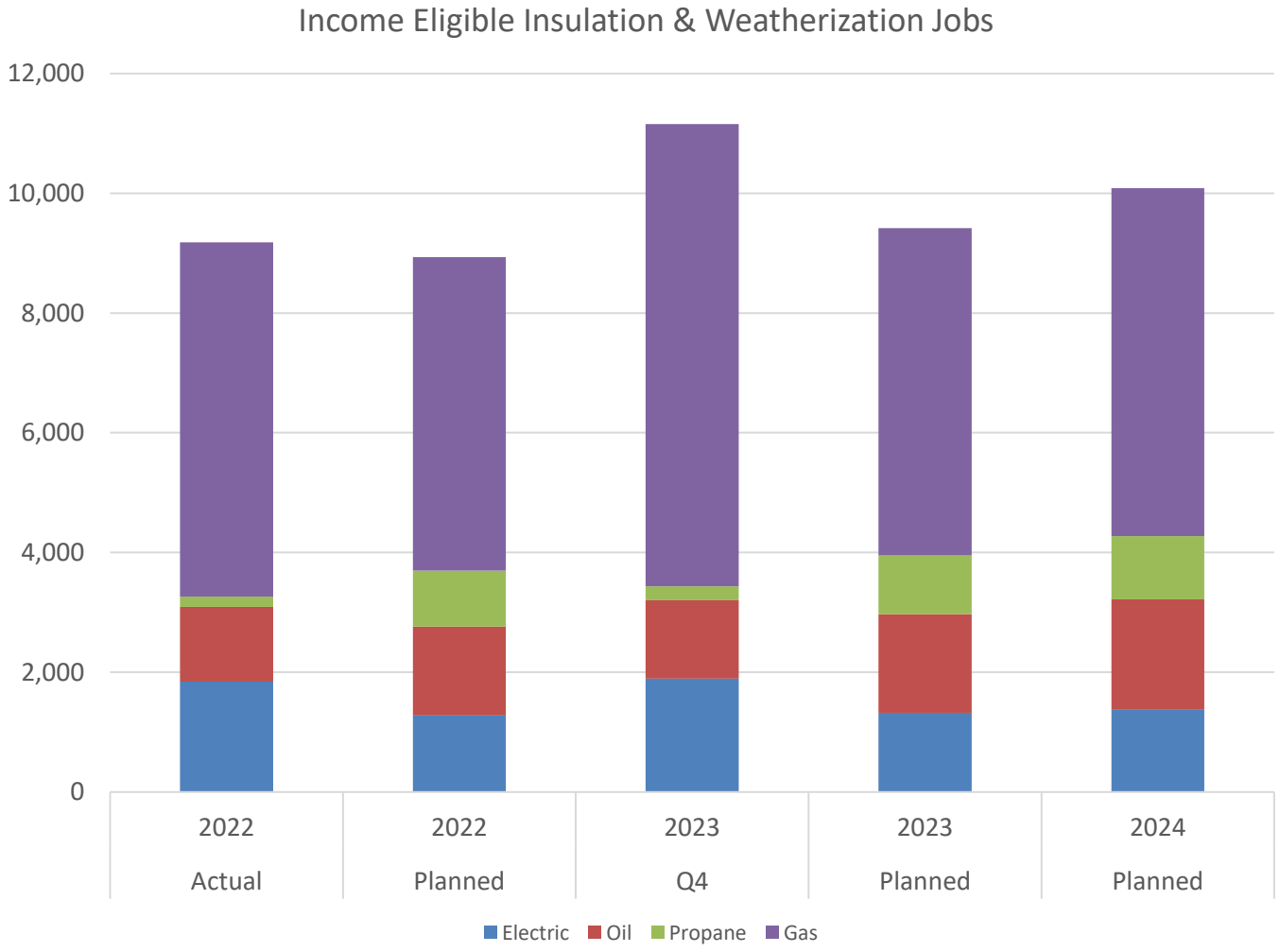
INCOME ELIGIBLE RESULTS OVERVIEW





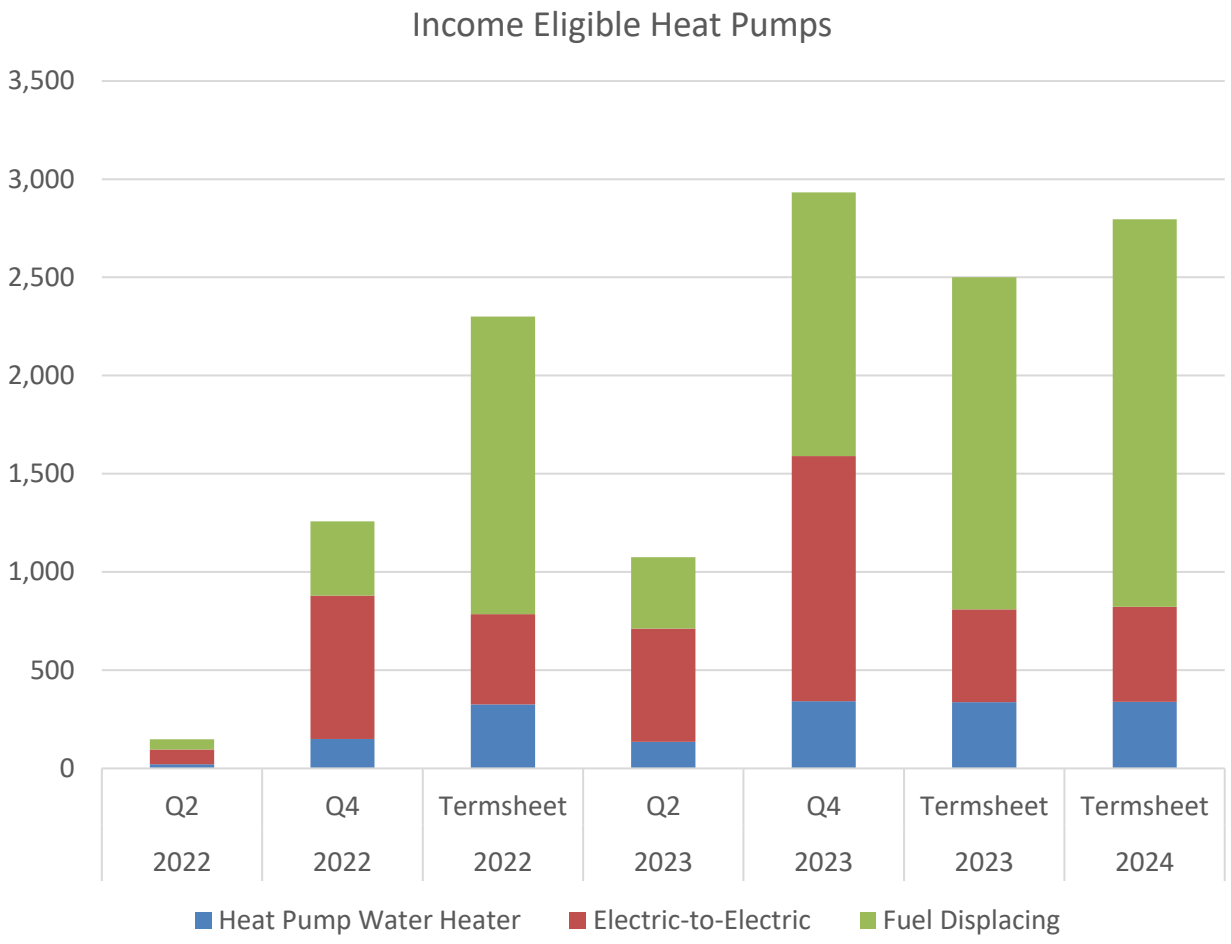
*Participants exclude demand management

INCOME ELIGIBLE WEATHERIZATION



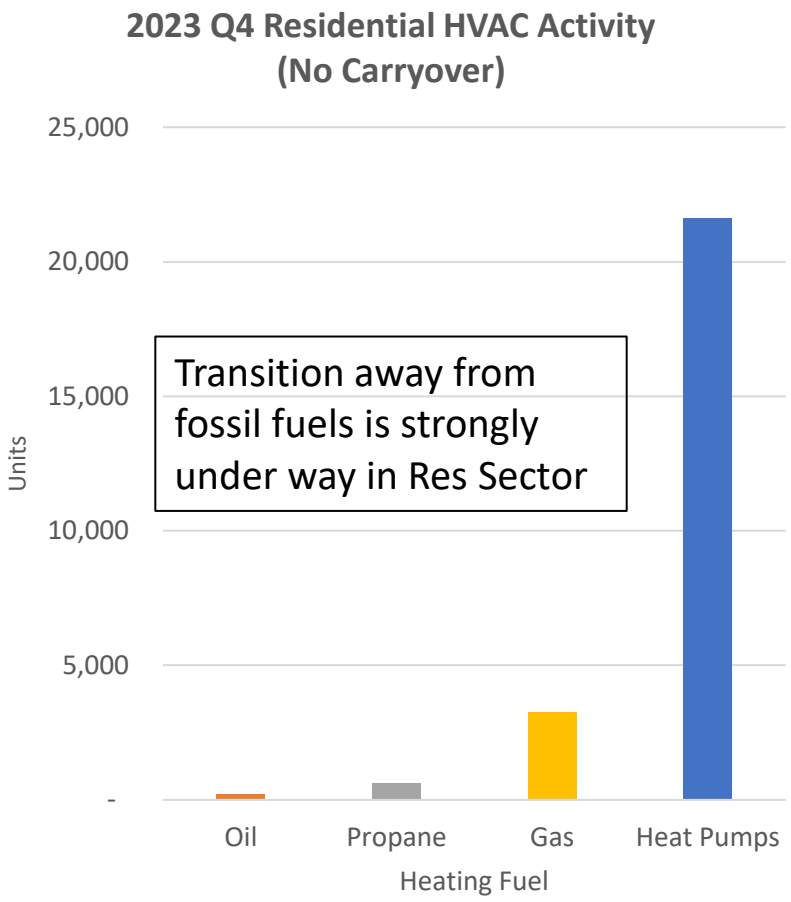
- **Low income weatherization production continues to exceed planned values**
  - Results for 2022 and 2023 are 111% higher than planned

