



STATE OF RHODE ISLAND  
**ENERGY EFFICIENCY &  
RESOURCE MANAGEMENT COUNCIL**

CONSULTANT TEAM



**Rhode Island  
Energy™**  
a PPL company

# 2022 Fourth Quarter Results Update

Presented to the EERMC By:  
EERMC Consulting Team  
Rhode Island Energy

**Date:** March 16, 2023





# Outline

---

Portfolio Performance

Commercial & Industrial Performance

Residential & Income Eligible Performance

RI Energy Sector Highlights

Discussion

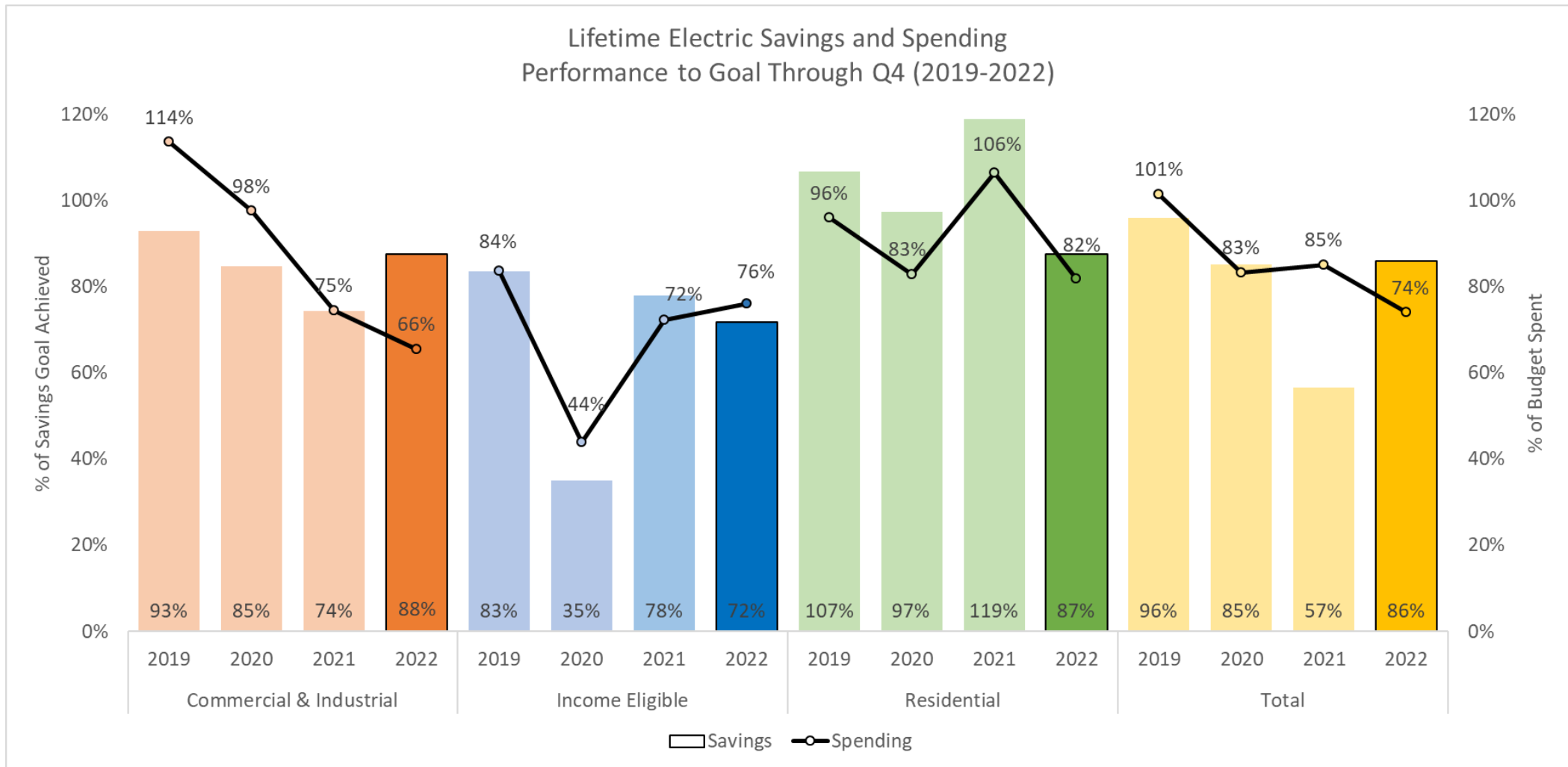


# PORTFOLIO PERFORMANCE





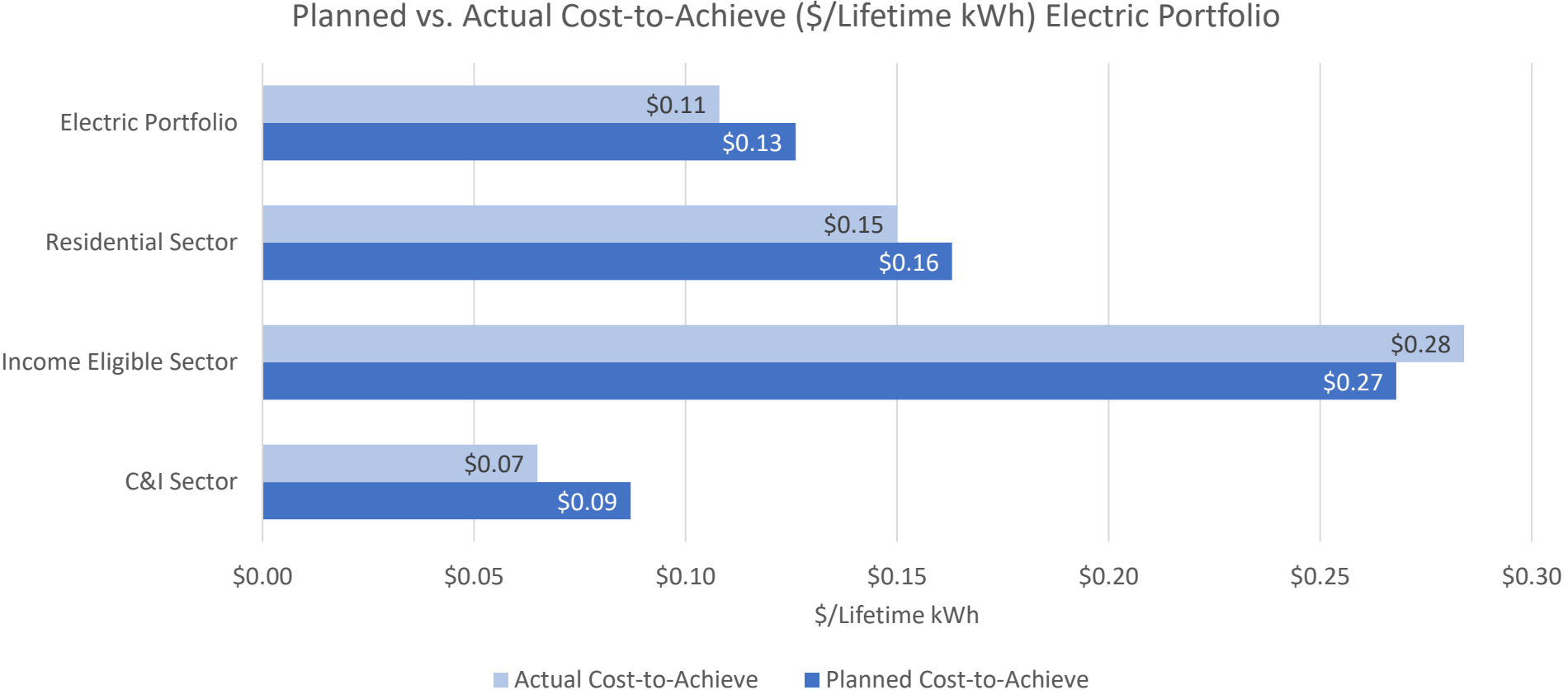
