2021 Q4 RESULTS

- April 27, 2022

INTRODUCTION

- **Q4 provides a first look at 2021 complete results**
  - Additional work and analysis will be done when final evaluated term results are available (August)
- **Purpose of this presentation is to:**
  - Provide a deeper dive on 2021 results across sectors, initiatives, and PAs as applicable
  - Highlight and address most important Council priorities
  - Discuss conclusions drawn from Key Performance Indicator (KPI) results
  - Identify key considerations for 2022-2024 Plan

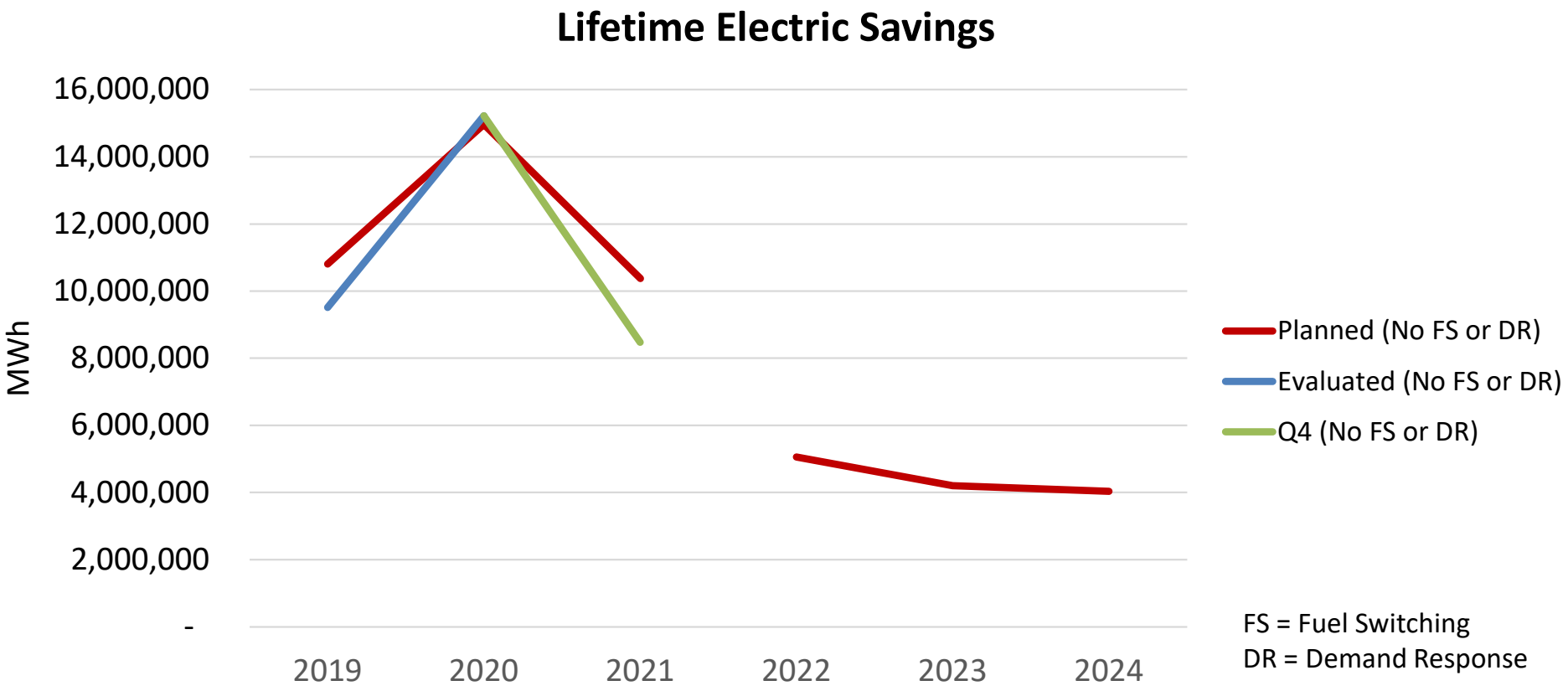
PORTFOLIO

PORTFOLIO TAKEAWAYS

- **Electric program savings in 2021 were below planned for electric, but above planned for delivered fuels**
- **Gas program savings in 2021 tracked closely with planned**
- **Total program benefits (electric and gas programs combined) for 2021 were below planned; expected to increase steadily over the next three years**
- **Results best understood by looking at sector-specific results**

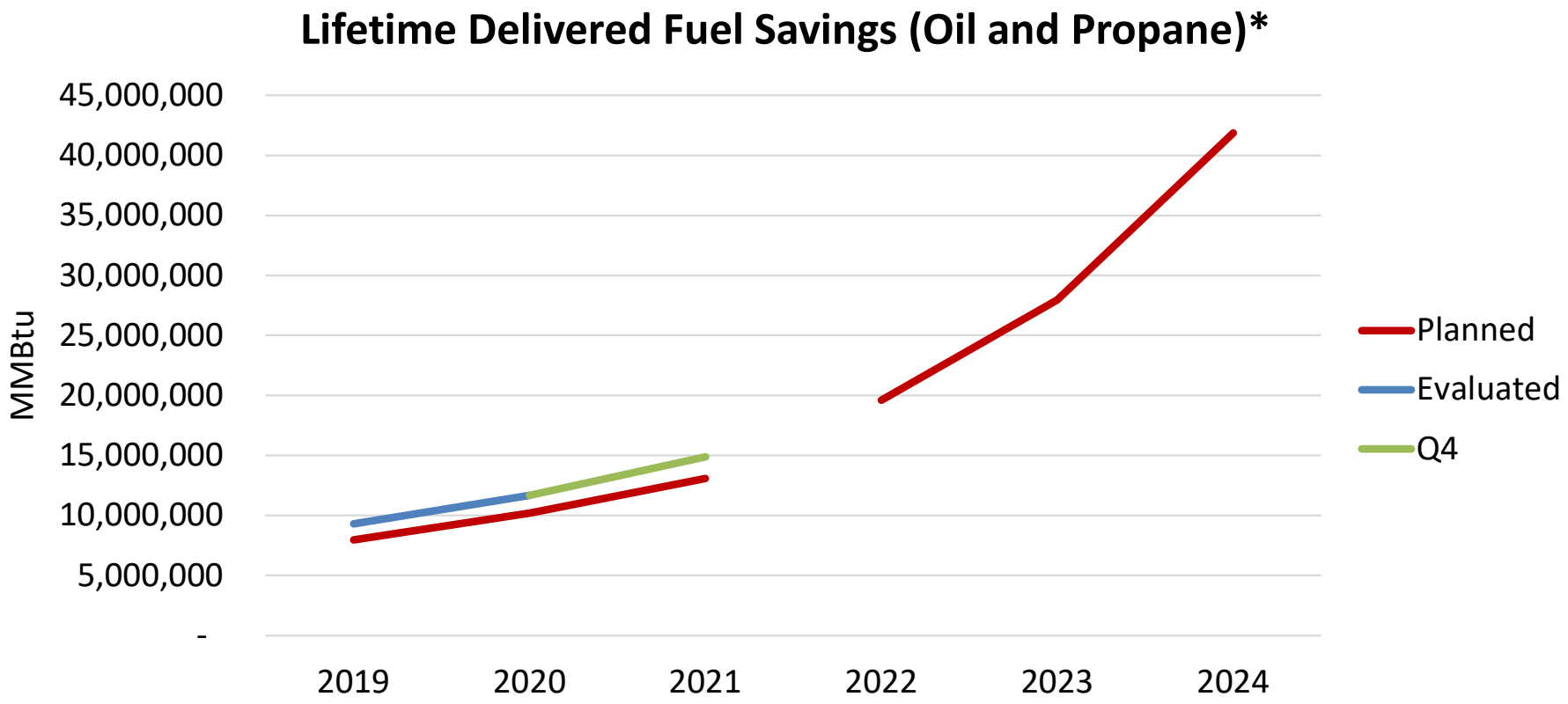
LIFETIME ELECTRIC PROGRAM SAVINGS (ELECTRIC)

- **Underachieved in 2021; expected to decline over the next three years**



LIFETIME ELECTRIC PROGRAM SAVINGS (DELIVERED FUELS)

- **Slight overachievement in 2021; expected to steadily increase over the next three years**

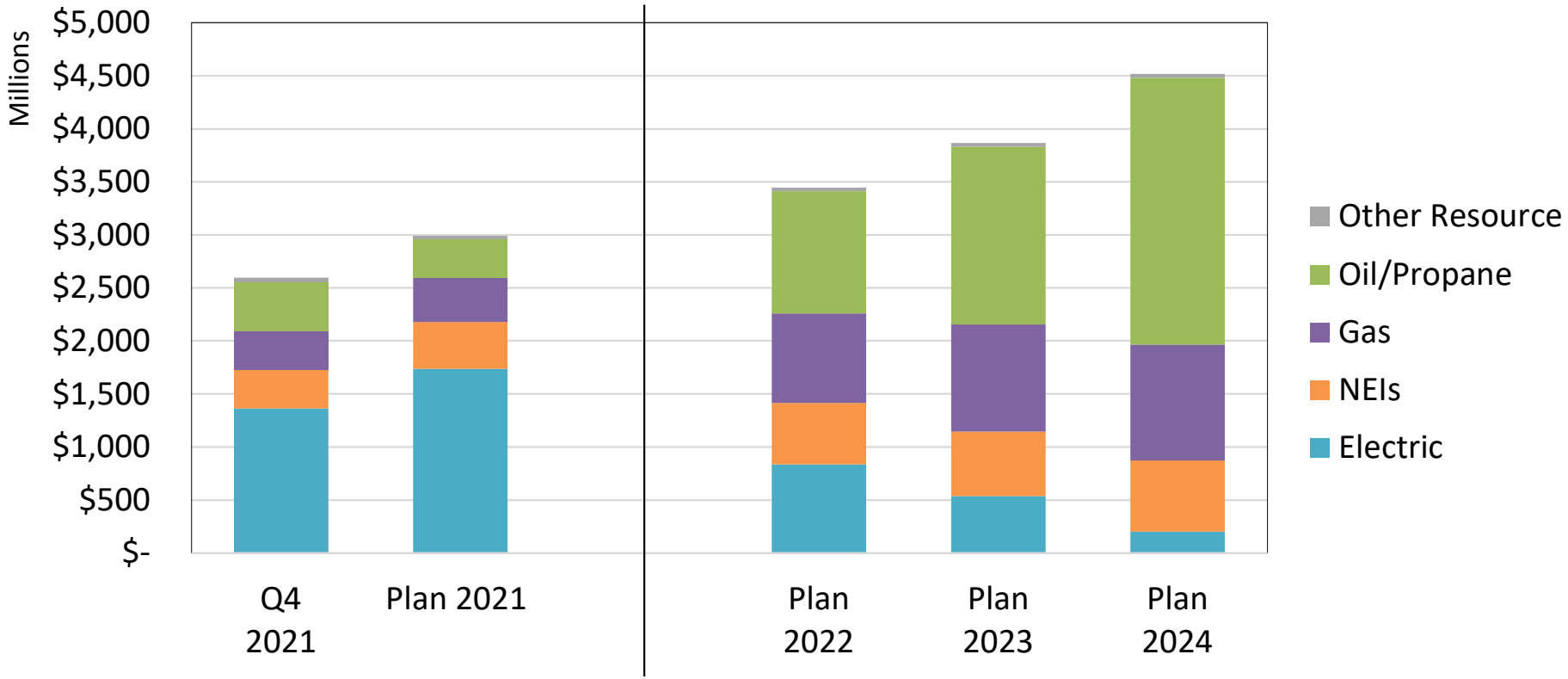


*Estimated to correct a National Grid reporting error for C&I oil savings

TOTAL PROGRAM BENEFITS

- **Benefits in Q4 lower than planned; expected to increase and shift in 2022-2024**