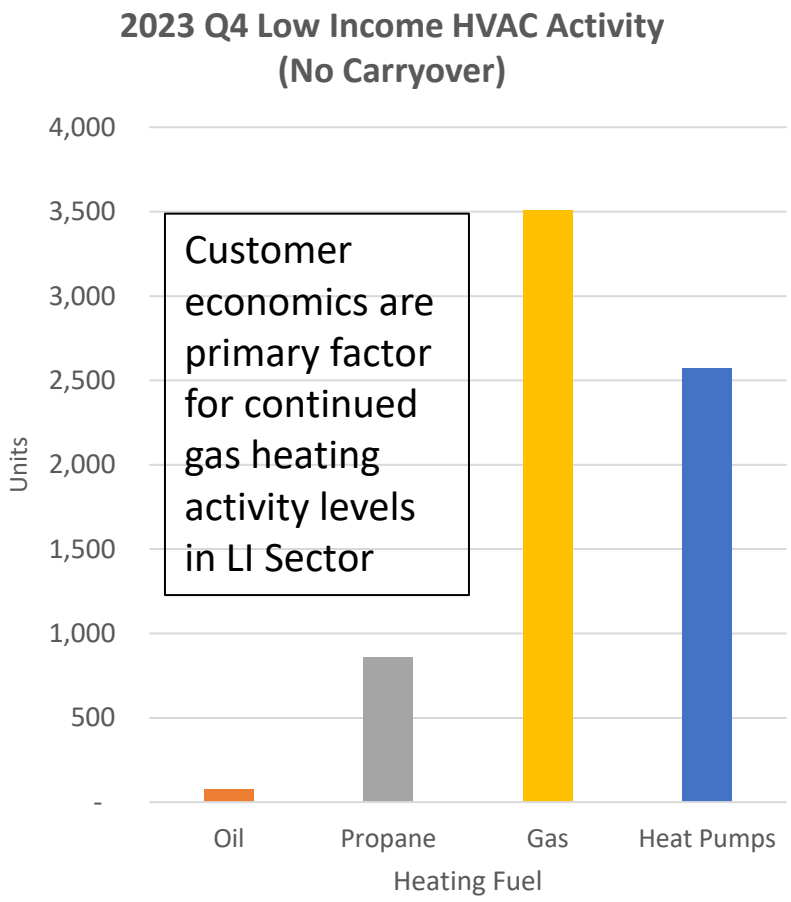
INCOME ELIGIBLE HEAT PUMPS



- 2023 results exceeded Term Sheet goal and made up for a good portion of the 2022 shortfall

HVAC ACTIVITY COMPARED





INCOME ELIGIBLE SUMMARY AND TAKEAWAYS

- **2023 was generally a strong year; even stronger performance will be needed in 2024 to achieve planned energy savings values for the term**
- **Both insulation and heat pump planned values were exceeded for the year**
  - In 2024, heat pump activity will need to exceed Term Sheet goals to makeup for shortfall in 2022
  - Fossil fuel heating units continue to comprise a larger proportion of low income activity as compared to the Res sector due to issues of customer economics
- **We are still analyzing data regarding incentives and savings by Community Action Program (CAP) area (Bi-Annual KPI #9)**

PARTICIPATION BY ZIP CODE (BI-ANNUAL KPI #6)

Example subset of data (income eligible electric participation):

Municipality	Zip Code	Population	2019	2020	2021	2022	2023
Lowell	01850	15,950	60	48	50	34	68
Lowell	01851	31,558	77	44	56	30	90
Lowell	01852	35,033	59	47	47	54	89
Lowell	01854	28,770	50	31	50	33	47

- **Separate sheets for Income Eligible, Res minus moderate income, and moderate income**
- **Gas participation data also provided**
- **Bolded text indicates DPU designated communities**
- **Full spreadsheet available here: https://ma-eeac.org/results-reporting/quarterly-reports/**

EQUITY TARGETS

MODERATE INCOME

Program Administrators	Moderate Income Weatherization				Moderate Income Heating Systems		
	Weatherization Jobs				Heating Systems Replaced		
	2019 (Baseline)	2022	2023	2024	2022	2023	2024
Electric PAs							
National Grid	234	109	122		-	114	
Eversource	63	28	111		-	53	
Cape Light Compact	139	26	39		-	10	
Unitil	1	-	3		-	2	
Gas PAs							
National Grid	129	89	213		-	6	
Eversource	26	9	20		3	3	
EGMA	86	38	95		-	3	
Unitil	4	-	-		-	1	
Liberty	11	7	23		-	1	
Berkshire	6	2	1		-	1	
STATEWIDE TOTAL	**699**	**308**	**627**		**3**	**194**	
STATEWIDE TARGET*		**1,398**	**2,796**	**5,592**			

Target: Increase # Wx jobs by 700% (100% yr over yr based on 2019)
EWG framework: Increase heating systems replaced by 56% (25% yr over yr based on 2022)

*2022 results were supposed to serve as baseline for heating system annual increases but were too low to serve as such

Program Administrator	Moderate Income Screening Portal Applications				
	Qualification Results Q4 YTD				
	Pending	Market Rate	IE	Mod	Total Applications
Electric PAs					
National Grid	60	186	76	487	809
Eversource	58	142	75	330	605
Cape Light Compact	-	15	62	57	134
Unitil	5	4	1	12	22
Gas PAs					
National Grid	44	190	79	259	572
Eversource	22	80	36	127	265
EGMA	30	88	62	223	403
Unitil	3	3	3	7	16
Liberty	3	20	12	40	75
Berkshire	6	15	12	54	87
STATEWIDE TOTAL	**231**	**743**	**418**	**1,596**	**2,988**

In 2023, 18 moderate income incentives were provided for pre-weatherization barriers (no target)

RENTERS

Program Administrators	RCD Renters (All Program Pathways)				Renters, Attached Low Rise (Res)						Renters, Attached Low Rise (IE)					
	Rental Units				Rental Units			Projects at sites with 25+ Units			Rental Units			Projects with 25+ Units		
	2021	2022	2023	2024	2022	2023	2024	2022	2023	2024	2022	2023	2024	2022	2023	2024
Eversource Electric	1,292	897	2,903		219	611		-	-		886	92		-	-	
National Grid Electric	4,546	5,164	4,489		75	738		-	-		58	1,880		-	-	
Unitil Electric	34	124	29		25	1		48	-		46	68		-	-	
Cape Light Compact	178	119	123		33	10		22	-		116	358		-	32	
Eversource Gas (NSTAR)	665	572	1,560		326	578		-	-		133			-	-	
Eversource Gas (EGMA)	1,485	1,368	1,565		415	565		-	-		219			-	-	
National Grid Gas	3,339	4,035	2,902		227	1,153		-	-		-	698		-	-	
Unitil Gas	48	50	27		4	1		-	-		7	14		-	-	
Liberty	36	82	134		76	123		-	-		-			-	-	
Berkshire	202	199	295		62	18		-	-		-			-	-	
STATEWIDE TOTAL	**11,825**	**12,610**	**14,027**	-	**1,462**	**3,798**	-	**70**	-	-	**1,465**	**3,110**	-	-	**32**	-
STATEWIDE TARGET		**12,653**	**13,602**			**1,579**						**1,582**				
EWG Framework:	*Increase renter unit participation by 24% from 2021 to 2024, achieved as an increase of 7% in 2022, 7.5% in 2023, and 8% in 2023 in RCD (baseline to be established using 2021 actual data normalized with the 2022-2024 BCR model).*				*Increase number of renter units served in attached low-rise buildings by at least 16% from 2022 to 2024, achieved as an increase of 8% year over year for both Residential RCD and Income Eligible Coordinated Delivery, which shall be reported separately (2022 to be baseline year).*			*Report separately the number of attached low-rise projects that are at sites with 25+ units.*								

LANGUAGE ISOLATION

- **Increase # of participants who receive Res and IES Home Energy Assessments (HEAs) by 10%/year**
- **Increase participants receiving weatherization after receiving HEAs in Spanish or Portuguese by 5%/year**
- **2022 is baseline year**
  - *No language data were tracked for these targets in 2022*
- **Tracking issues persist—IES data haven't been fully captured**

	Online HEAs in Spanish or Portuguese		HEAs in Spanish or Portuguese		Weatherization in Spanish or Portuguese	
Program Administrators	2022	2023	2022	2023	2022	2023
Residential (RCD)						
Eversource Electric	-	68	-	15	-	7
National Grid Electric	-	20	-	77	-	15
Unitil Electric	-	-	-	2	-	1
Cape Light Compact	-	-	-	-	-	-
Eversource Gas (NSTAR)	-	24	-	24	-	12
Eversource Gas (EGMA)	-	44	-	50	-	24
National Grid Gas	-	28	-	135	-	11
Unitil Gas	-	2	-	-	-	-
Liberty	-	18	-	6	-	1
Berkshire	-	5	-	2	-	-
Residential Total	-	**209**	-	**311**	-	**71**
Income Eligible (IECD)						
Eversource Electric	-	45	-	-	-	-
National Grid Electric	-	26	-	287	-	37
Unitil Electric	-	1	-	-	-	-
Cape Light Compact	-	-	-	-	-	-
Eversource Gas (NSTAR)	-	35	-	-	-	-
Eversource Gas (EGMA)	-	50	-	-	-	-
National Grid Gas	-	23	-	-	-	-
Unitil Gas	-	1	-	-	-	-
Liberty	-	1	-	-	-	-
Berkshire	-	9	-	-	-	-
Income Eligible Total	-	**191**	-	**287**	-	**37**
STATEWIDE TOTAL		**400**		**598**		**108**
STATEWIDE TARGET						

EQUITY TARGET: PARTICIPATION IN PARTNERSHIP MUNICIPALITIES

Target: Track and report annually the number of customer accounts participating and units served in the PA programs in the established Municipal and Community Partnerships municipalities, broken out and reported by sector and by renters, moderate-income qualified, English-isolated customers, and small business turnkey.