# Electric Performance





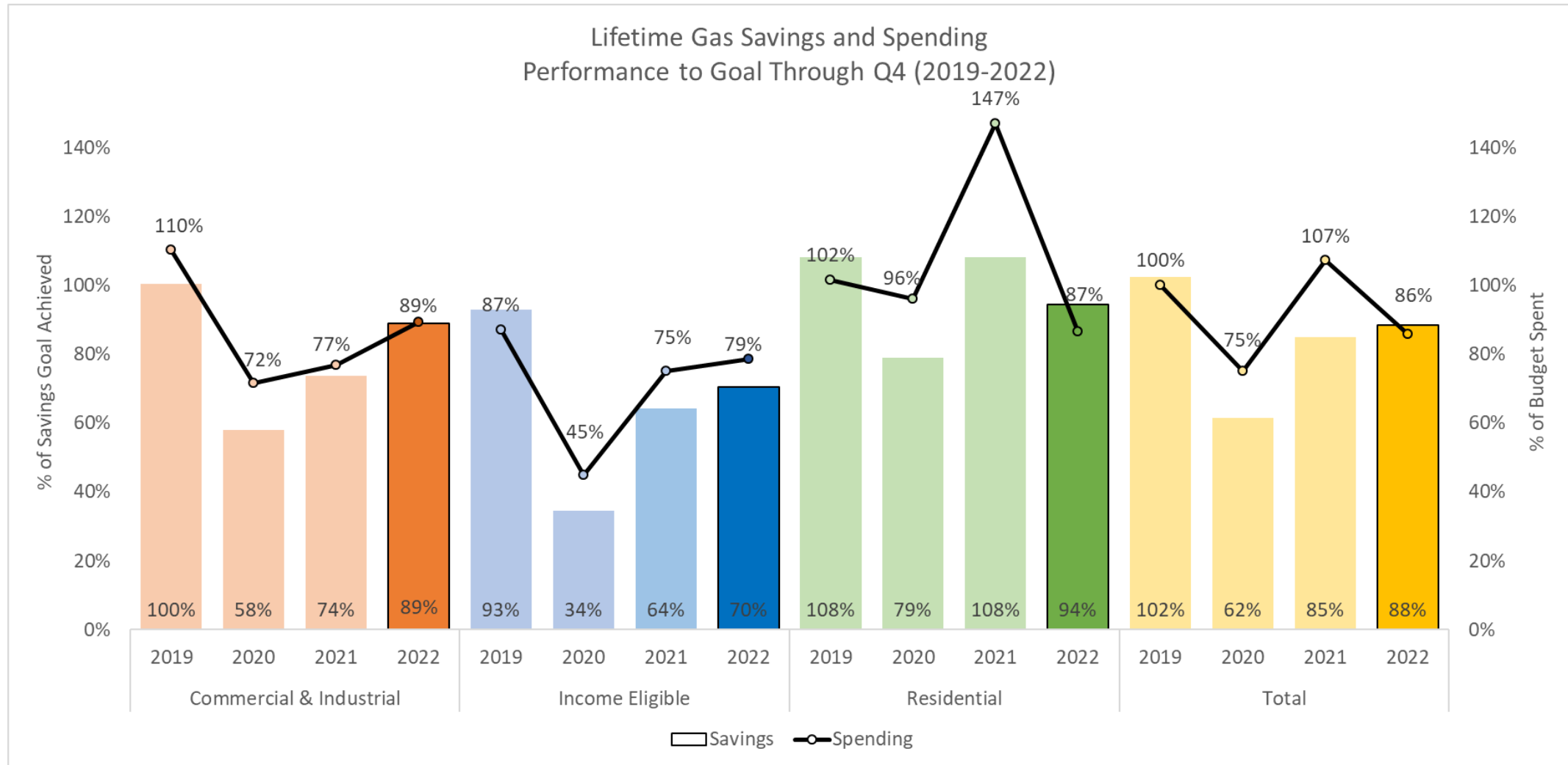
# Electric Cost-to-Achieve

**Key Takeaway** Actual lifetime cost-to-achieve for the electric portfolio was lower than planned for the electric portfolio and all sectors except Income Eligible.