Total Portfolio Benefits (Electric and Gas Programs Combined)*



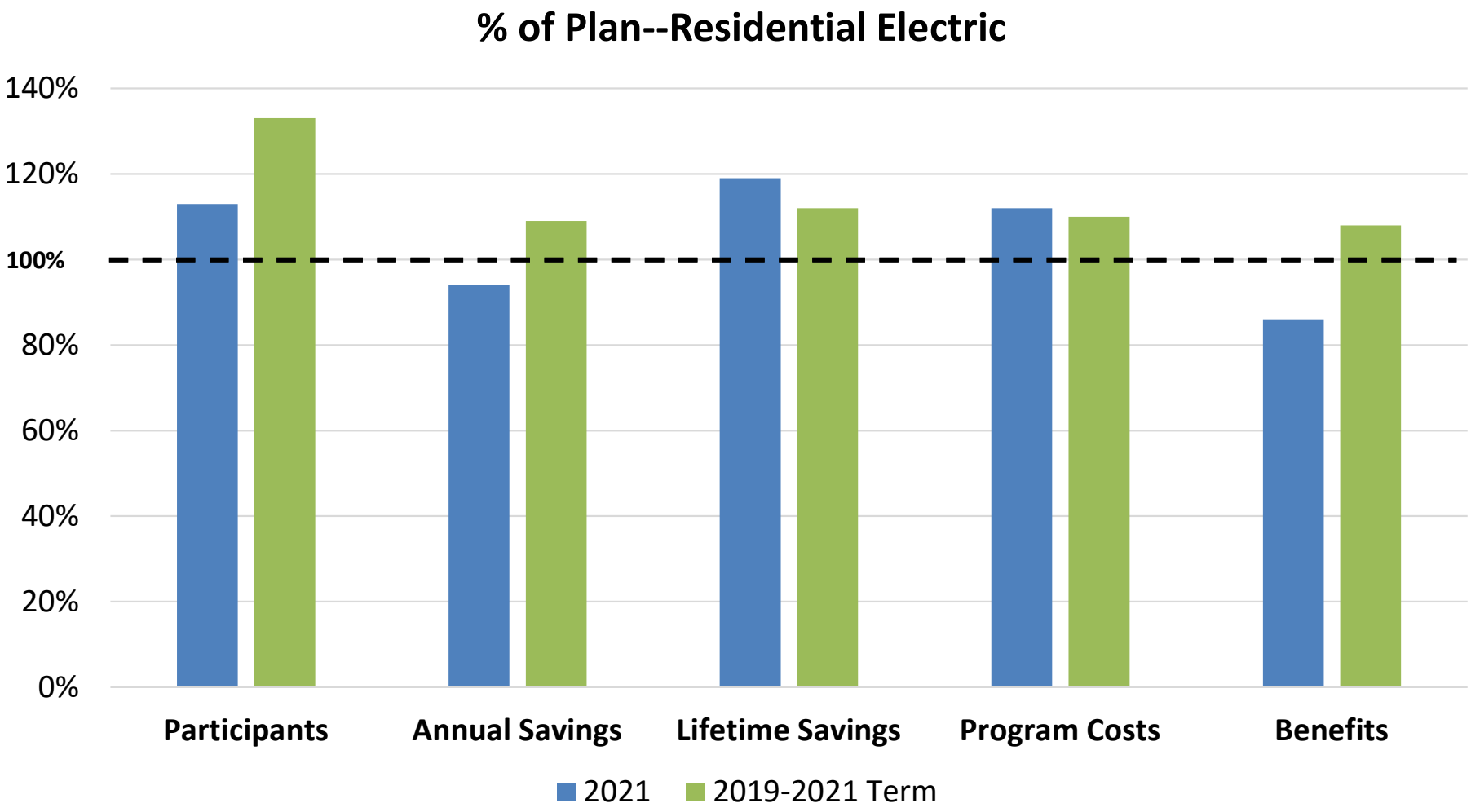
*Estimated to correct a National Grid reporting error for C&I oil savings

RESIDENTIAL

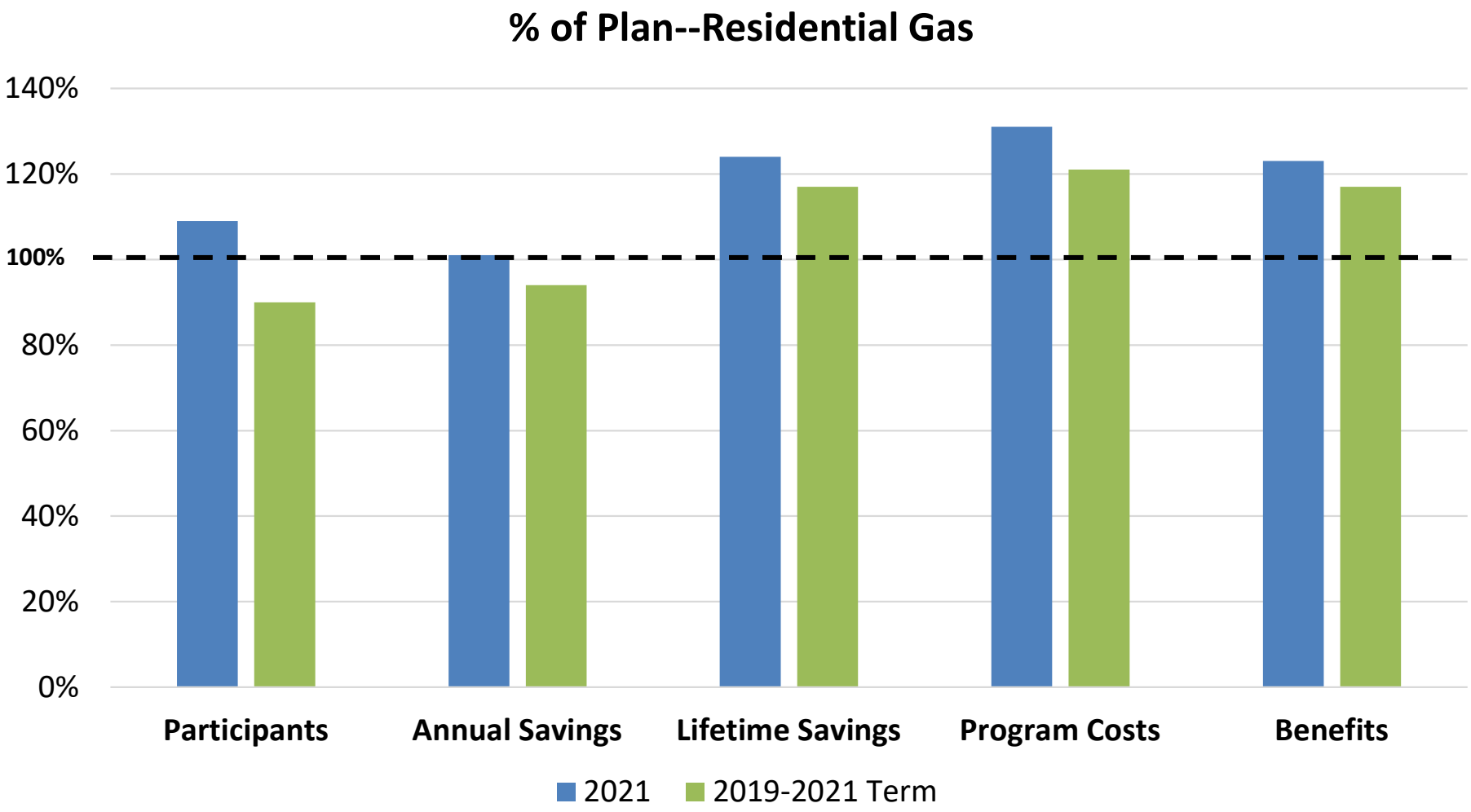
RESIDENTIAL TAKEAWAYS

- **Res lifetime savings (preliminary) for electric and gas in 2021 were both ~20% above planned values, despite lingering effects of COVID**
  - Res Retail Initiative (HVAC, lighting, appliances) results were especially strong for 2021; 40+% above lifetime savings goals
- **Over half of res heat pumps in 2019-21 were installed for cooling**
  - Those units don't count toward 2022-24 goals.
- **Moderate income results continue to be low**
  - A lot of work needed for PAs to meet planned moderate income weatherization and heating equipment goals for 2022-24

RESIDENTIAL ELECTRIC PERFORMANCE SUMMARY

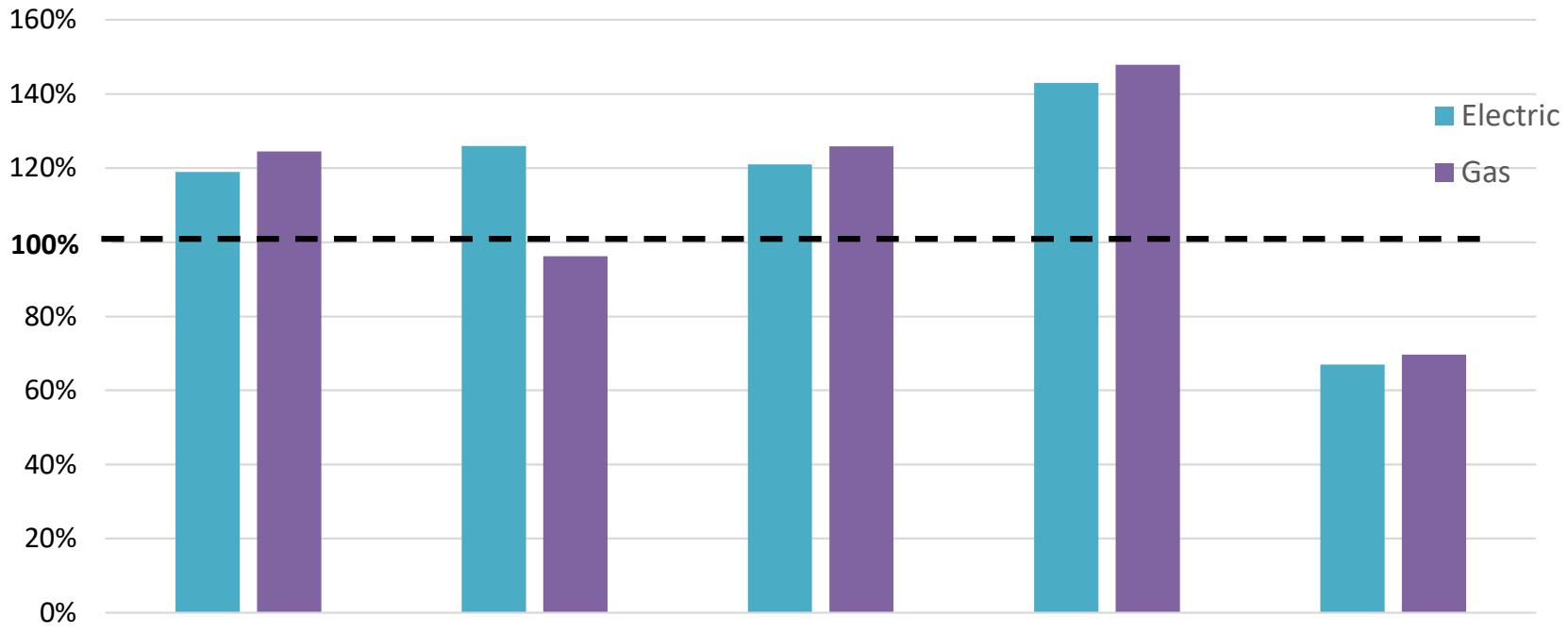


RESIDENTIAL GAS PERFORMANCE SUMMARY



ACHIEVEMENTS BY INITIATIVE

- **All initiatives–except Behavior–contributed to Res Sector lifetime savings overachievement in 2021**