The PAs and Consultants are investigating issues with some of the reported data. We will update these when resolved.

SPENDING ON CONTRACTS WITH MINORITY AND WOMEN BUSINESSES

Target: PAs will track and report annually on the number of Minority and Woman-Owned Business Enterprises (M/WBEs) contracts and spend for contracts that are directly between PAs and vendors that are M/WBEs and also report total number and spend of all direct contracts.

Statewide Total	Number of Contracts			Spend for Contracts ($)		
	2022	2023	2024	2022	2023	2024
M/WBE Contracts	**77**	**99**	-	**12,785,270**	**17,853,054**	-
All Direct Contracts	**638**	**454**	-	**184,499,435**	**221,350,214**	-
Percent M/WBE	**12%**	**22%**		**7%**	**8%**	

Targets also include a commitment to conduct a workforce disparity EM&V study. It should be completed this spring.

SMALL BUSINESSES

Target: Complete 600 small business weatherization projects in 2022, 700 in 2023, and 800 in 2024

	Small Business Weatherization		
Program Administrators	Weatherization Jobs		
	2022	2023	2024
Eversource Electric	22	55	
National Grid Electric	-	40	
Unitil Electric	1	5	
Cape Light Compact	8	49	
Eversource Gas NSTAR	21	46	
Eversource Gas EGMA	60	96	
National Grid Gas	14	38	
Unitil Gas	1	1	
Liberty	6	9	
Berkshire	22	22	
STATEWIDE TOTAL	**155**	**361**	**-**
STATEWIDE TARGET	**600**	**700**	**800**

EQUITY TARGETS SUMMARY AND TAKEAWAYS

- **Data are rich source of information regarding equity efforts**
  - Heavy lift for PAs, effort is appreciated
- **Data collection continues to be a challenge in a few instances**
- **Progress against specific targets shows need for additional attention to underserved moderate income, language isolated and small business customers**

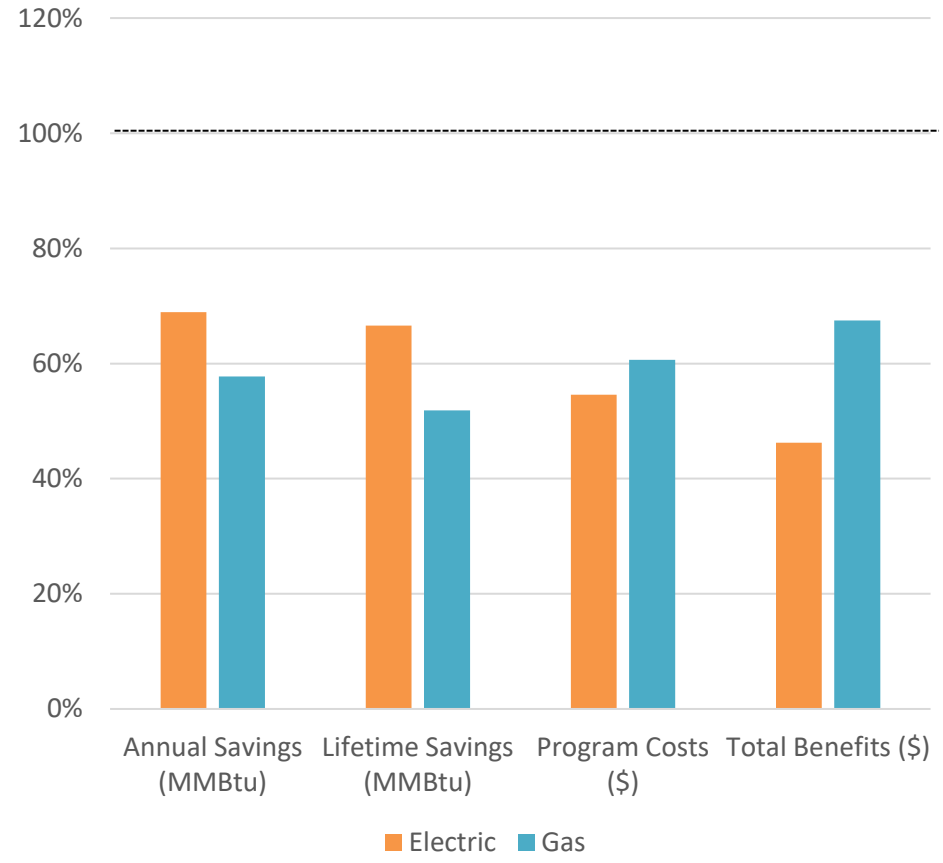
Q4 C&I SLIDES

C&I SUMMARY AND TAKEAWAYS

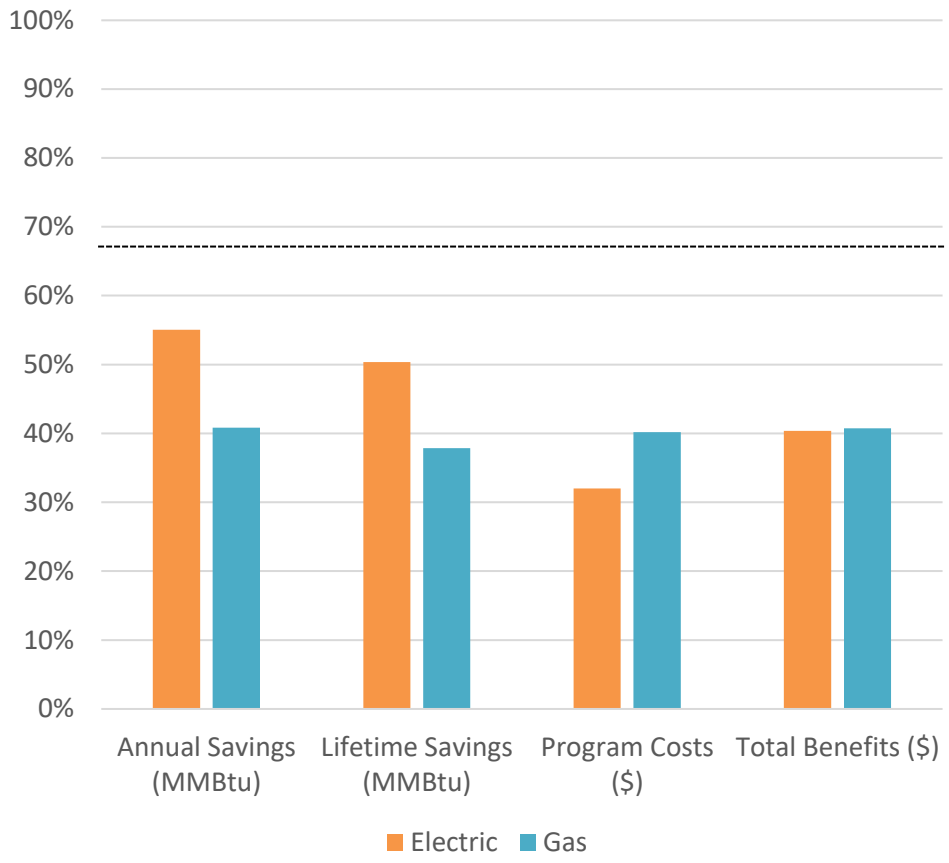
- **Results through Q4 showed improvement**
  - Hockey Stick effect: moved from 40% in Q3 to 70% of planned after Q4
- **KPI #3: C&I Electrification**
  - Strong electric Q4 2023 vs Q4 2022 but low overall progress-to-goal
- **Overall positive trends in transition away from lighting**
- **KPI #5: Custom HVAC**
  - Smaller projects in 2023 compared to previous years
- **Engagement with Small Business (SMB) customers through Main Streets events**
  - Enhanced incentives for SMB Weatherization making impact
  - Main Streets events in multiple languages

C&I RESULTS OVERVIEW

C&I Achievements as a Percentage of the 2023 Plan Values
100% of the Year Complete



C&I Achievements as a Percentage of 2022-2024 Plan Values
67% of the Plan Complete