# Gas Performance



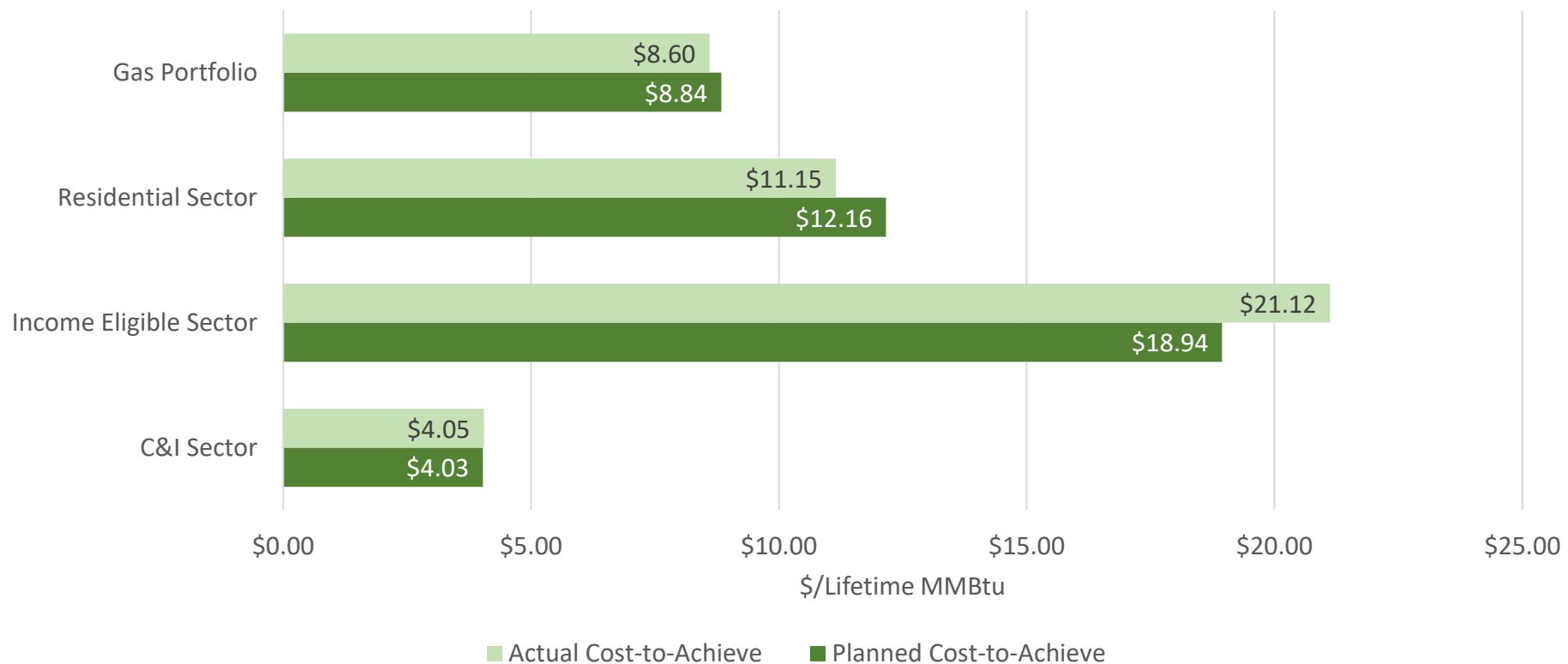


# Gas Cost-to-Achieve

## Key Takeaway

Actual lifetime gas cost-to-achieve was slightly lower than planned for the gas portfolio, but greater than planned all sectors except Residential.