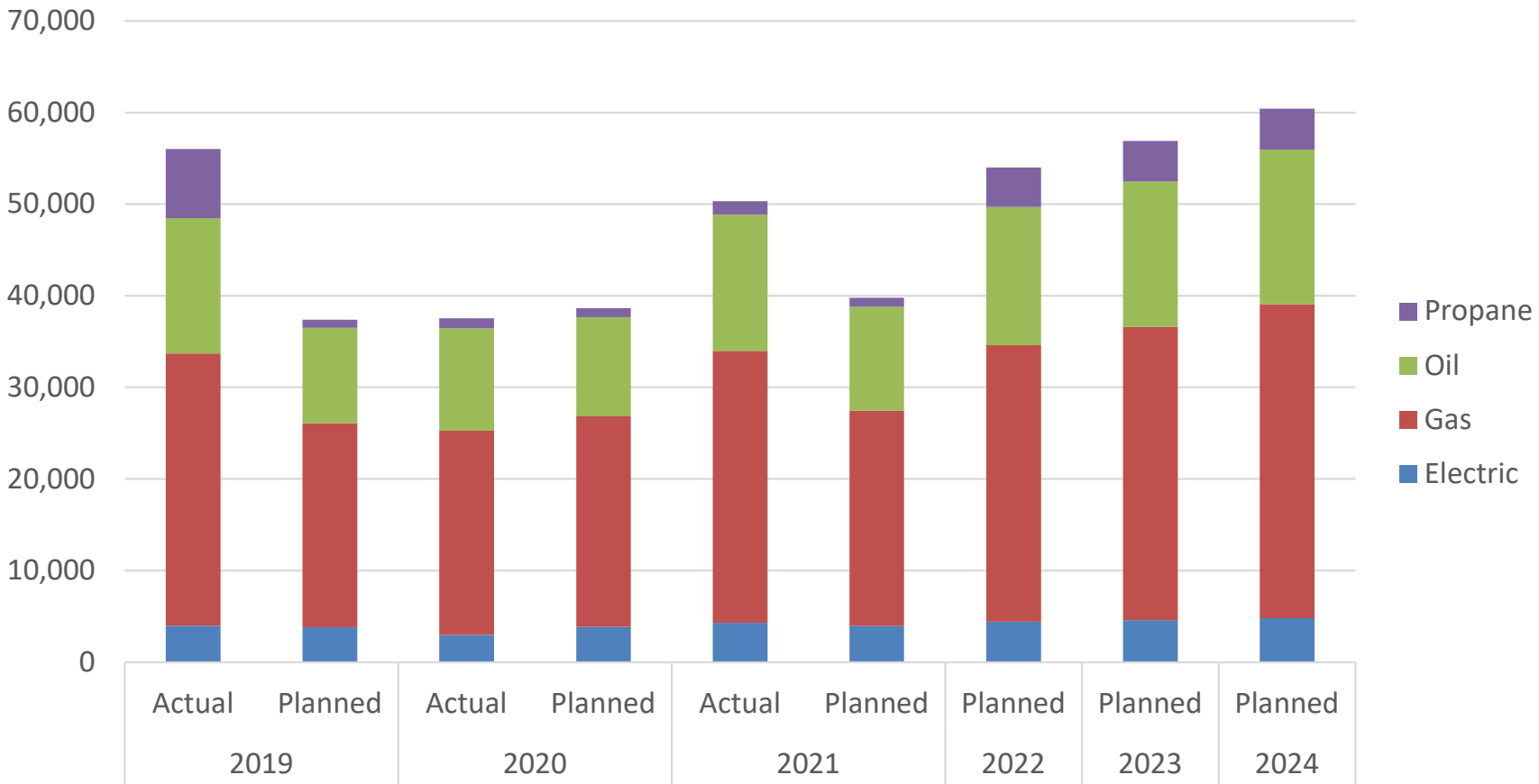


Audit program: includes weatherization and instant savings measures like lighting and faucet aerators

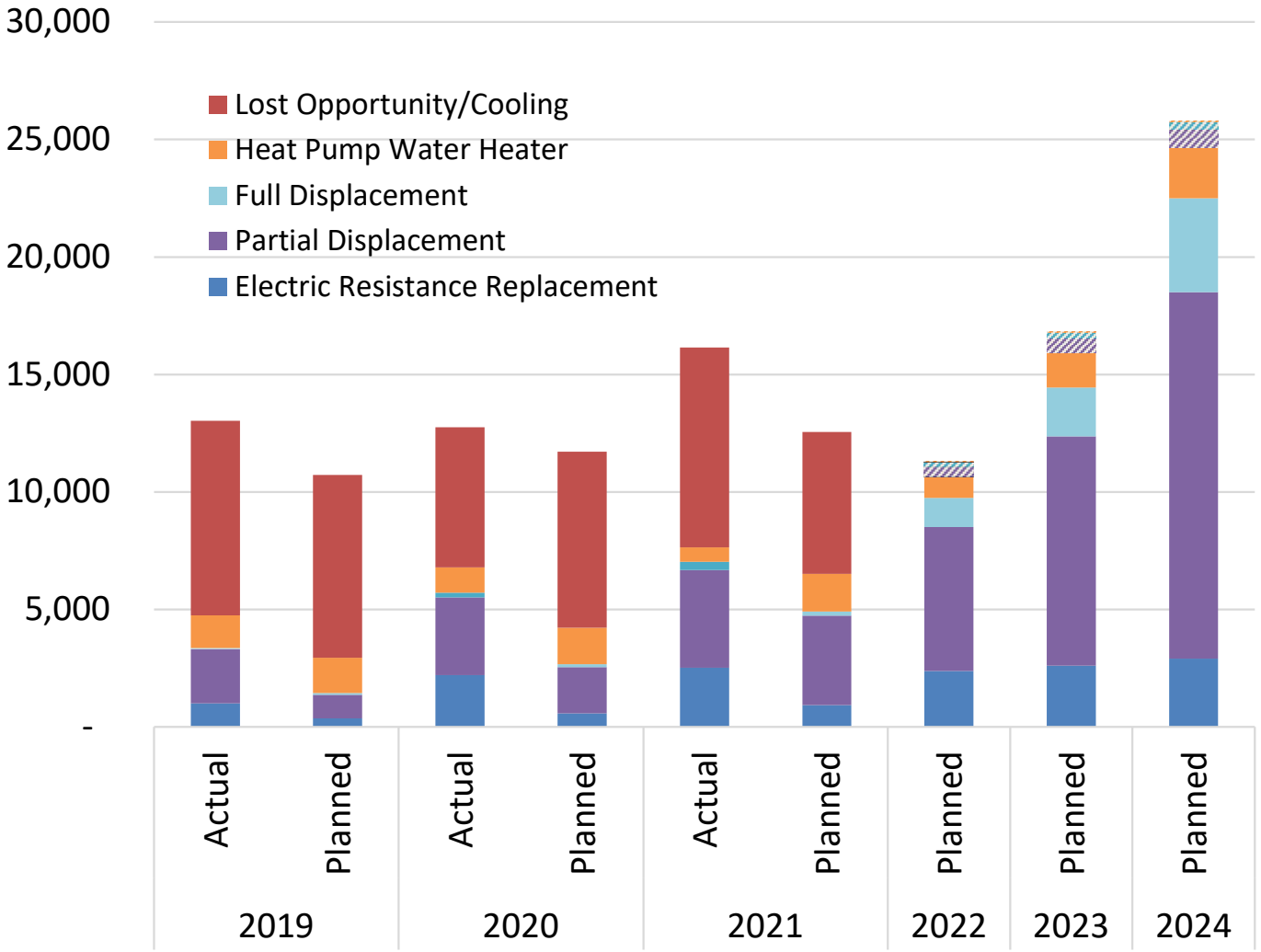
Electric includes lighting, appliances, HVAC; gas is HVAC

INSULATION UNITS

- **2021 insulation units were 32% over planned values, due partly to residual activity from 100% weatherization incentive in 2020**

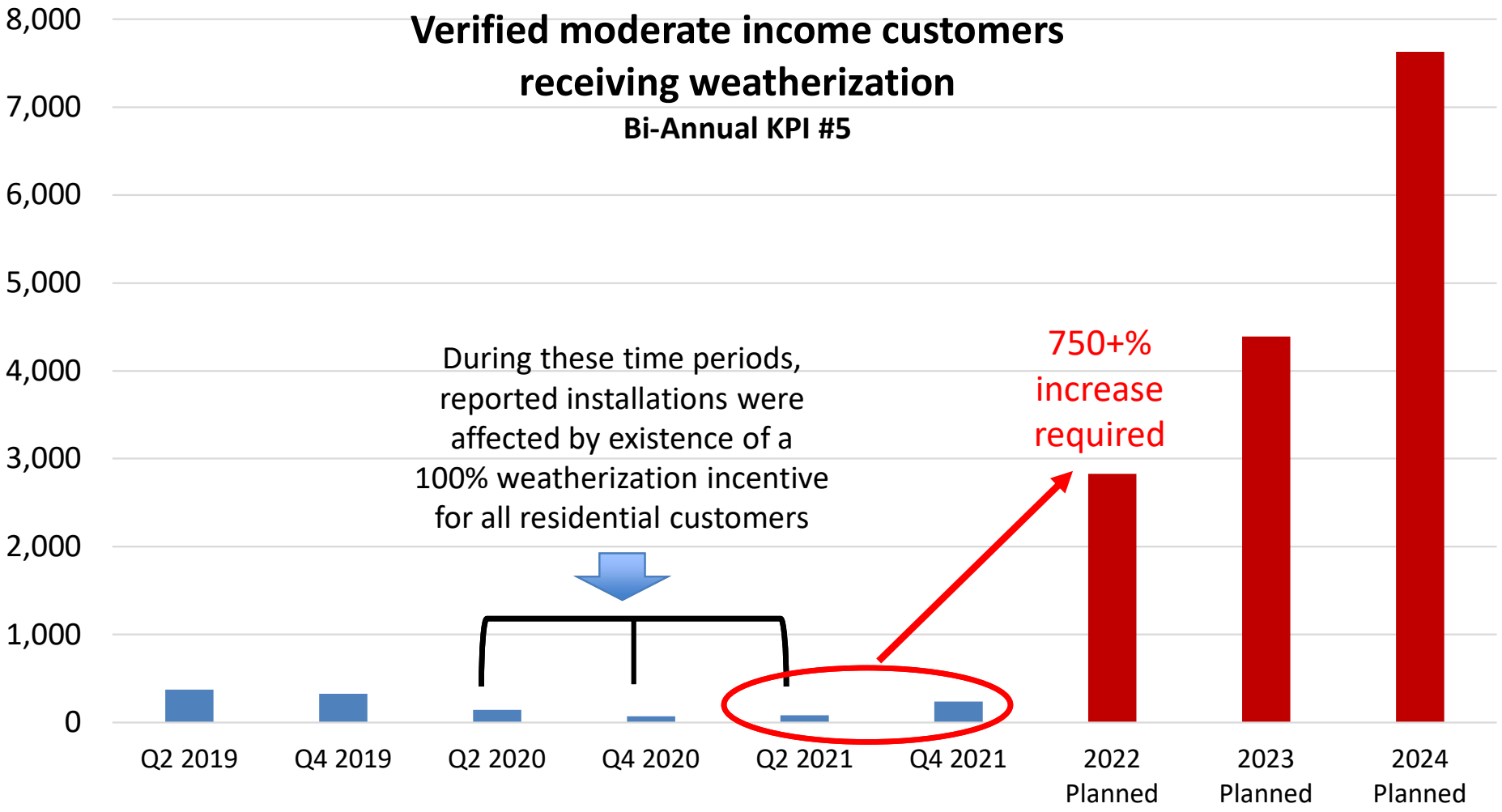


RESIDENTIAL HEAT PUMP INSTALLATIONS



- **PAs exceeded Res heat pump goals each year of 2019-2021 term**
- **Starting in 2022, PAs will not claim credit/savings for heat pumps used solely for cooling**
  - Removing these units leaves the PAs with a steep ramp up for production goals

MODERATE INCOME WEATHERIZATION



THINGS TO LOOK FOR IN NEW TERM

- **Ability of PAs to leverage success in 2019-2021 term to achieve goals for the 2022-2024 term that focus more strongly on greenhouse gas reductions**

- **Progress in achieving goals for steep ramp ups in production for heat pumps and moderate income weatherization, which the Council can assess by:**
  - Receiving periodic updates from the PAs on evolving implementation strategies
  - Reviewing regular PA reporting on unit numbers

- **Progress in meeting Equity Targets**
  - Each target has its own reporting schedule
  - Reporting details still being worked out with PAs