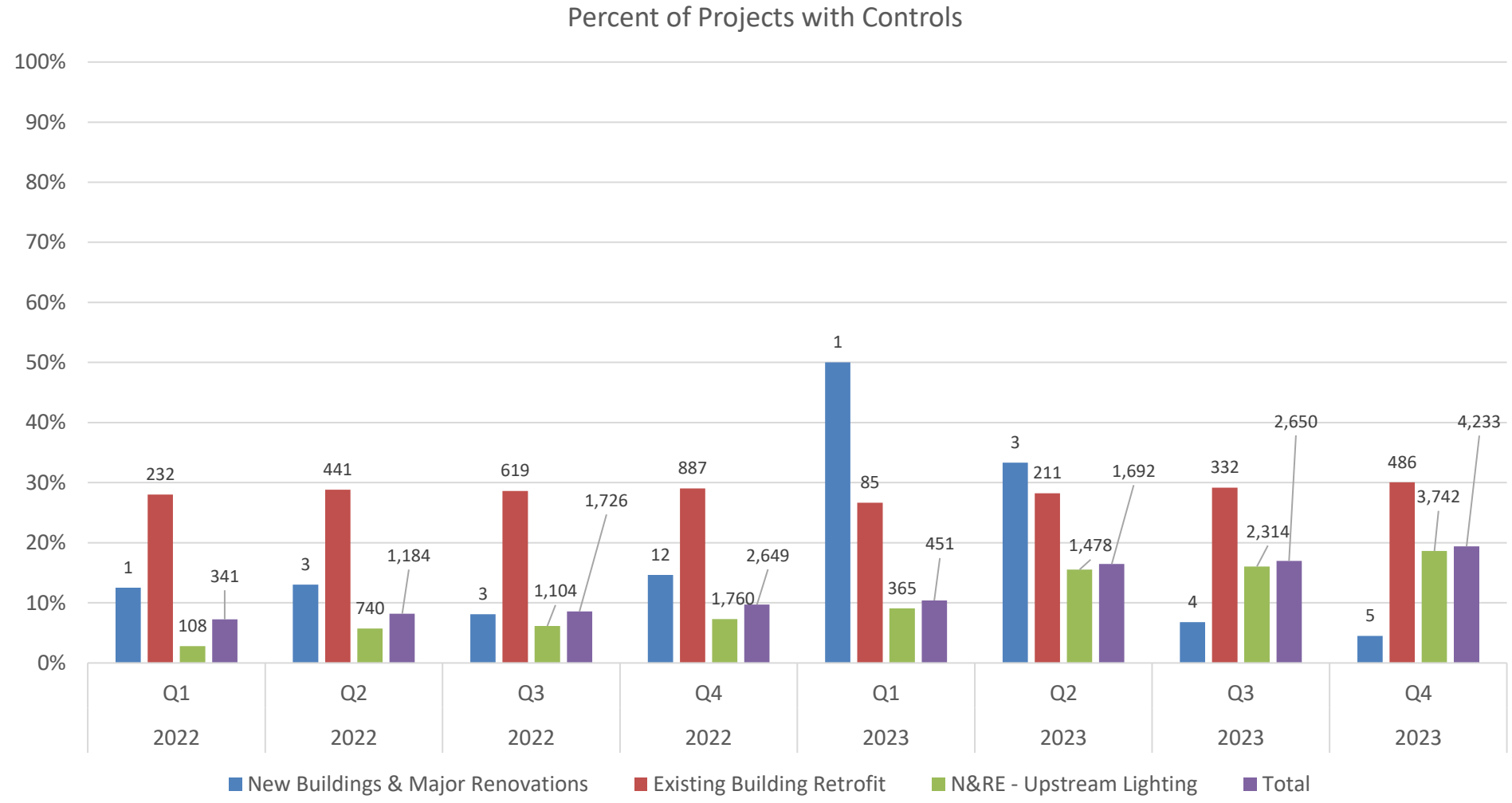


NEW KPI #3: ELECTRIFICATION QUANTITIES

Heat Pump Category	Units	Q3 2023	Q4 2023	Term Goal	% Progress to Goal
C&I - Electric					
Net Annual Fossil Fuel Savings	MMBtu	6,898	28,270	1,103,184	0.25
Net Lifetime Fossil Fuel Savings	MMBtu	114,700	478,206	15,602,706	0.30
C&I - Gas					
Net Annual Fossil Fuel Savings	MMBtu	32,318	58,791	212,602	0.27
Net Lifetime Fossil Fuel Savings	MMBtu	638,144	1,149,343	3,277,628	0.35

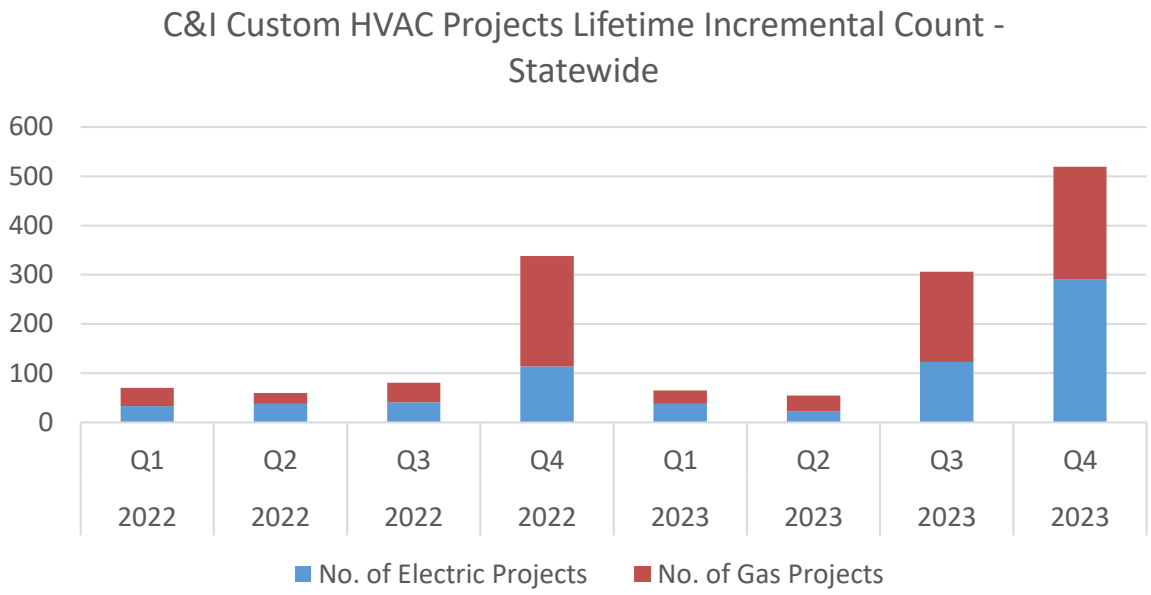
- **Stronger Electric Q4 2023 compared to Q4 2022**
- **Low progress-to-goal due to market and technical barriers in medium to large buildings**