Planned vs. Actual Cost-to-Achieve (\$/Lifetime MMBtu) Gas Portfolio





# COMMERCIAL & INDUSTRIAL SECTOR HIGHLIGHTS







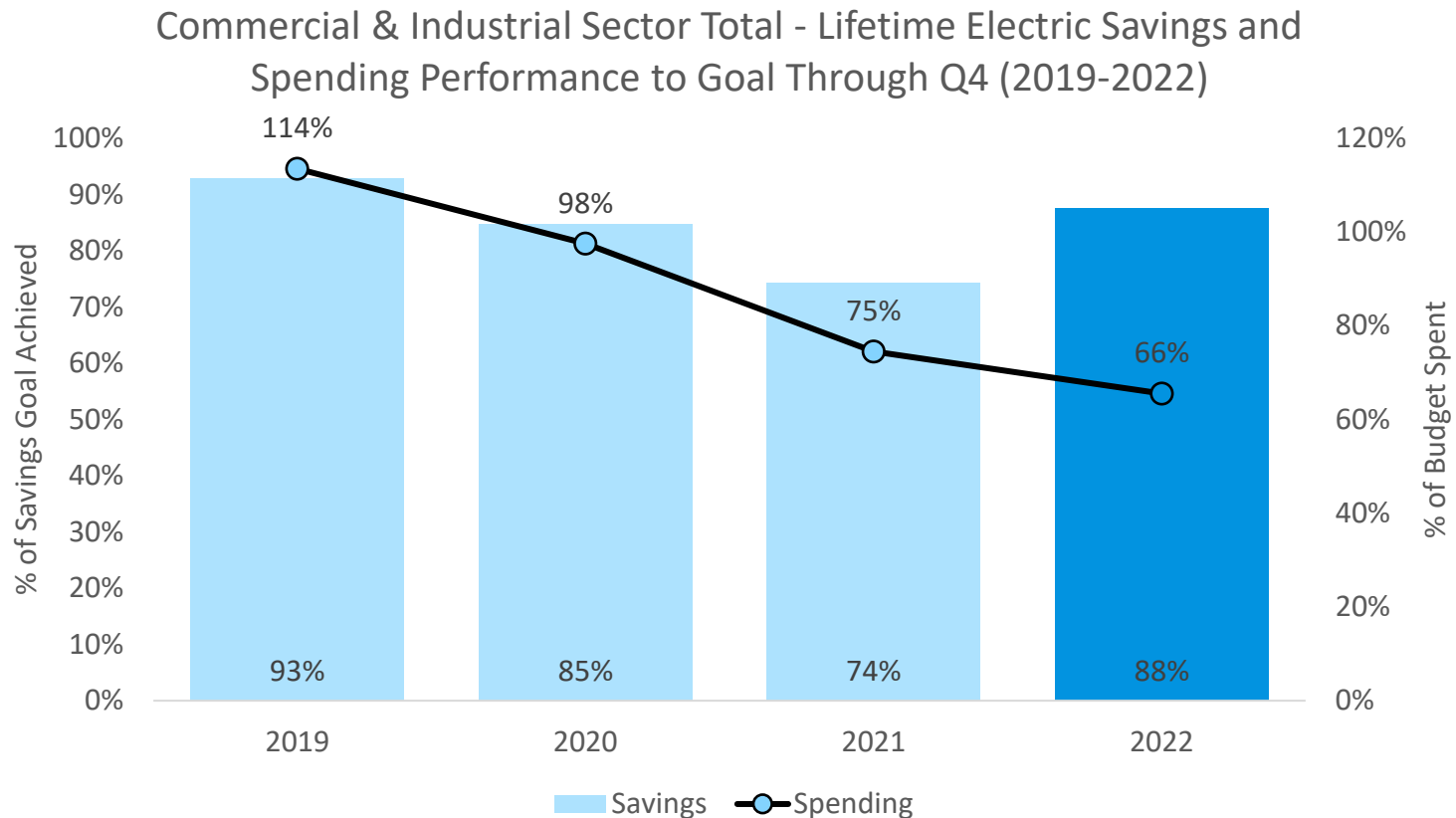
Share of Planned  
Portfolio Savings

68%

# Commercial & Industrial

## Key Takeaway

Downward trend observed in actual spending across all electric C&I programs since even before the onset of COVID-19 in 2020.





Share of Planned Portfolio Savings **68%**

# Commercial & Industrial

**Key Takeaway** Savings goals adjusted based on program performance and evaluation impacts. Higher percentage of savings achieved in 2022, but lower electric savings.