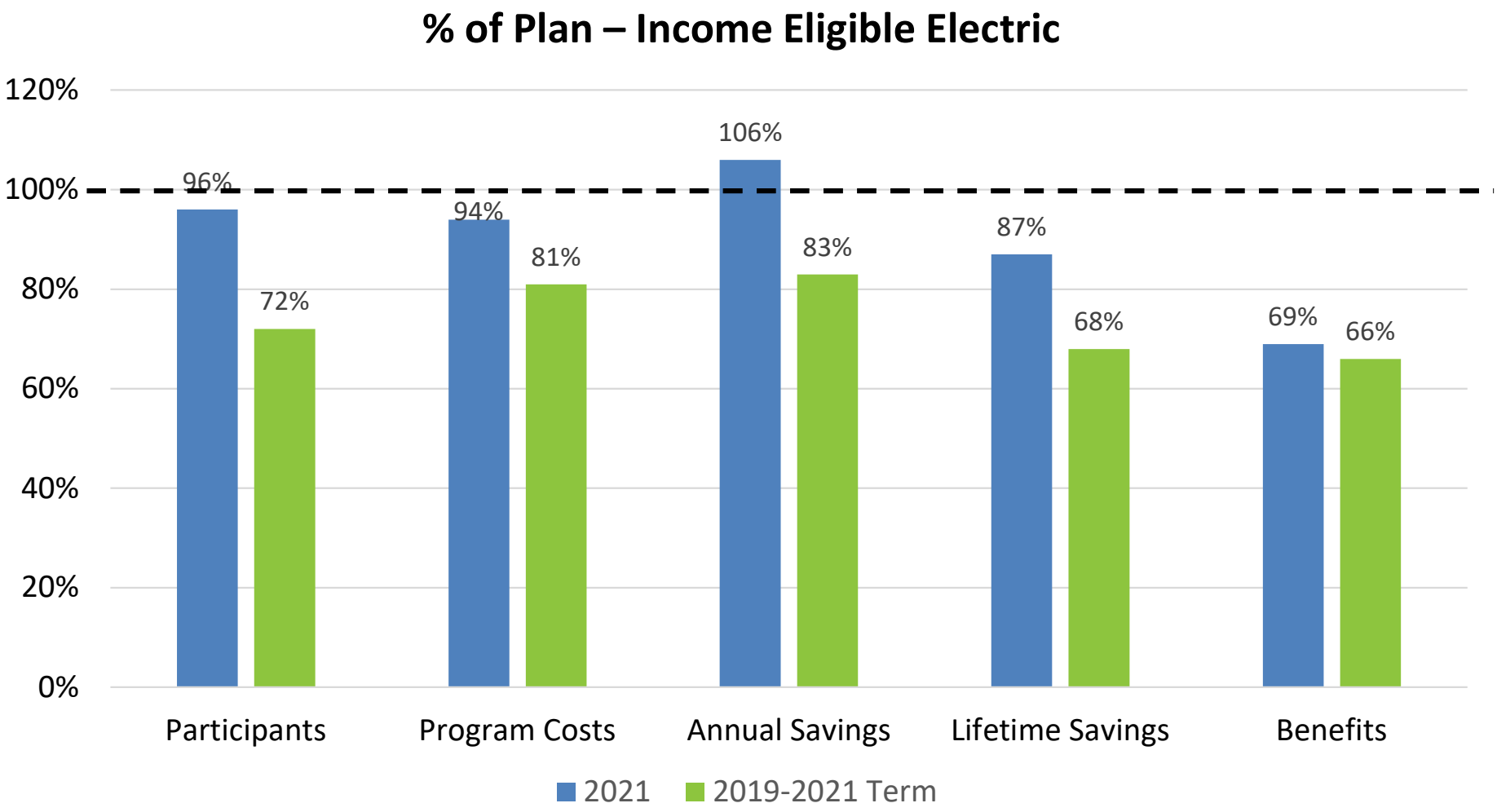
Equity

INCOME ELIGIBLE SERVICES (IES)

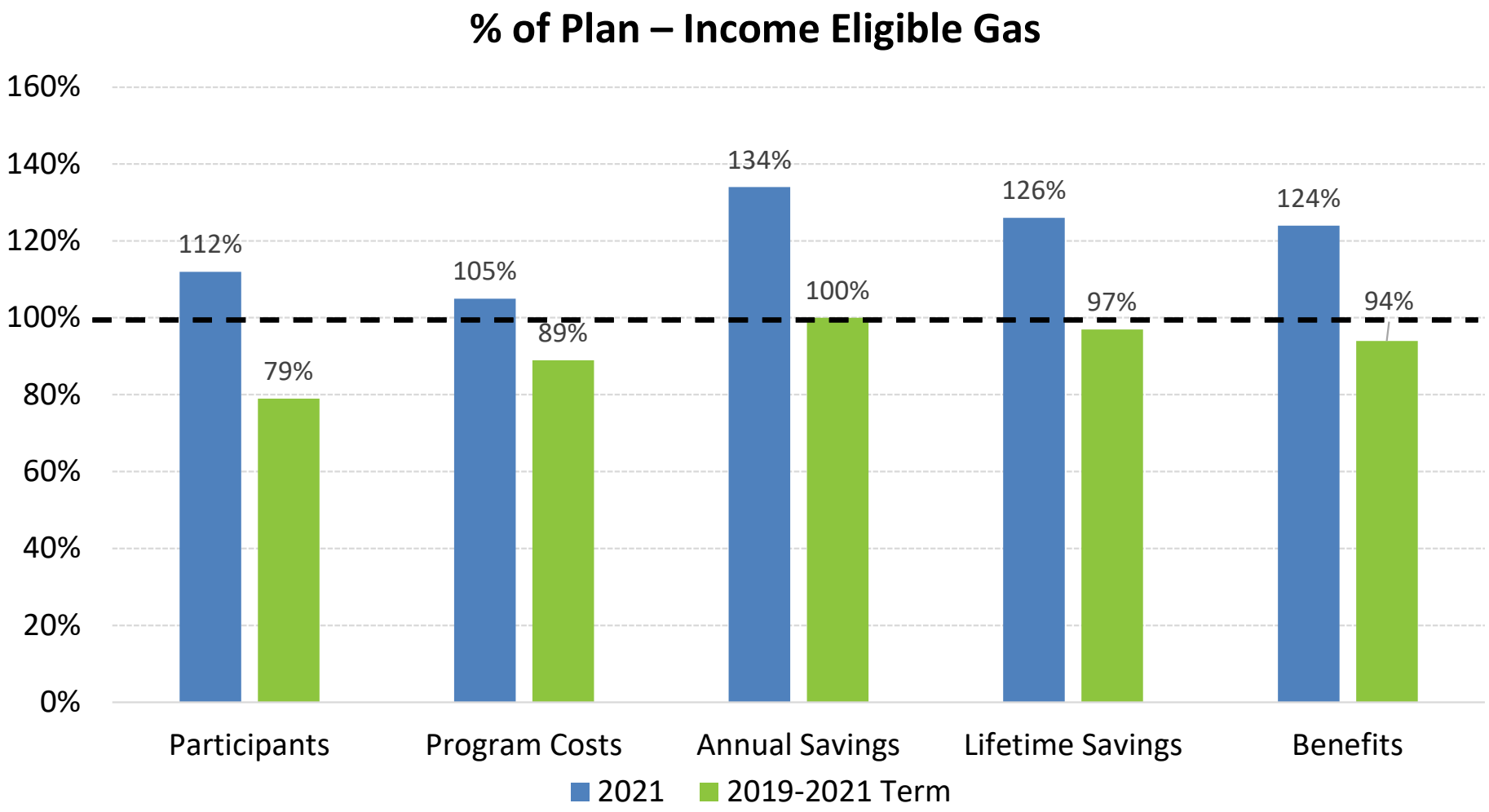
INCOME ELIGIBLE TAKEAWAYS

- **Electric: All goals except annual savings were not met for 2021; for Term lifetime savings were 68% of goal and benefits were 66%**
  - Strong achievement by Eversource and Until was offset by low achievement by National Grid and Cape Light Compact
  - Data are preliminary: LEAN reports additional activity will be included in Term Report
- **Gas: All goals were met, with energy savings and benefits exceeding planned values by more than 20%**
- **Insulation installs in 2021 recovered after COVID challenges of 2020**
- **Heat pump goals for 2021 and for the Term were not met; steep ramp up will be required to meet 2022-2024 goals**

INCOME ELIGIBLE - ELECTRIC PERFORMANCE SUMMARY



INCOME ELIGIBLE - GAS PERFORMANCE SUMMARY



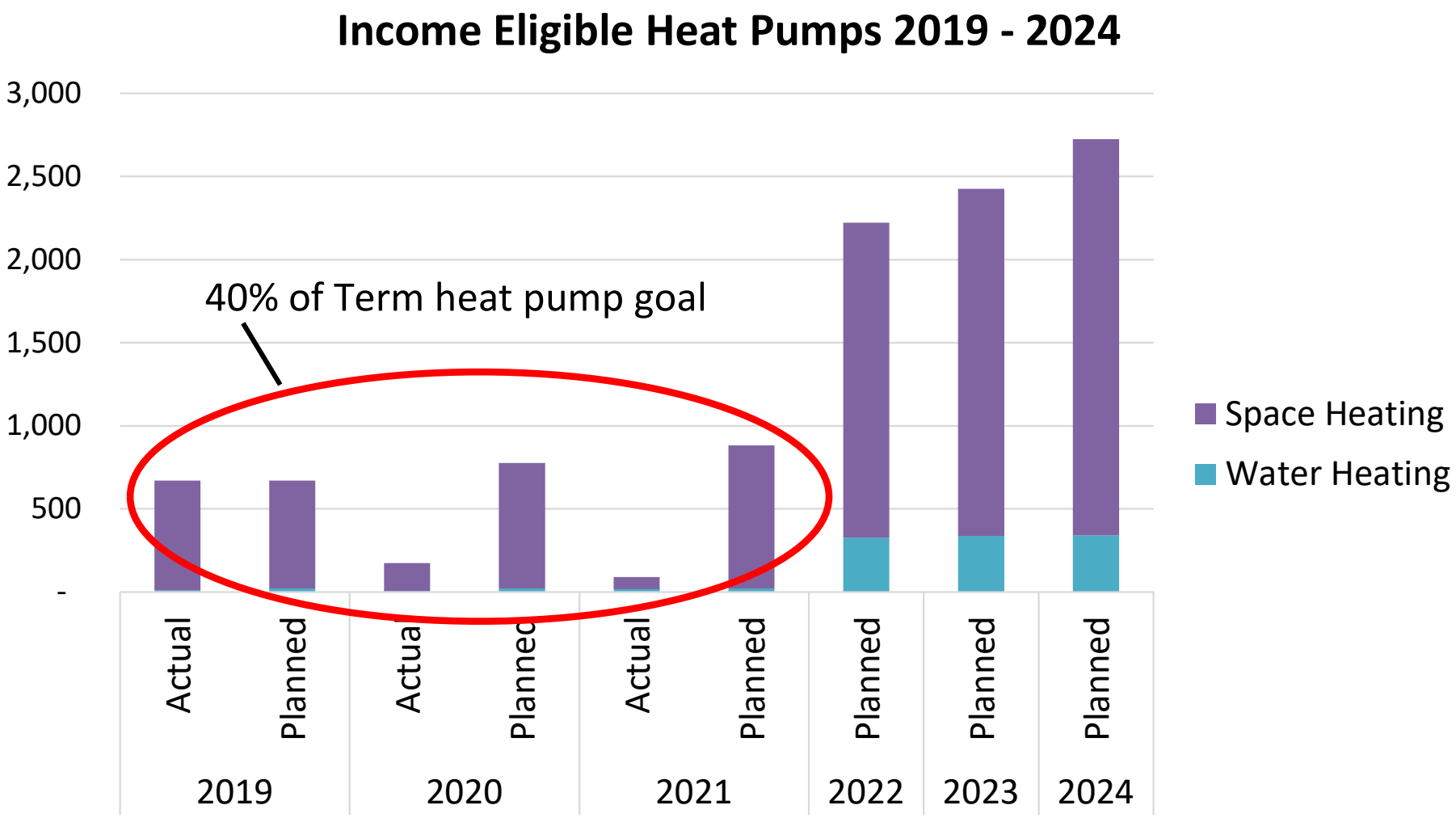
PA ACHIEVEMENT SUMMARY

- **Electric: Low results from National Grid and CLC**
  - Unavailability of appliances due to supply chain issues (both PAs)
  - Lighting evaluation changes (both PAs)
  - Less opportunity for heat pump installations than planned (National Grid)
  - Limited IES population to be served overall, with many already served (CLC)
  - Supply chain delays impacting HP installs (CLC)
- **Gas: Planned goals mostly exceeded by PAs**

2021 Lifetime Energy Savings as % of Plan

	Electric	Gas
Eversource	130%	131%
National Grid	66%	128%
Unitil	147%	211%
Cape Light Compact	49%	N/A
Berkshire	N/A	82%
Liberty	N/A	103%
EGMA	N/A	118%