KPI #4 PROPORTION OF C&I LIGHTING PROJECTS WITH CONTROLS



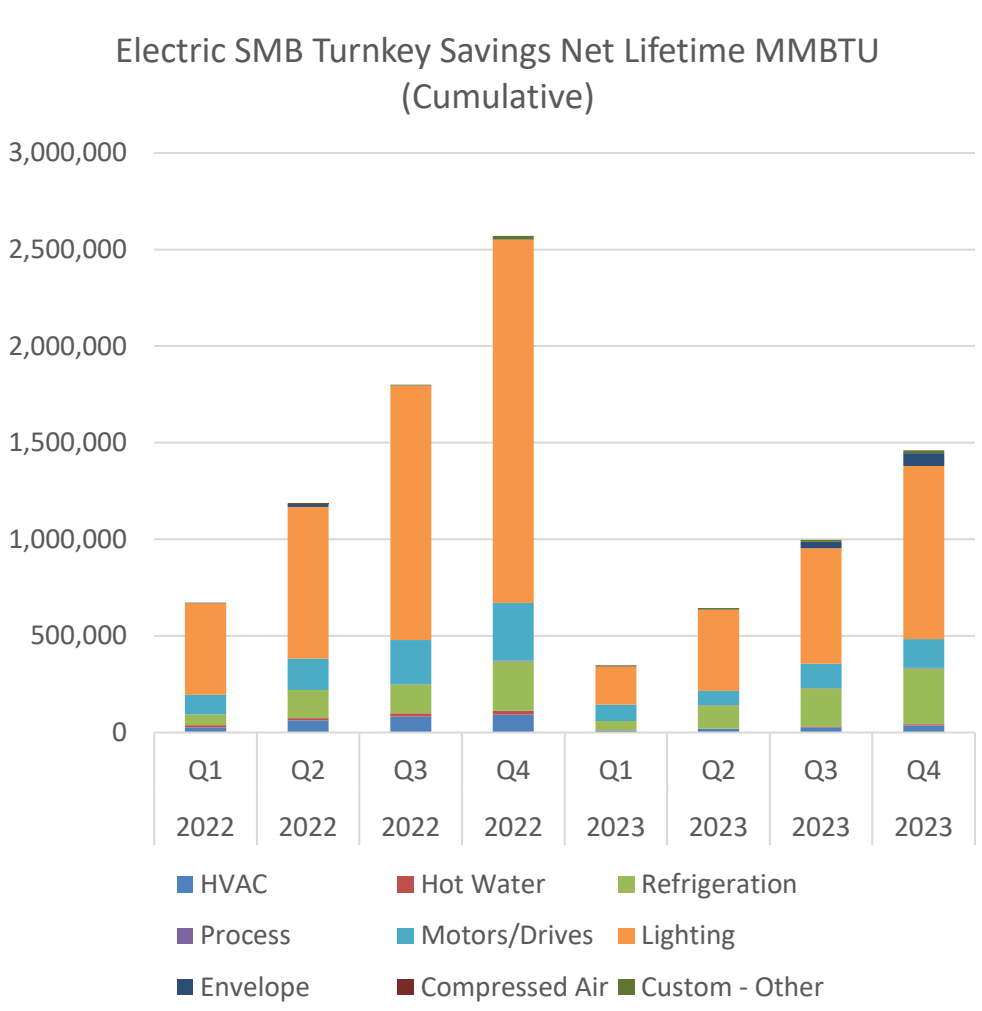
KPI #5: NET LIFETIME SAVINGS FROM CUSTOM HVAC PROJECTS

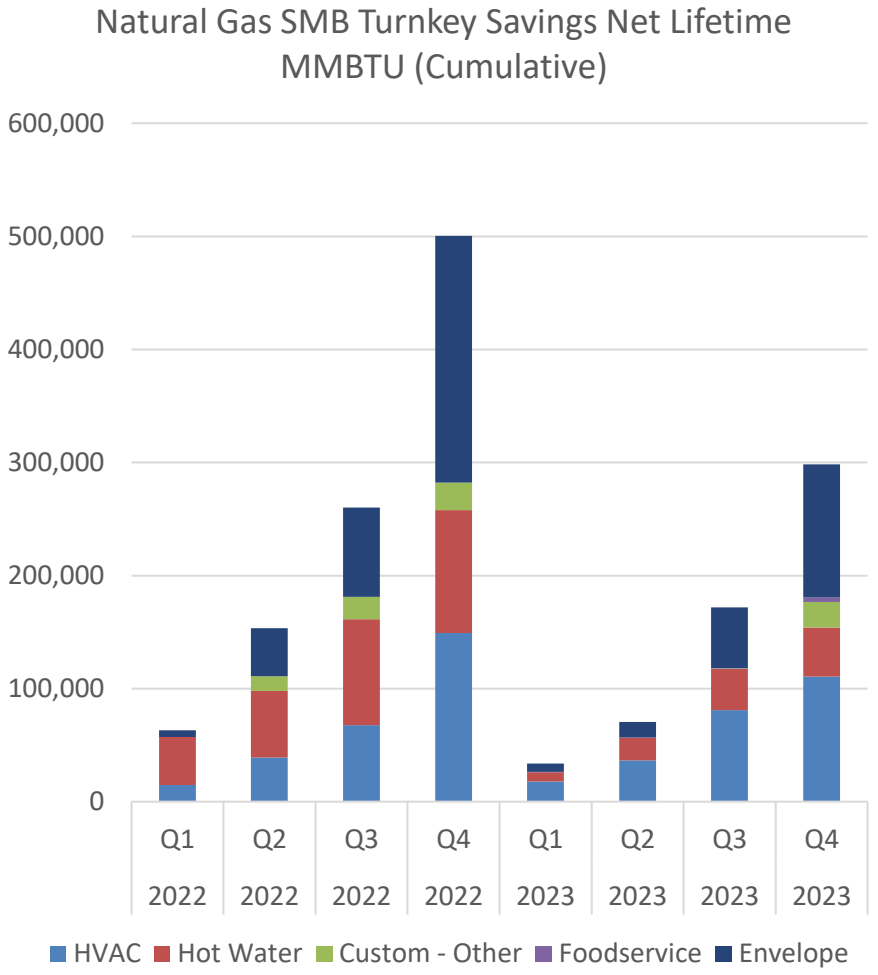
- **Larger quantity of smaller projects in 2023**
- **Largest custom HVAC projects continue to be smaller than a few years ago**
- **Seeking more large HVAC projects**



Included Measures in KPI #5	
Electric	**Natural Gas**
HVAC "Custom"	Controls, Gas "Custom"
Energy Management Systems	Heat Recovery, Gas
RetroCommissioning	Heating, Gas
	RetroCommissioning

KPI #6 C&I SMALL BUSINESS TURNKEY





WATCHING IN Q1 2024

- **All-electric New Construction offering**
  - K-12 schools projects and GSHP uptake
- **Midstream Packaged Terminal Heat Pumps**
- **Deep Energy Retrofits in municipal buildings**
- **Continued trends in moving away from lighting in Small Business Turnkey**
- **Continued increase in Weatherization savings**

THANK YOU

Questions?

APPENDIX

EQUITY TARGET: OUTREACH IN PARTNERSHIP MUNICIPALITIES 2023

Target: Track and report annually the number of outreach activities (marketing campaigns, events, community engagements, etc.) initiated and completed by Municipal and Community Partner for each underserved customer segment focused on by each Partner (renter, moderate-income, English-isolated, and small/microbusiness).

	Partner Outreach Activities		
Underserved Segment	2022	2023	2024
Renters	314	2,200	-
Moderate-Income Qualified	166	1,126	-
English-Isolated Customers	246	843	-
Small Business Turnkey	166	670	-

EQUITY TARGET: ENVIRONMENTAL JUSTICE MUNICIPALITIES 2023

2022-2024 EJ Municipalities Targets, Electric						
	Investments ($)			Participants		
	Res	IE	C&I	Res	IE	C&I
Electric Program Administrators						
Eversource						
% of Target to date	57%	122%	96%	53%	107%	84%
Cape Light Compact						
% of Target to date	91%	278%	179%	52%	42%	101%
National Grid						
% of Target to date	37%	74%	184%	17%	23%	57%
Unitil						
% of Target to date	99%	145%	1193%	30%	78%	353%

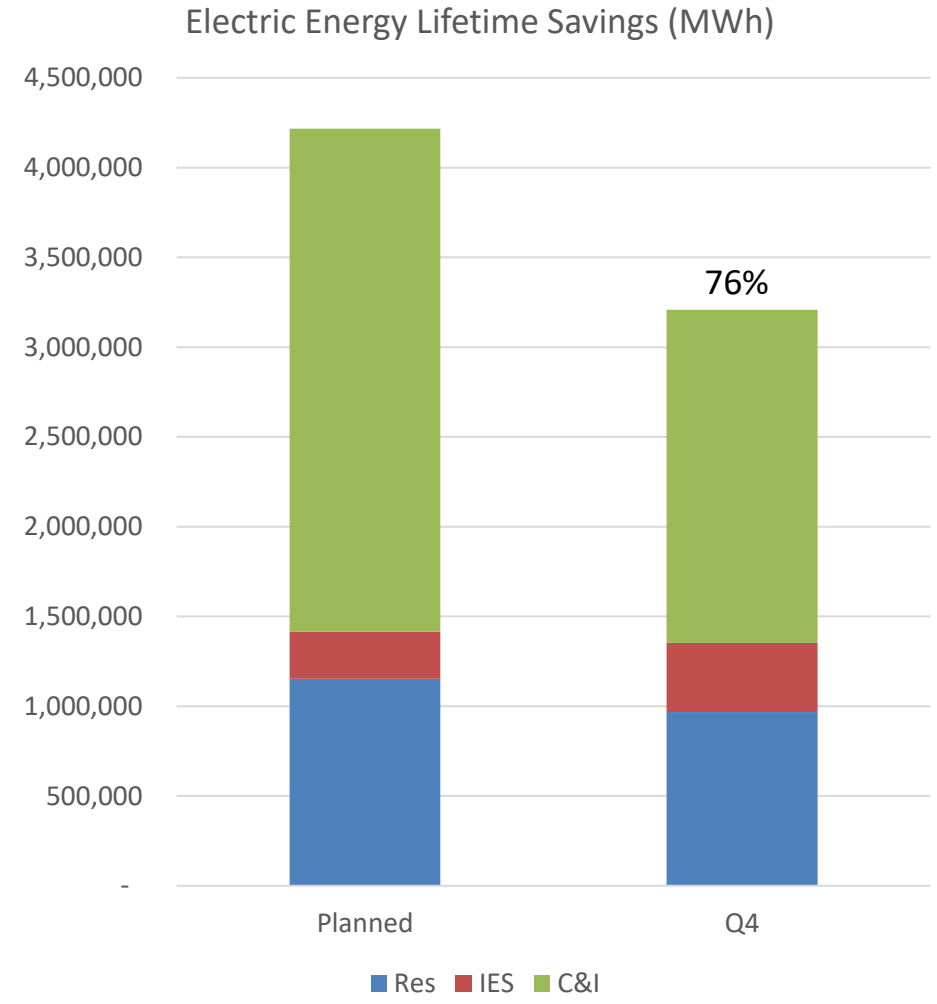
2022-2024 EJ Municipalities Targets, Gas						
	Investments ($)			Participants		
	Res	IE	C&I	Res	IE	C&I
Gas Program Administrators						
NSTAR Gas						
% of Target to date	84%	83%	187%	75%	251%	67%
EGMA						
% of Target to date	47%	57%	110%	58%	58%	85%
National Grid						
% of Target to date	35%	61%	41%	33%	74%	31%
Unitil						
% of Target to date	78%	66%	103%	107%	54%	11%
Liberty						
% of Target to date	86%	113%	48%	62%	126%	72%
Berkshire						
% of Target to date	59%	135%	80%	67%	151%	42%

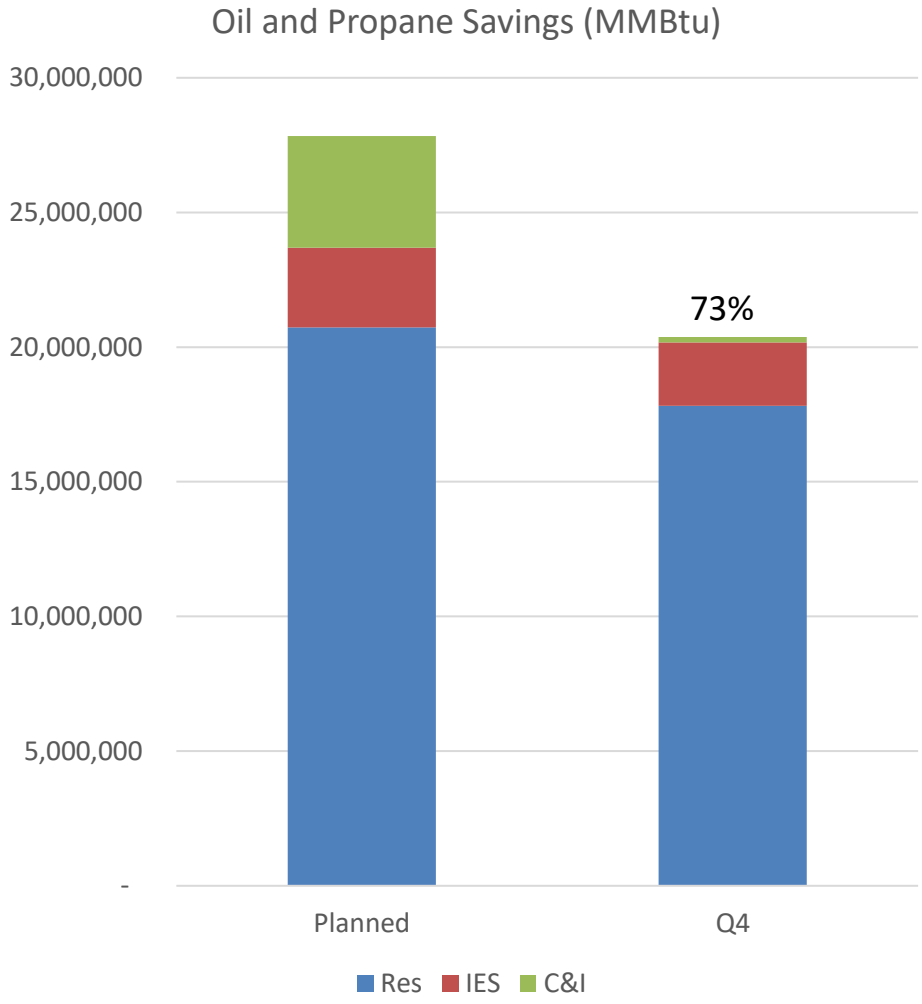
Targets:

-Increase Plan over Plan investment by each PA in Environmental Justice Municipalities. "Investment" is defined as incentives and money spent for Clean Energy Pathways internships, Municipal Partners, targeted marketing, and other direct/geographically targeted investments.

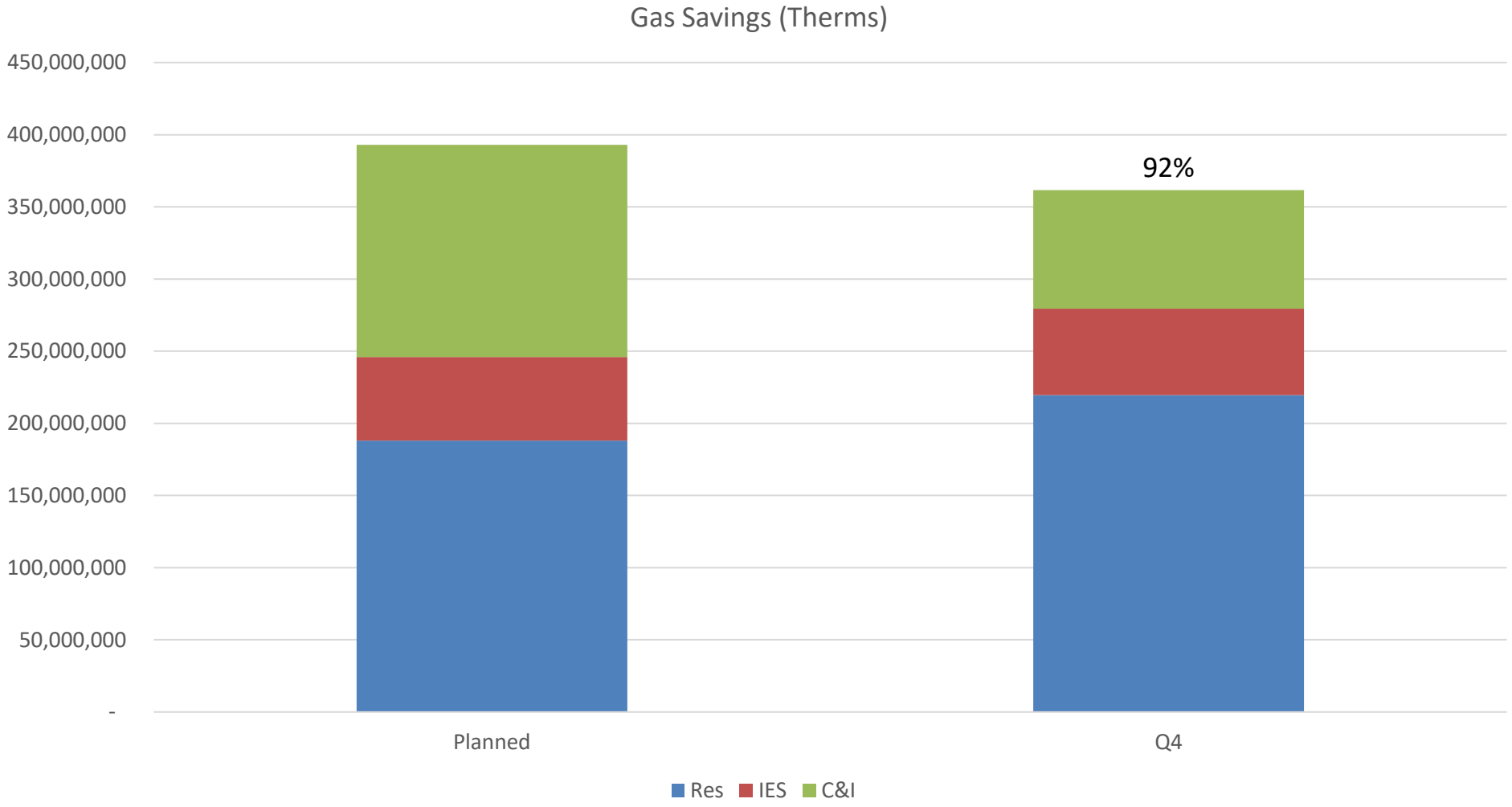
-Increase number of participants in Environmental Justice Municipalities Plan over Plan by a percent to be set for each PA individually.

LIFETIME ELECTRIC PROGRAM SAVINGS (ELECTRIC + DELIVERED FUELS)