INCOME ELIGIBLE HEAT PUMP INSTALLATIONS



THINGS TO LOOK FOR IN NEW TERM

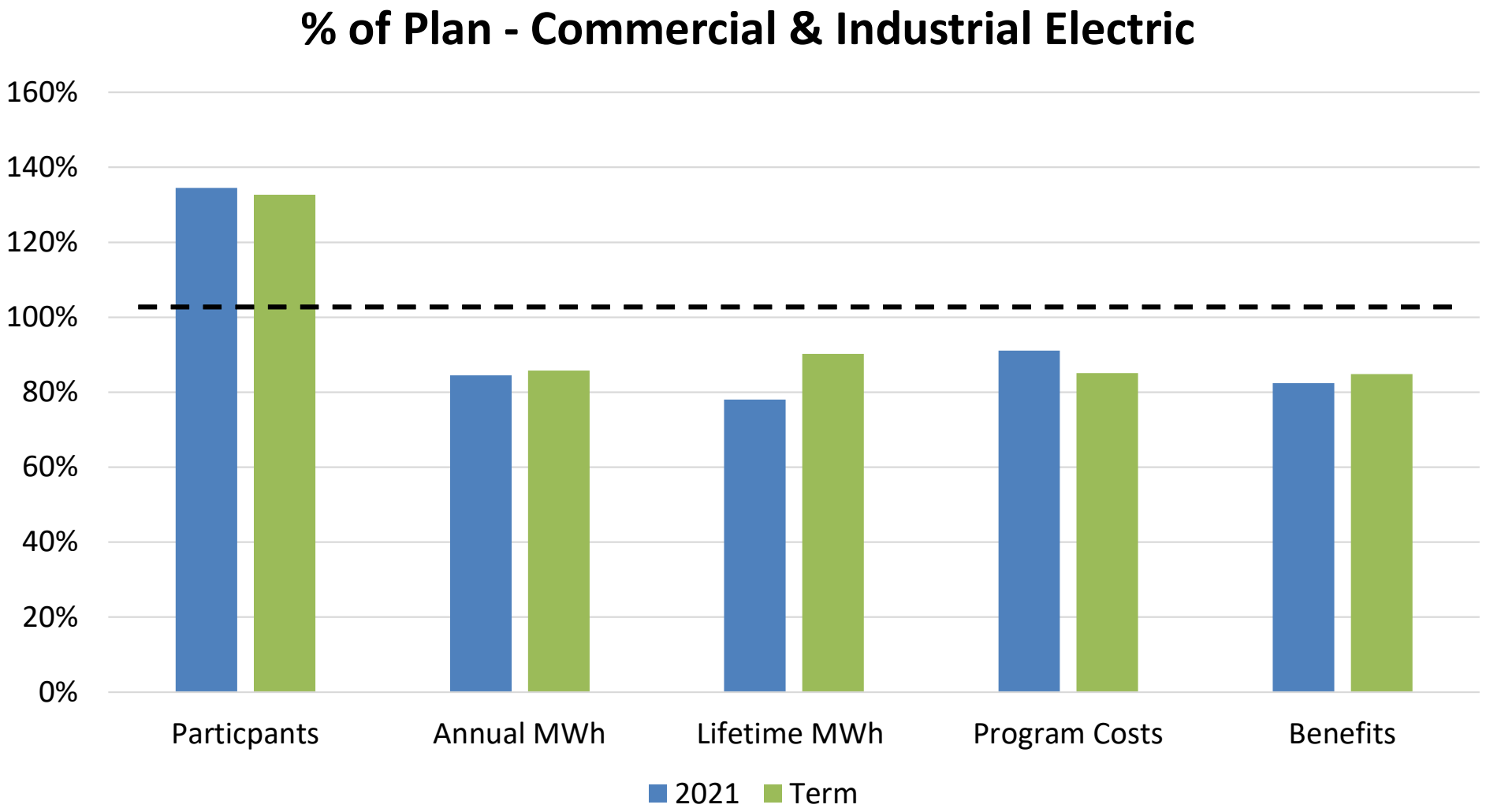
- Progress in achieving goals for ramp ups in income eligible electrification (space and water heating)
- Weatherization production to support future heat pump installations
- Goal achievement by all PAs

COMMERCIAL & INDUSTRIAL (C&I)

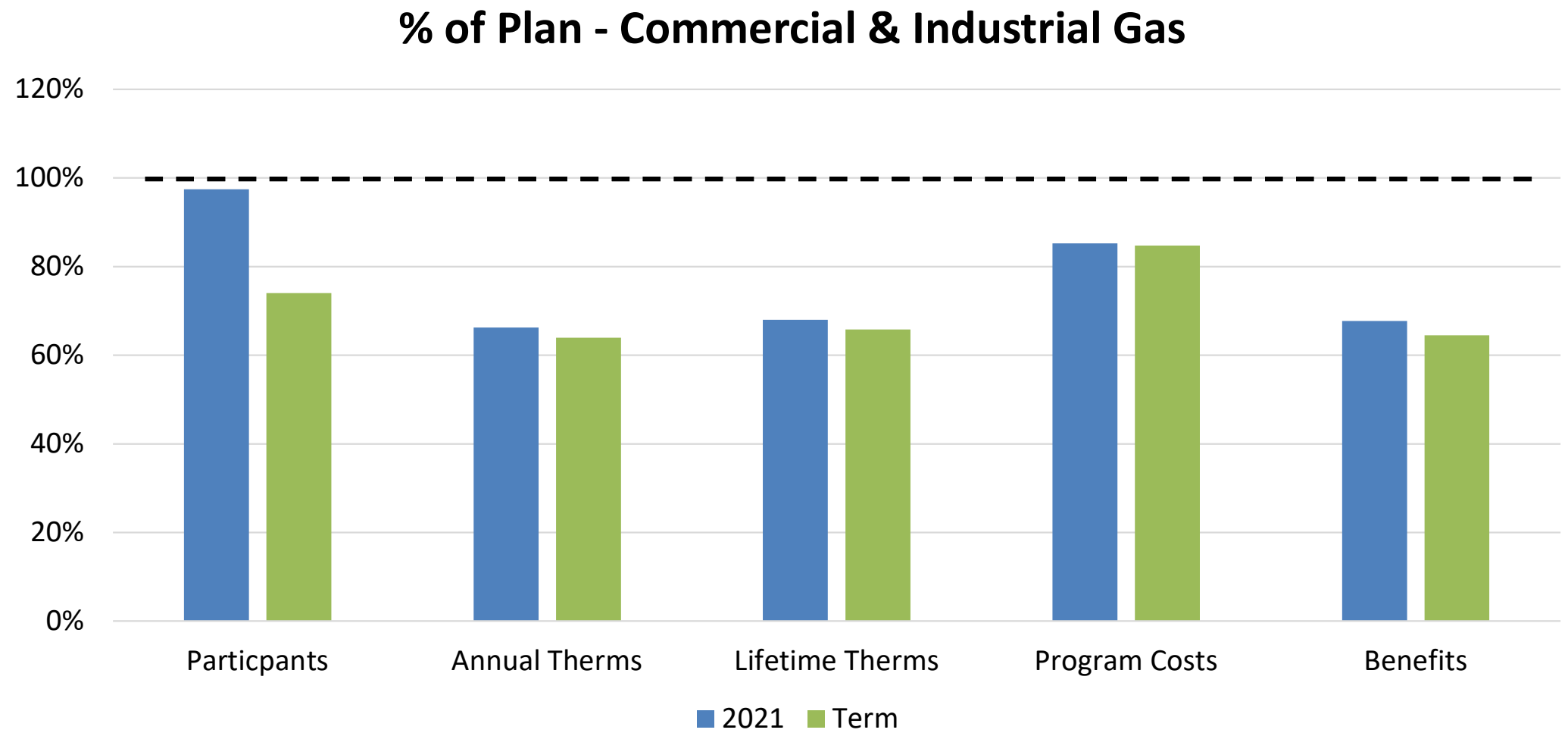
COMMERCIAL & INDUSTRIAL TAKEAWAYS

- Electric programs achieved 78% of planned MWhs for 103% of planned incentives in 2021
- Gas programs achieved 68% of planned therms for 73% of planned incentives
- Traditional EE goals remain largely the same, although large additional electrification goals present challenge for next plan
- Decreased emphasis on lighting presents major shift for implementation

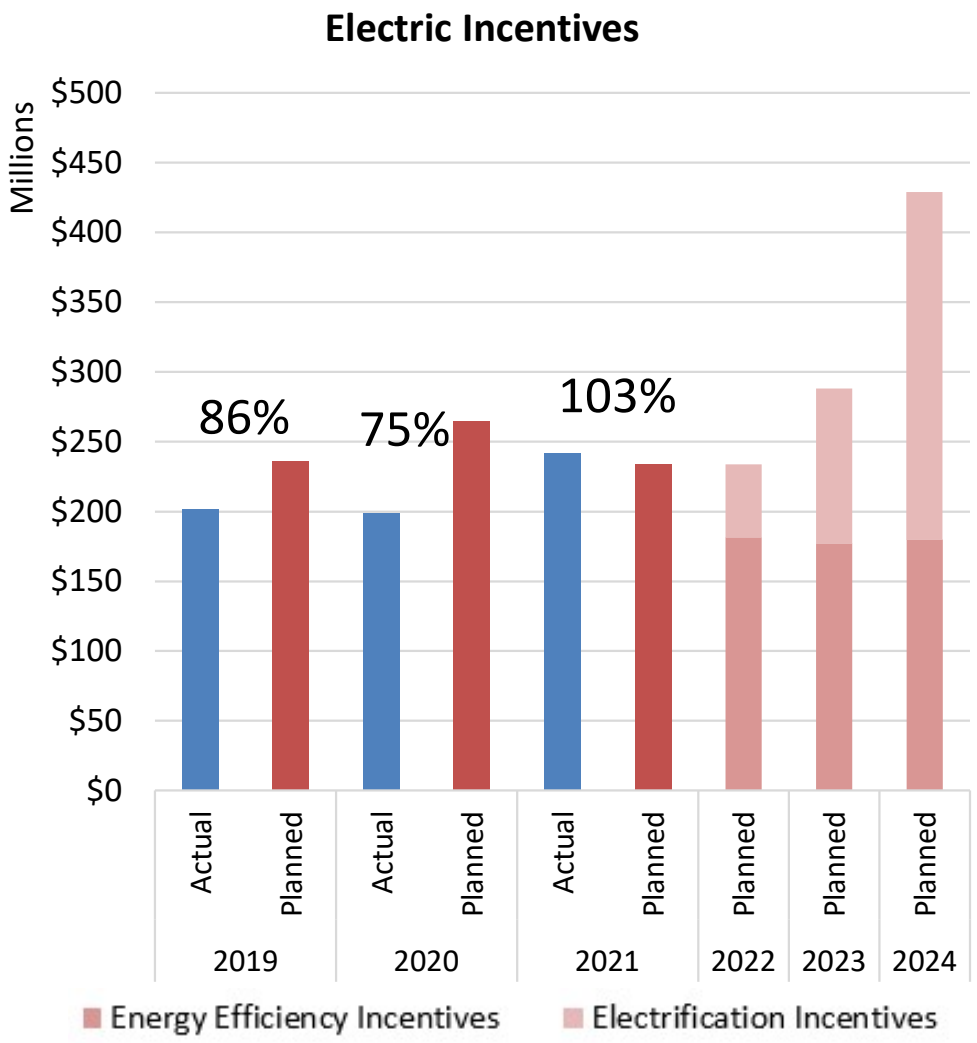
C&I OVERVIEW – ELECTRIC

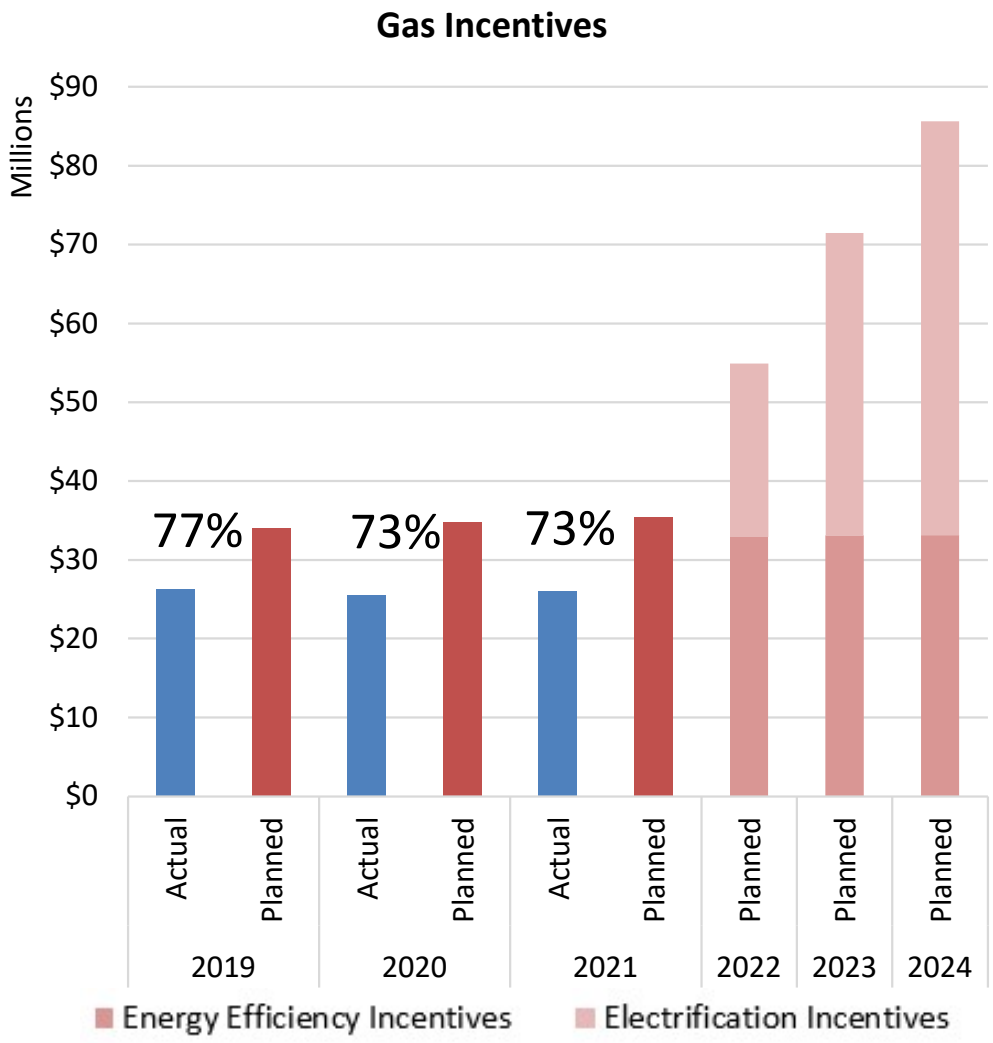


C&I OVERVIEW – GAS

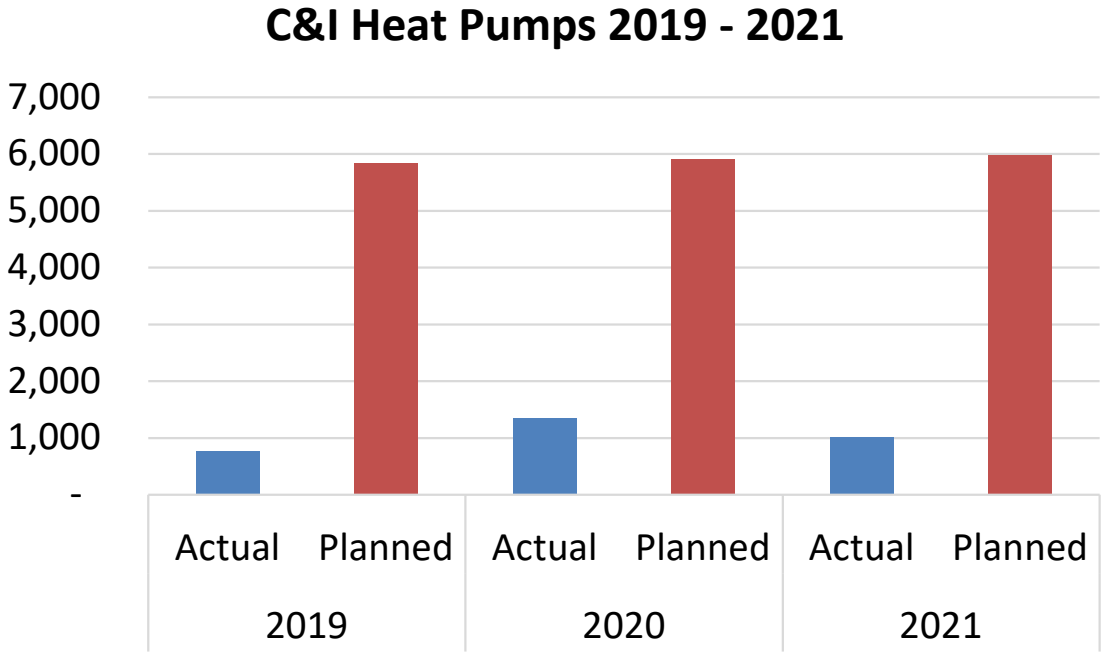


C&I OVERVIEW – TRAJECTORY INTO 2022-2024

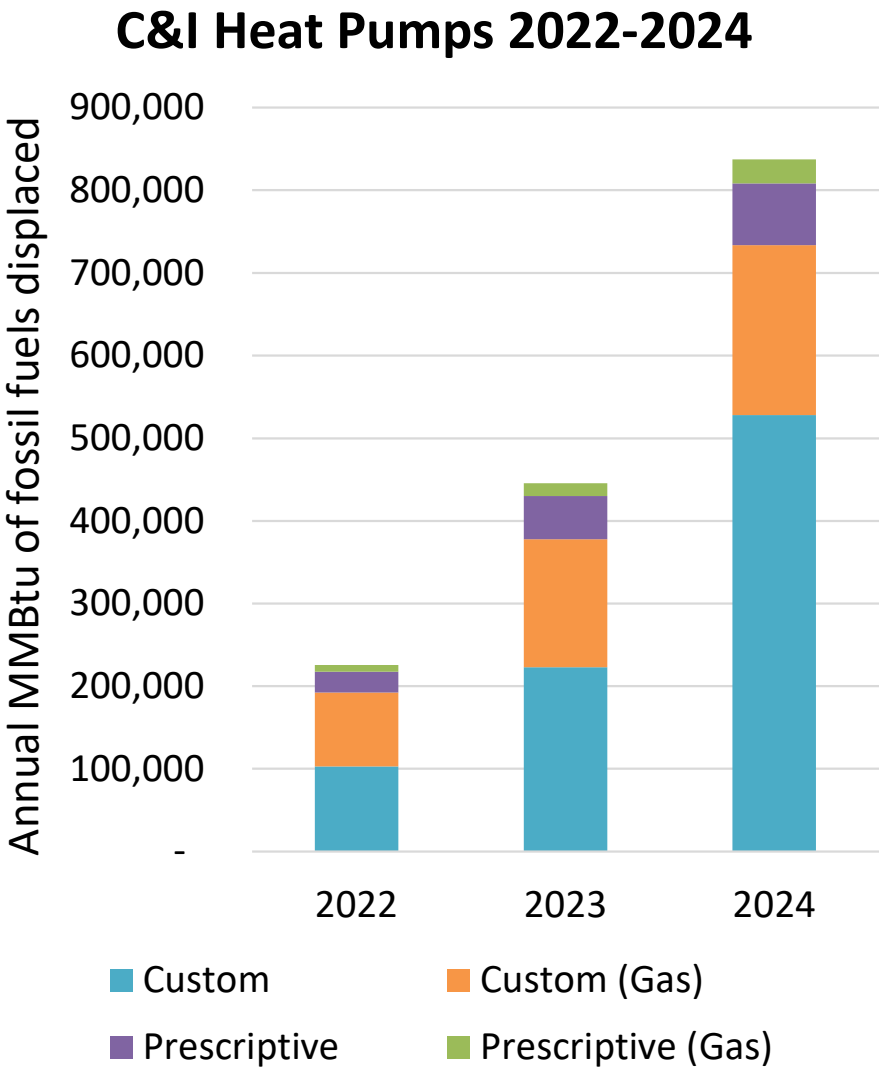




C&I HEAT PUMPS – 2019-2021 VS 2022-2024



- 2019 – 2021 C&I heat pumps underperformed – HPs were delivered through upstream w/ low incentives
- 2022-2024 heat pump goals are ambitious and will be measured in MMBtu of fossil fuel displaced
- To facilitate this intense increase in goals, heat pump incentives have been greatly increased
  - 2019-2021: $250 per ton
  - 2022-2024: $2,500 - $4,500 per ton



WHAT TO LOOK FOR IN 2022-2024

- **New metrics of success**
  - GHG savings achieved
  - Benefits in small business & EJ communities
  - MMBtus displaced for electrification
- **New offering rollouts**
  - Deep energy retrofit
- **Continued focus on weatherization & higher value measures in small business**
- **C&I working group & its outputs**

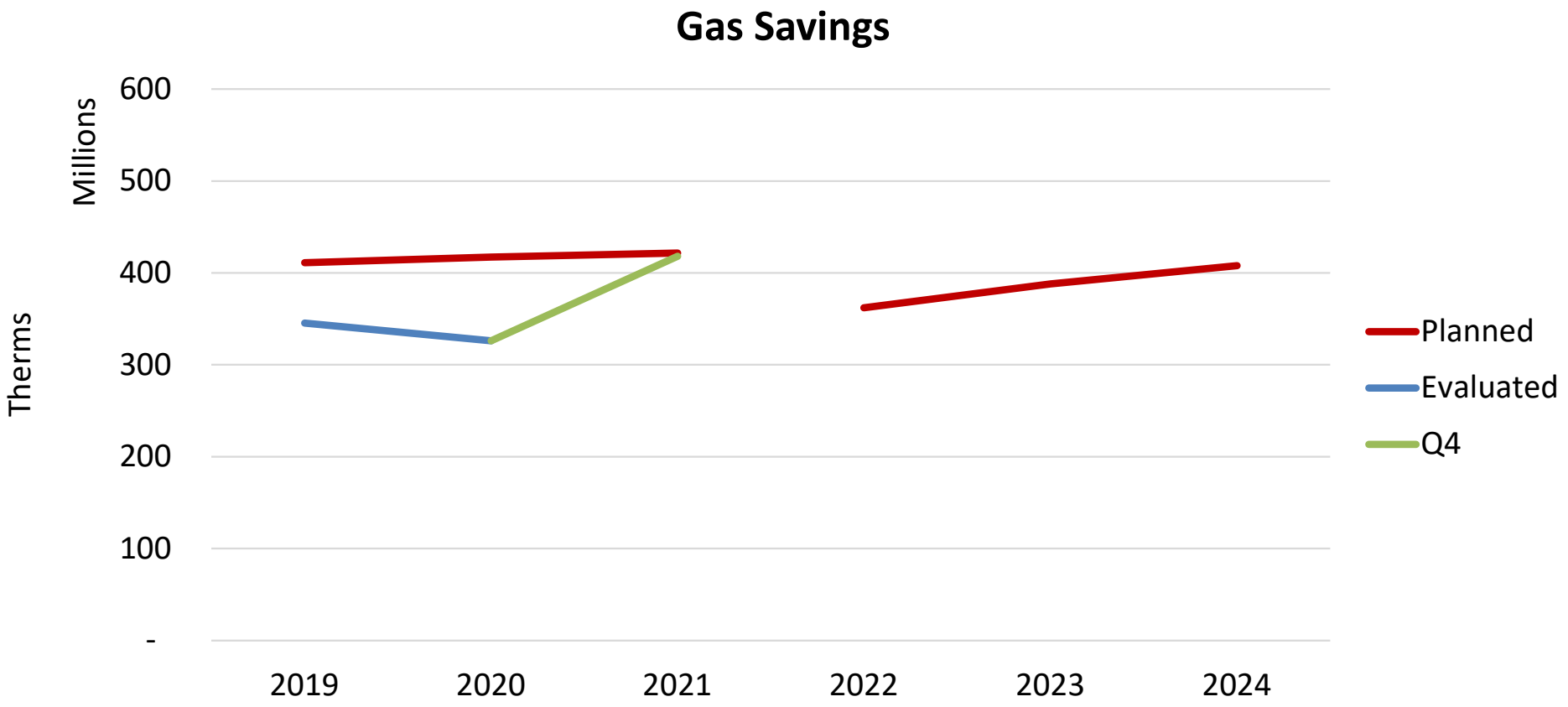
THANK YOU

Questions?

- April 27, 2022

LIFETIME GAS PROGRAM SAVINGS

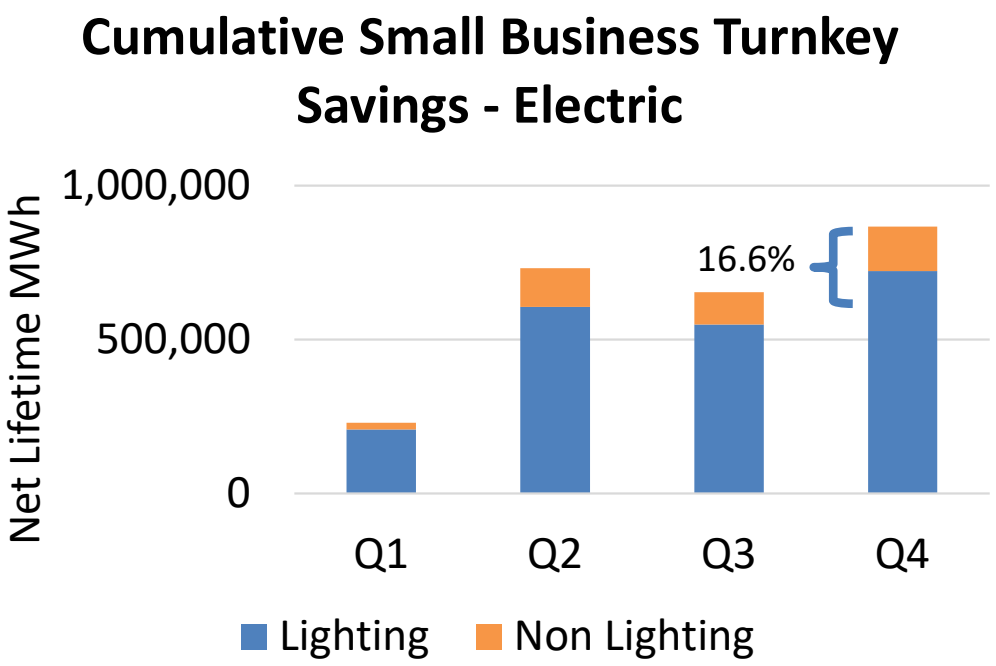
- **Rebounded in 2021; less gas savings planned in 2022-2024 with slight increase over the three years**