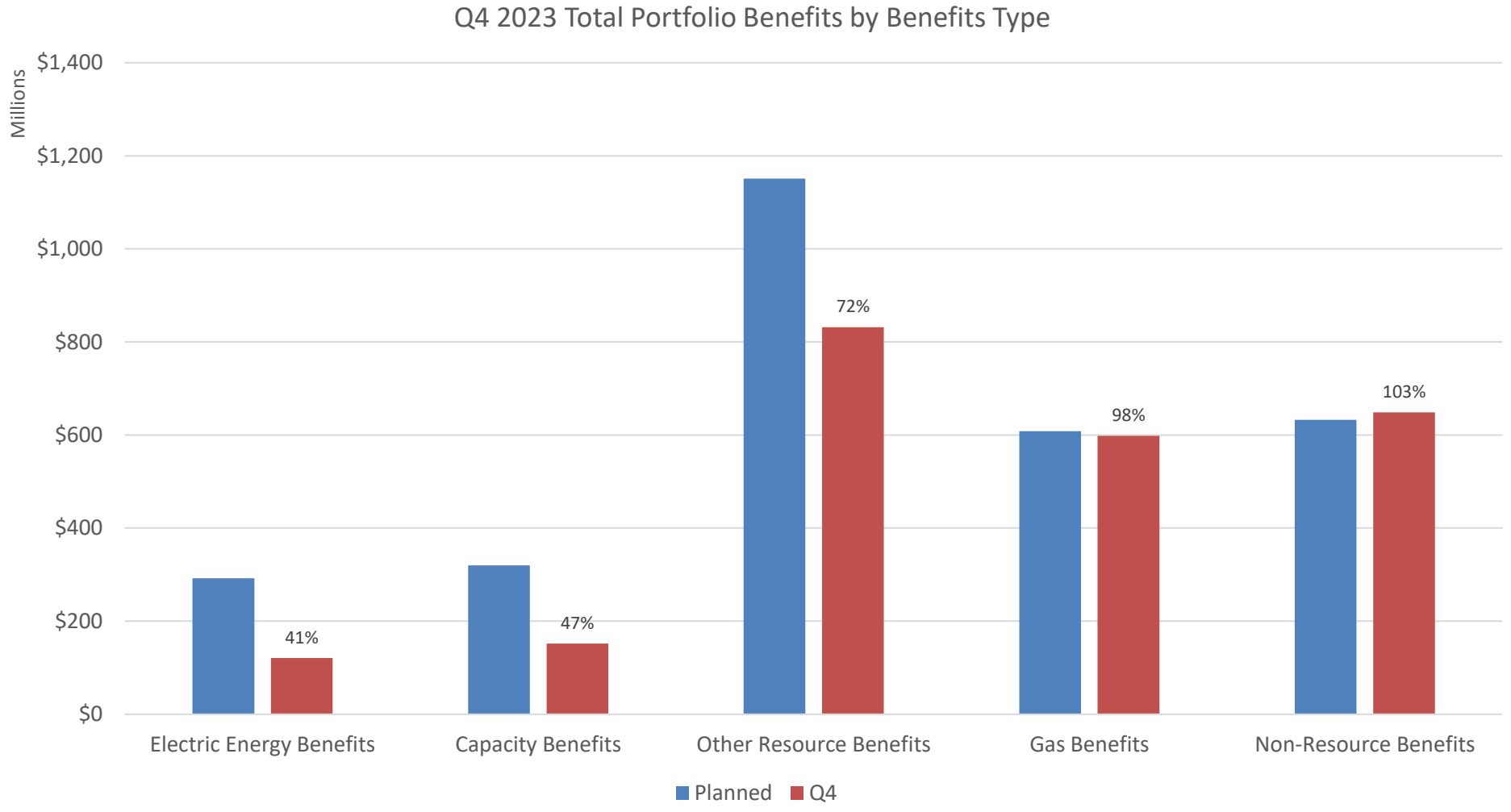




LIFETIME GAS PROGRAM SAVINGS



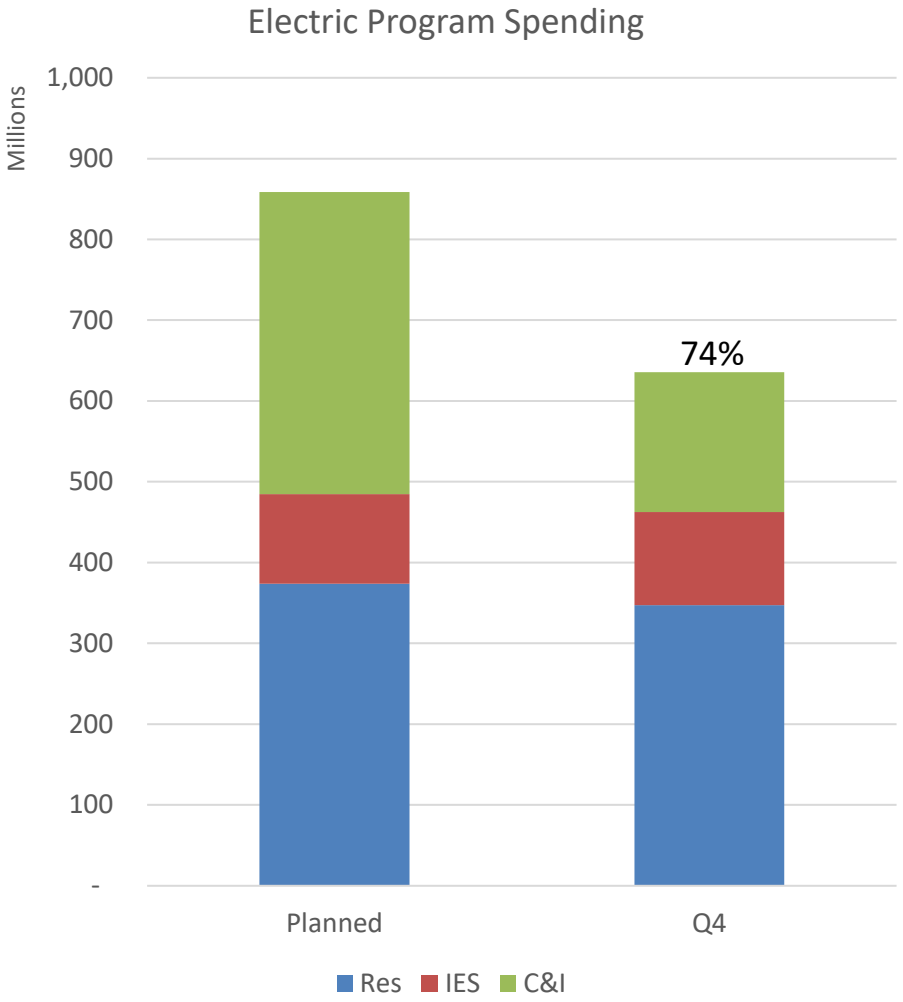
Q4 2023 TOTAL PORTFOLIO BENEFITS BY CATEGORY

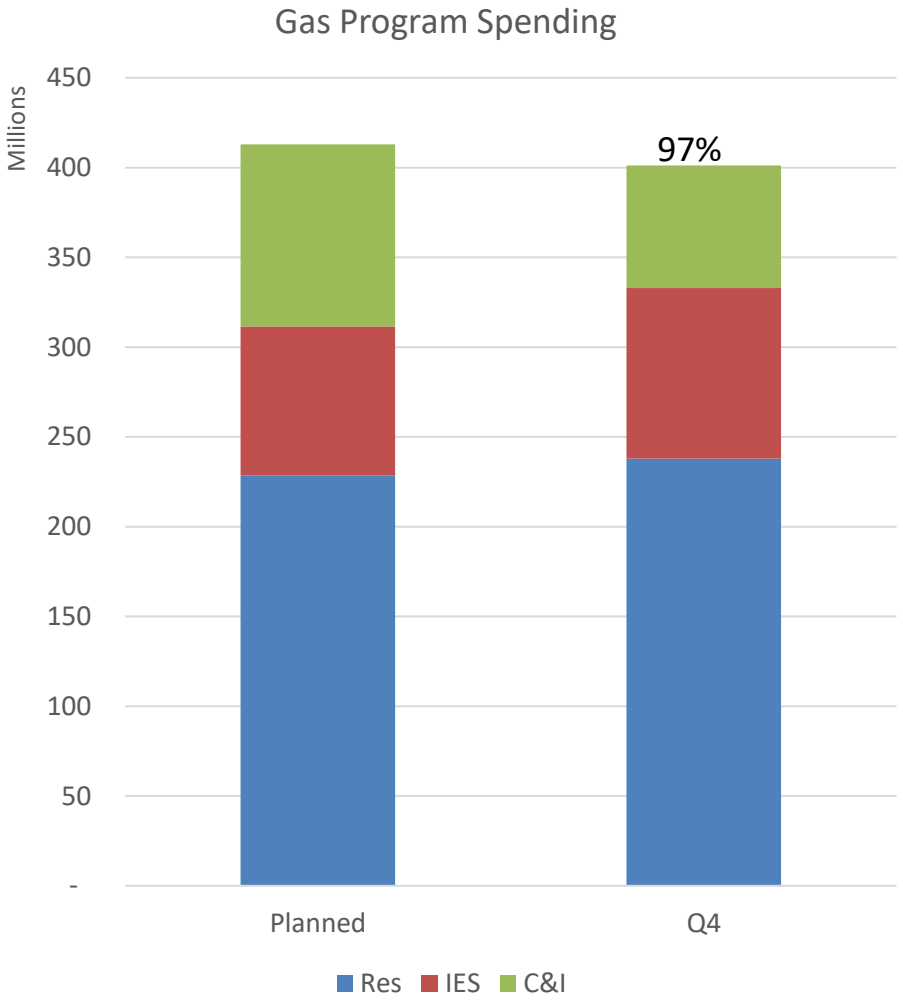


BENEFITS BY PRIORITY CATEGORY - % OF 2023 PLAN

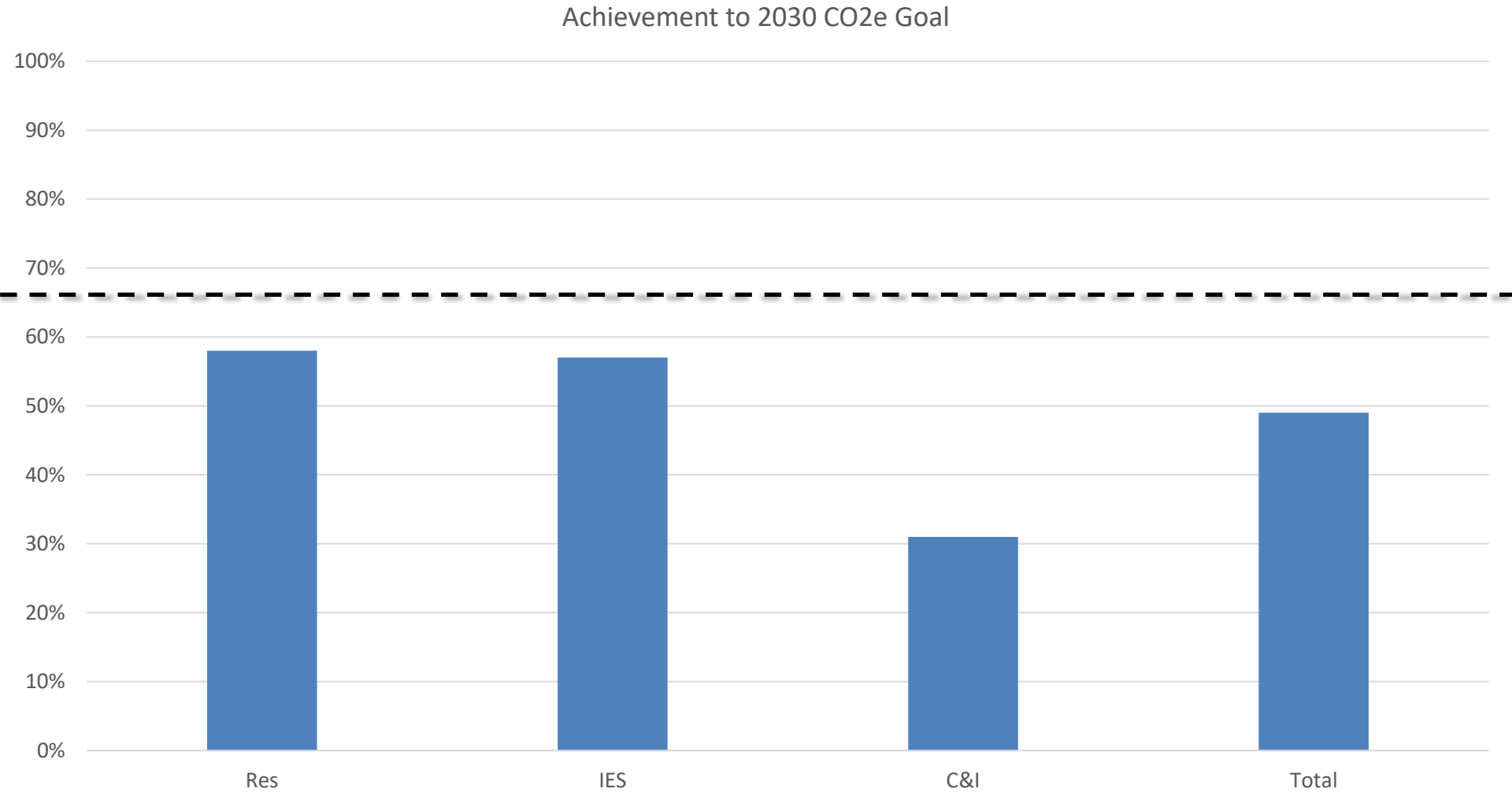
	Sector	Base Benefits	Equity Benefits	Electrification Benefits	Total Benefits
Statewide Electric	Residential	113%	61%	57%	82%
	Income Eligible	122%	86%	43%	111%
	Commercial & Industrial	68%	79%	4%	55%
	Total	**90%**	**70%**	**35%**	**74%**
Statewide Gas	Residential	96%	62%	477%	83%
	Income Eligible	99%	165%		130%
	Commercial & Industrial	6%	57%	57%	61%
	Total	**63%**	**103%**	**76%**	**88%**