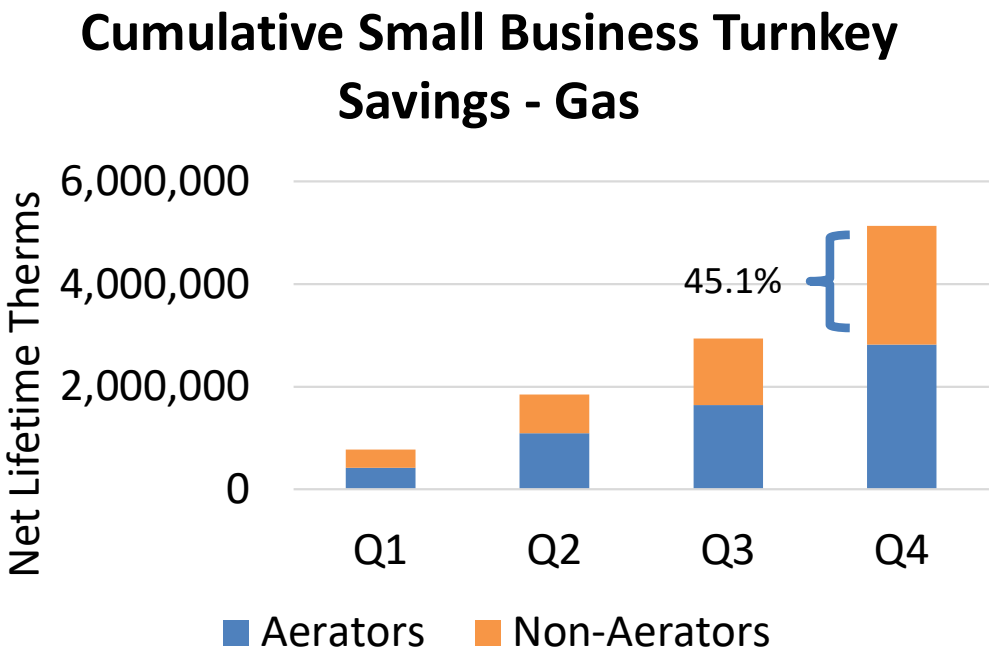


KPI #5: ELECTRIC AND GAS NET LIFETIME SAVINGS FROM CUSTOM HVAC PROJECTS

- **Observations for Q4 Data**
  - Electric HVAC Savings
    - **117%** achievement towards 2021 planned values for these measures
      - Grid achieved 41% of planned
      - Eversource achieved **153%** of planned
      - CLC achieved **119%** of planned
      - Unitil achieved 0% of planned
  - Gas HVAC Savings
    - **47.5%** achievement towards 2021 planned values for these measures
      - Grid achieved 35% of planned
      - Eversource achieved 10% of planned
      - EGMA achieved **102%** of planned
      - Berkshire Achieved **137%** 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





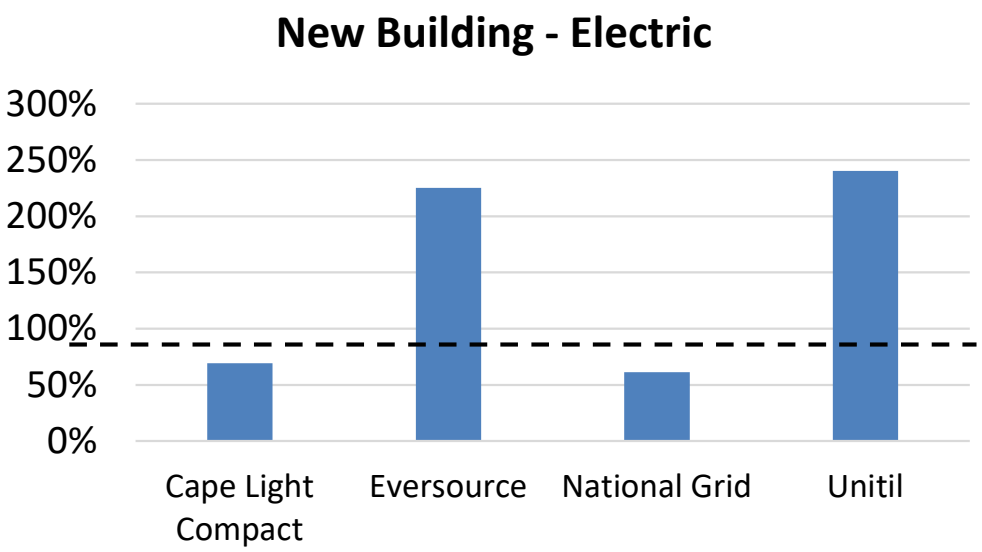
- Lighting savings still dominant for electric turnkey, whereas gas is not aerator dominant
- Need to shift turnkey focus to electrification and weatherization to meet 2022-2024 goals

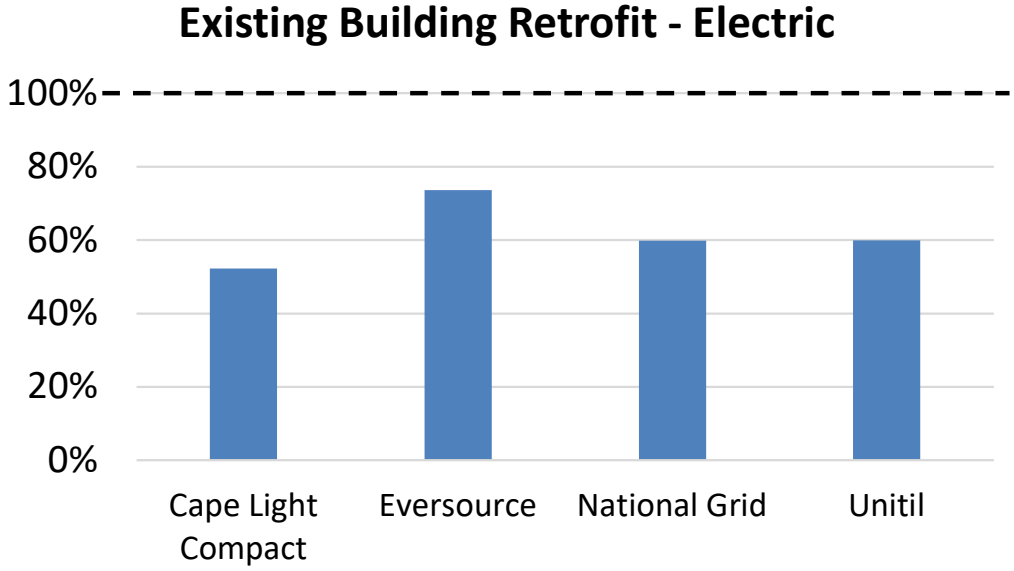
INITIATIVES – OVERVIEW

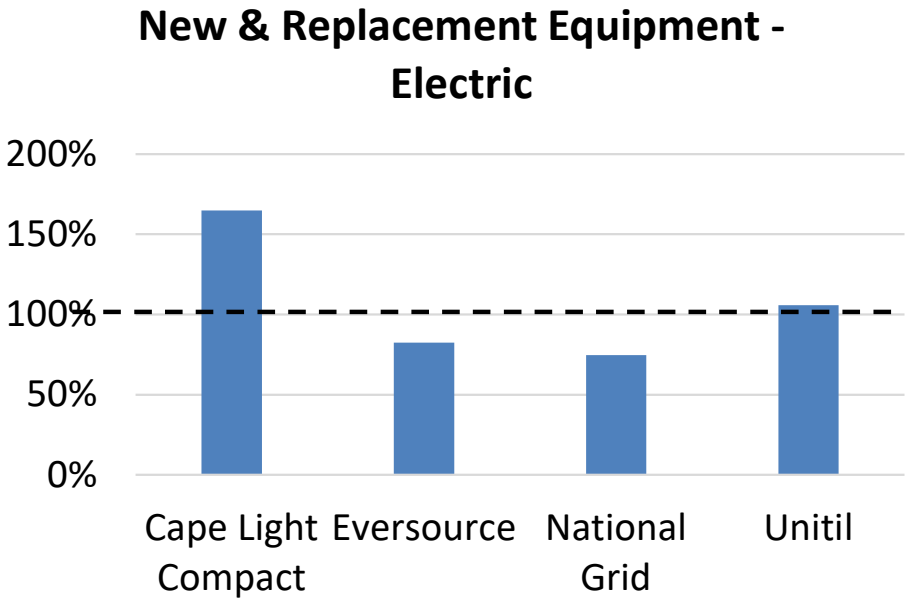
	Planned	Actual	Performance
Statewide Electric Savings Net Lifetime MWh	**8,920,640**	**6,966,824**	**78%**
New Buildings & Major Renovations	748,070	1,260,247	168%
C&I Existing Building Retrofit	6,629,487	4,479,125	68%
C&I New & Replacement Equipment	1,543,414	1,227,452	80%
Statewide Gas Savings Net Lifetime Therms	**190,538,716**	**129,543,622**	**68%**
New Buildings & Major Renovations	45,214,288	22,651,595	50%
C&I Existing Building Retrofit	94,693,263	64,320,651	68%
C&I New & Replacement Equipment	50,631,165	42,571,376	84%

- **Future performance will not be measured in MWh or therms, but GHGs and benefits**