ELECTRIC AND GAS PROGRAM SPENDING

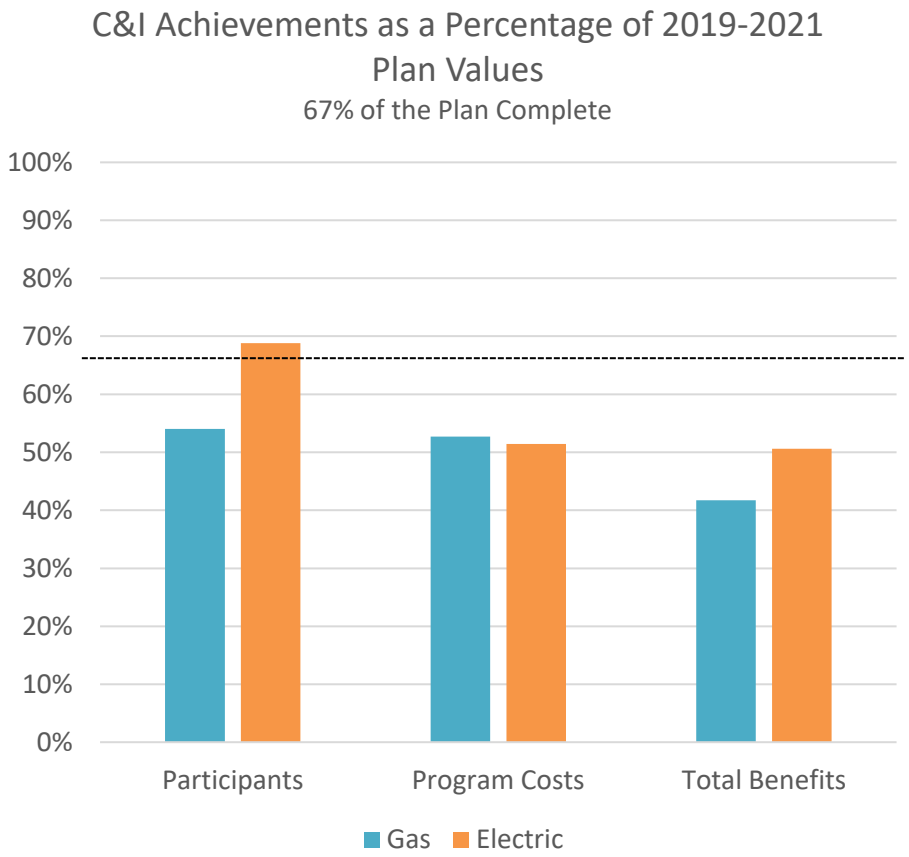


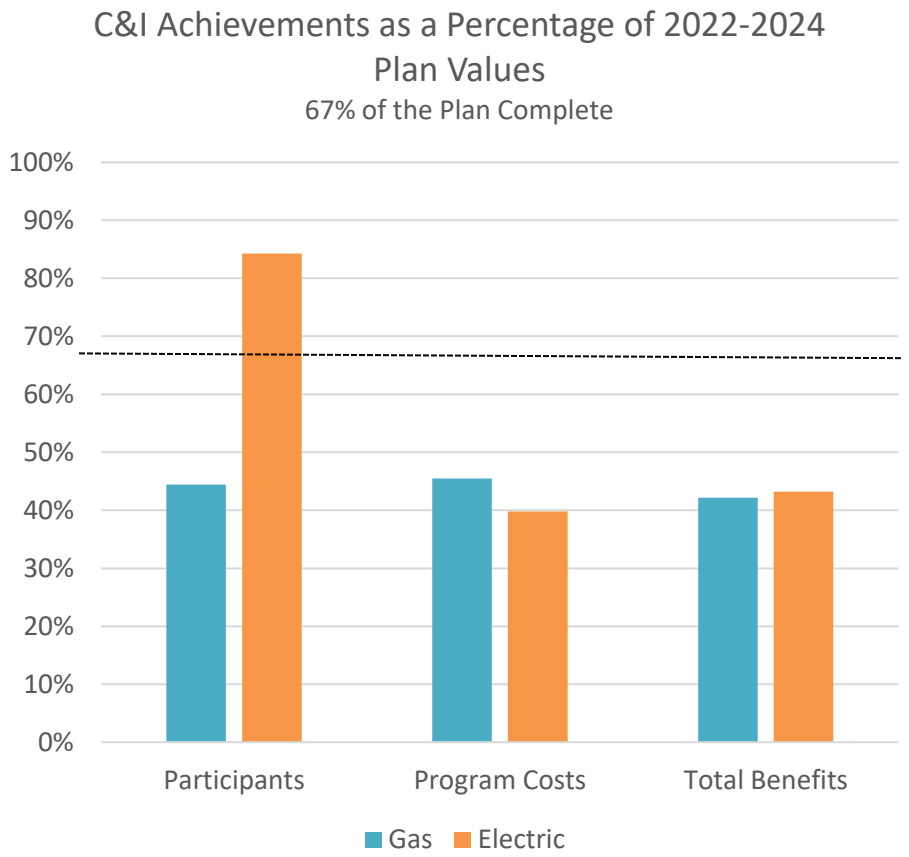


Q4 2022 TOTAL PORTFOLIO GHG REDUCTIONS

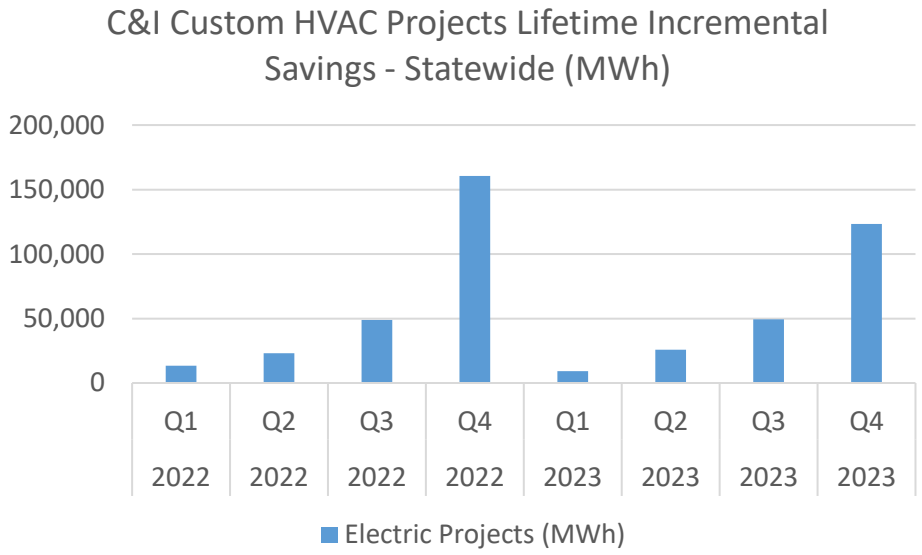
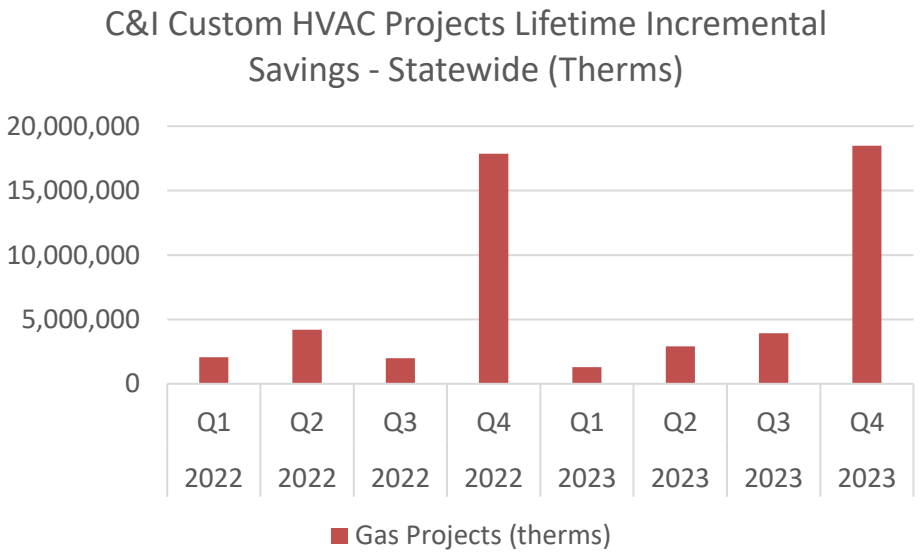


C&I RESULTS OVERVIEW





KPI #5: NET LIFETIME SAVINGS FROM CUSTOM HVAC PROJECTS



- **Q4 hockey stick effect**
- **Decline in larger projects due to rising baselines and fewer opportunities**