ELECTRIC INITIATIVES

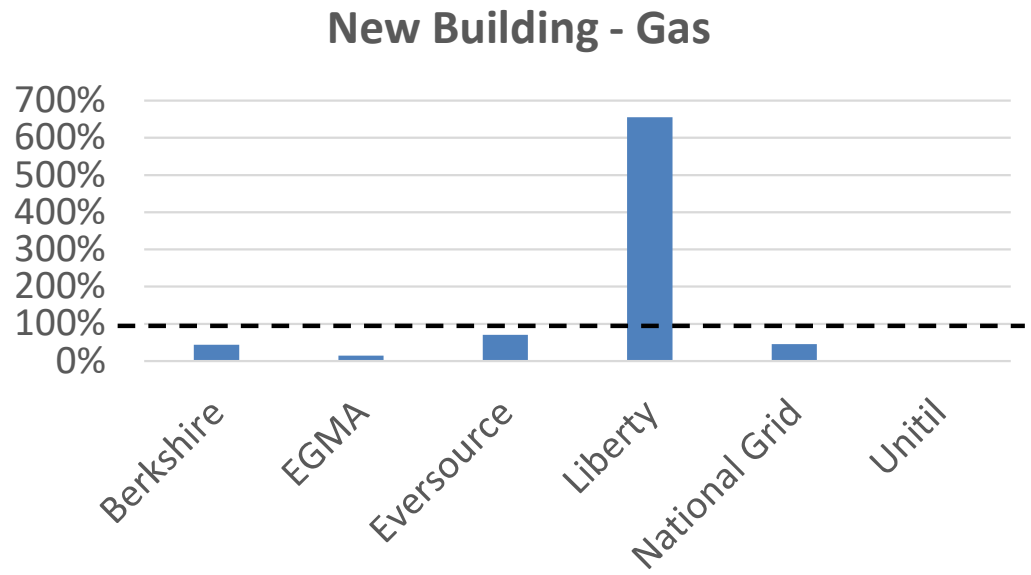


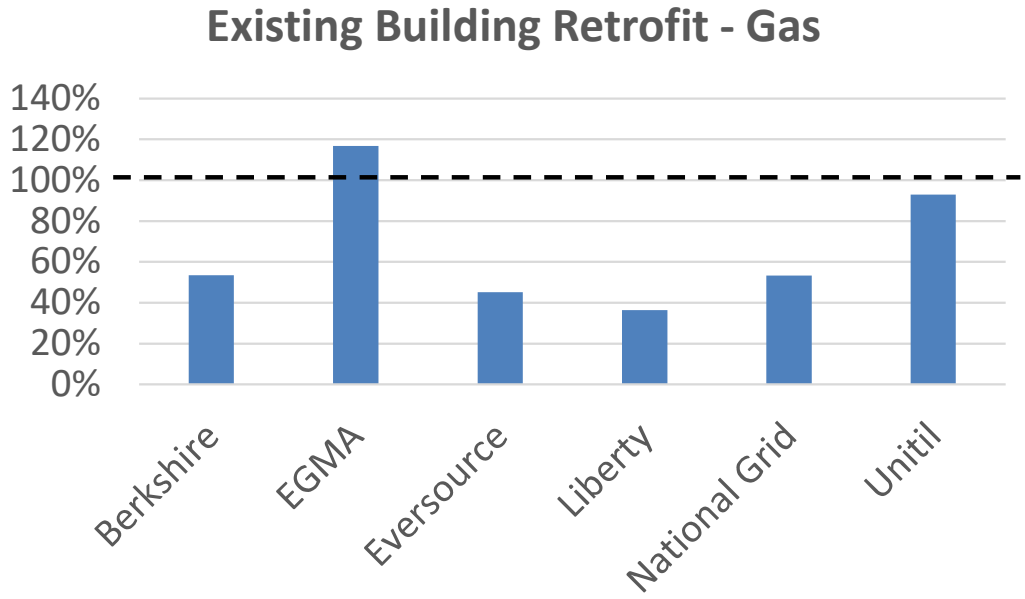


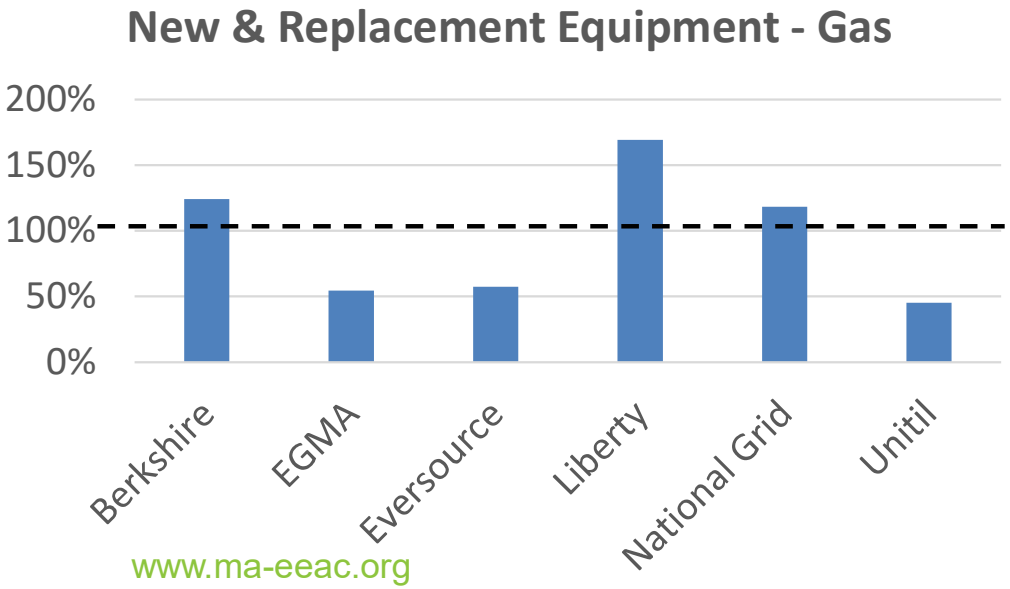


- New Buildings & New/Replacement equipment both have some PAs pushing high savings
- Existing building retrofit performed under planned across the board

GAS INITIATIVES



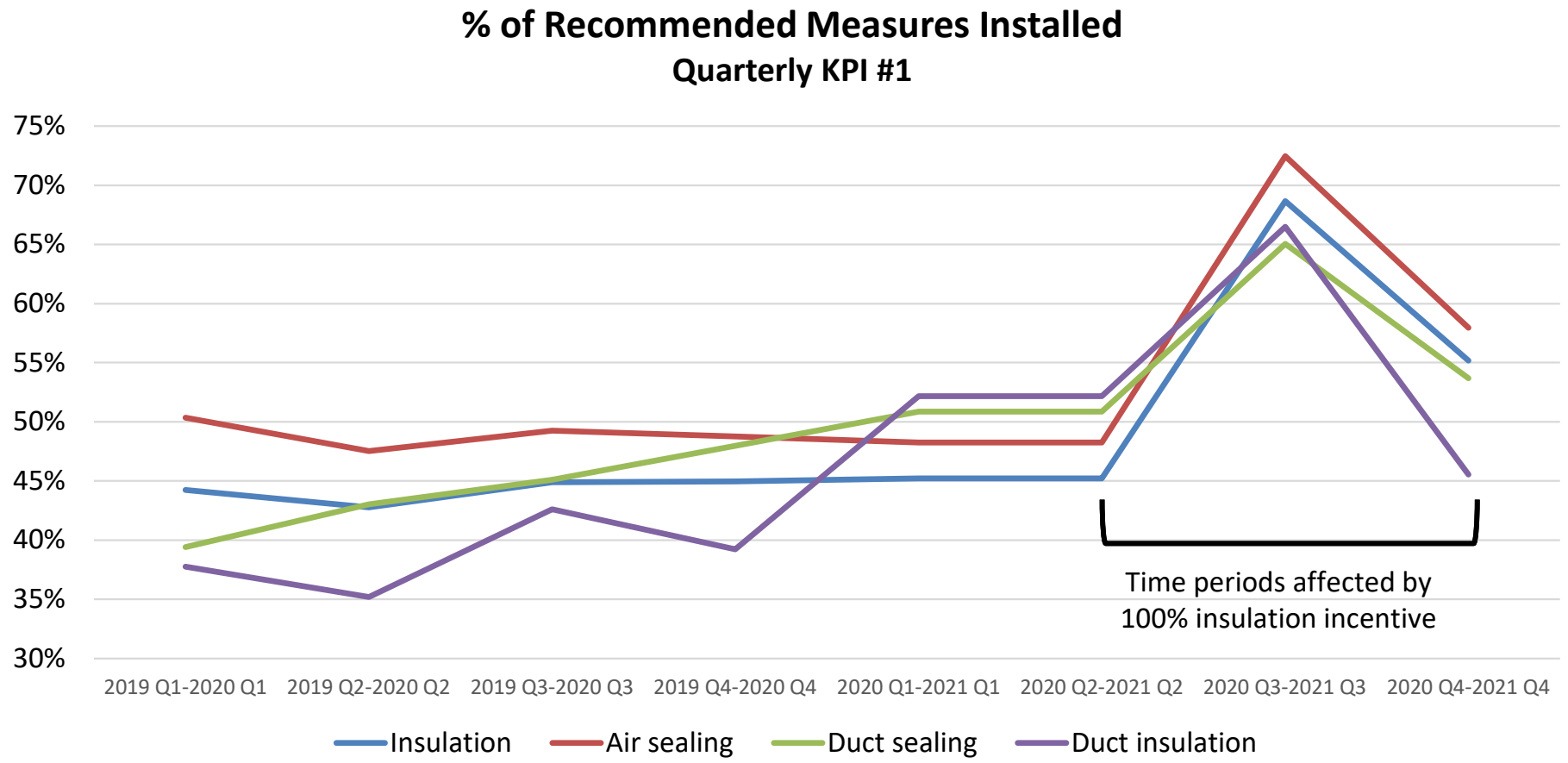




- New Buildings & New/Replacement equipment both have some PAs pushing high savings
- Existing building retrofit performed under planned across the board

CONVERSIONS

- **Insulation and air sealing conversions were generally flat prior to Covid and jumped significantly when PAs offered the 100% insulation incentive to all Res customers**



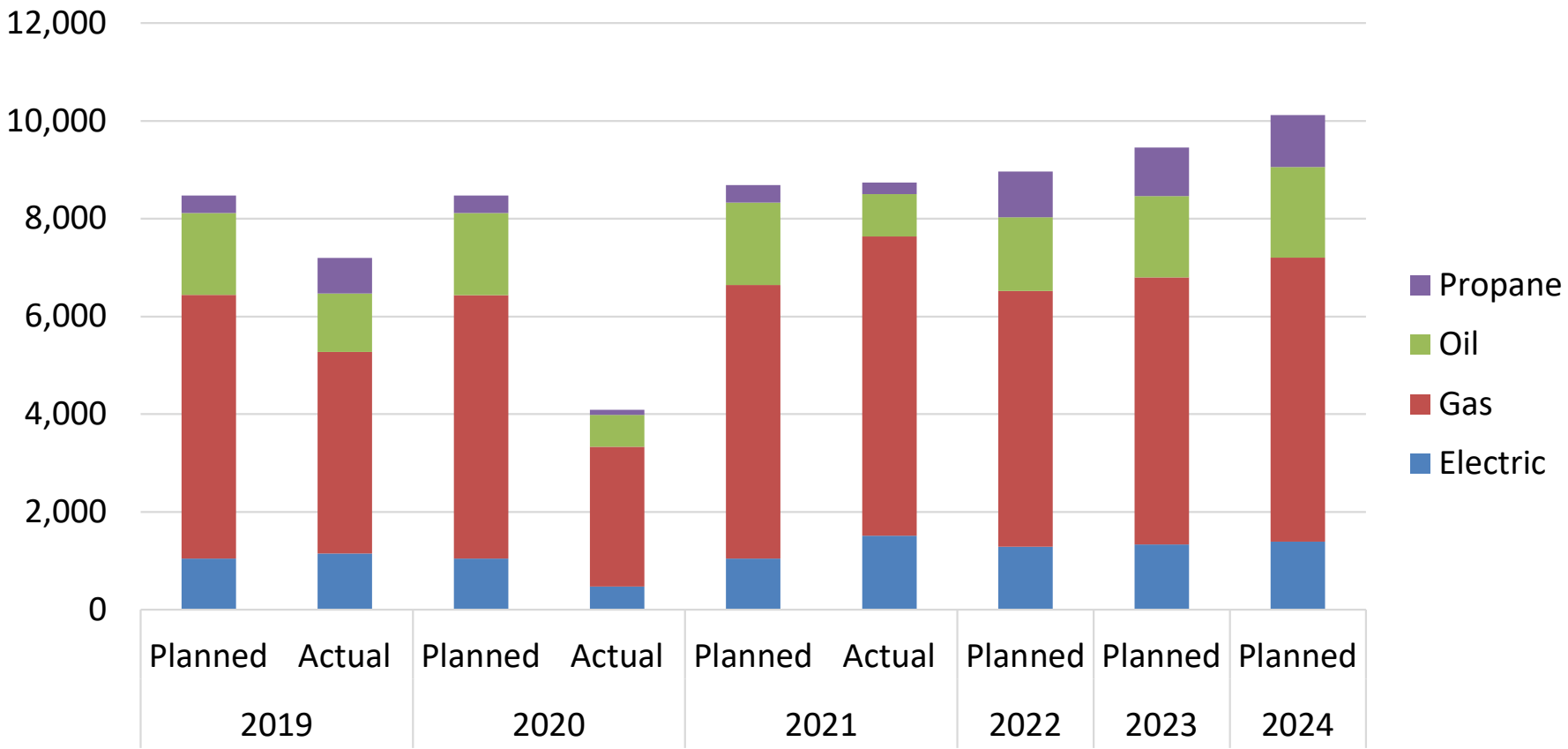
HEATING SYSTEM RECOMMENDATIONS

Quarterly KPI #3

Statewide Total - Recommended Heating System

Existing heating system	Gas Furnace	Gas Boiler	Oil Furnace	Oil Boiler	Propane Furnace	Propane Boiler	Electric Resistance	DMSHP	Central HP	Central AC	Total	HEA Count
Biomass	1	1	4	5	5	7	-	54	5	1	83	81
Electric resistance	75	105	16	17	42	26	-	2,480	396	62	3,219	1,776
Gas boiler	685	13,231	3	40	6	46	-	4,743	891	1,280	21,260	31,830
Gas furnace	8,498	274	8	2	2	3	-	1,222	870	2,624	13,515	22,841
Heat pump	18	6	4	11	7	4	-	126	285	16	477	1,400
Oil boiler	178	1,992	77	6,157	37	453	-	8,817	2,438	710	20,859	8,275
Oil furnace	716	33	2,075	66	212	12	-	1,215	1,556	534	6,419	4,127
Other	34	21	13	1	4	5	-	222	55	18	373	1,955
Propane boiler	1	32	-	2	30	386	-	458	152	32	1,093	758
Propane furnace	48	43	2	7	346	31	-	340	353	80	1,250	1,400
Grand Total	**10,254**	**15,738**	**2,202**	**6,308**	**691**	**973**	**-**	**19,677**	**7,001**	**5,357**	**68,548**	**74,443**

- **2021 heating system recommendations made during Home Energy Assessments show potential for whole house heat pump solutions for customers**
  - Existing furnaces are already ducted—as between ductless and ducted options, consultants would like to see recommendations tip more strongly to ducted, whole-house solutions, especially for propane heated homes
  - No incentives will be offered for central air conditioning in the new term. Customers looking for central cooling can and should be prompted to install central heat pumps

INCOME ELIGIBLE INSULATION UNITS

- **After a tough COVID year in 2020, 2021 insulation units exceeded planned units**