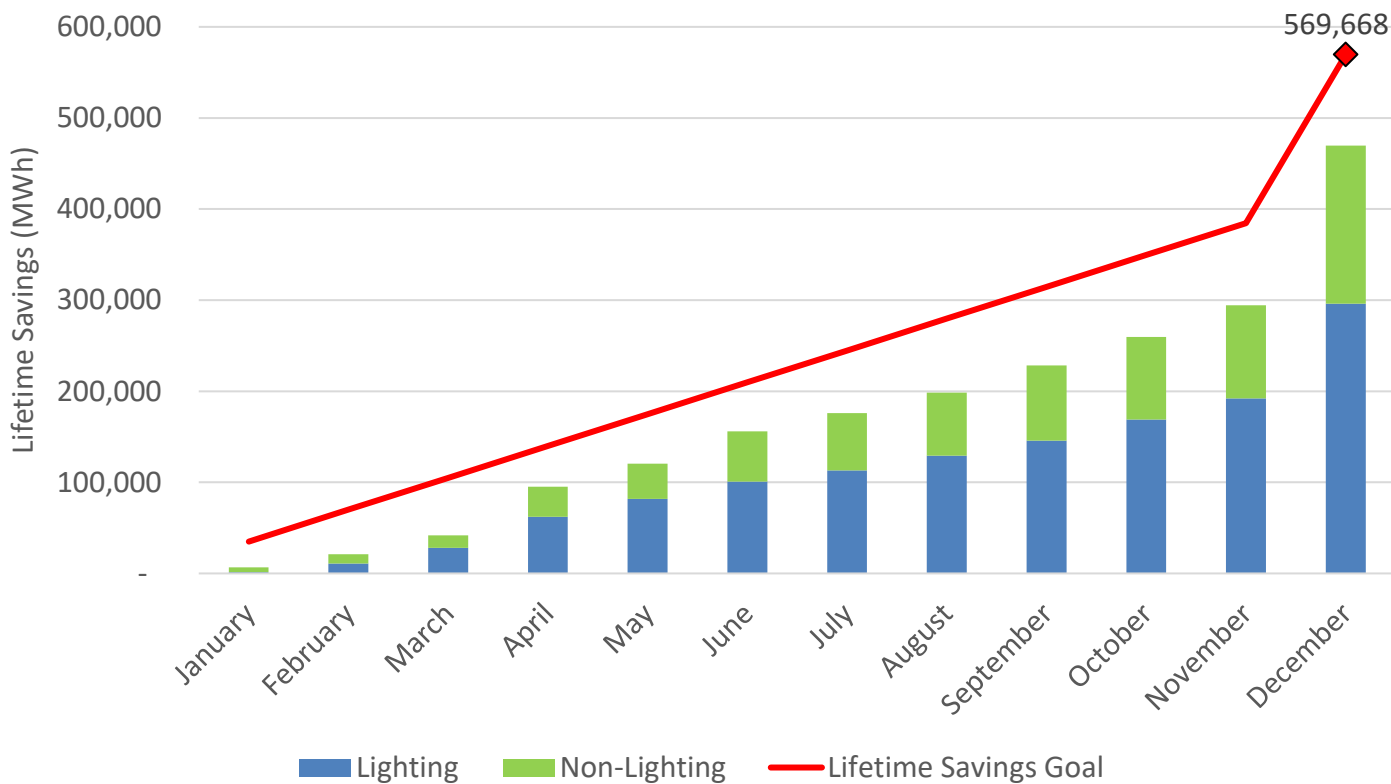
Electric Program	2021		2022	
	Lifetime Savings Goal	Lifetime Savings Achieved (%)	Lifetime Savings Goal	Lifetime Savings Achieved (%)
Large C&I New Construction	189,441	108%	192,343	51%
Large C&I Retrofit	744,562	61%	312,931	110%
Small Business Direct Install	105,134	112%	64,394	89%
<b>Electric C&amp;I Total</b>	<b>1,039,136</b>	<b>74%</b>	<b>569,668</b>	<b>88%</b>



# Commercial & Industrial

**Key Takeaway** Lighting still accounts for significant savings, but controllable stock increasing

Cumulative YTD Lifetime Electric Savings by Measure Category –  
Electric C&I Sector Total



	Luminaires & Retrofit Kits	Luminaires & Retrofit Kits with Controls	Share of Controllable Installations*
2020	30,292	599	2%
2021	28,736	1,154	4%
2022	18,593	3,112	17%

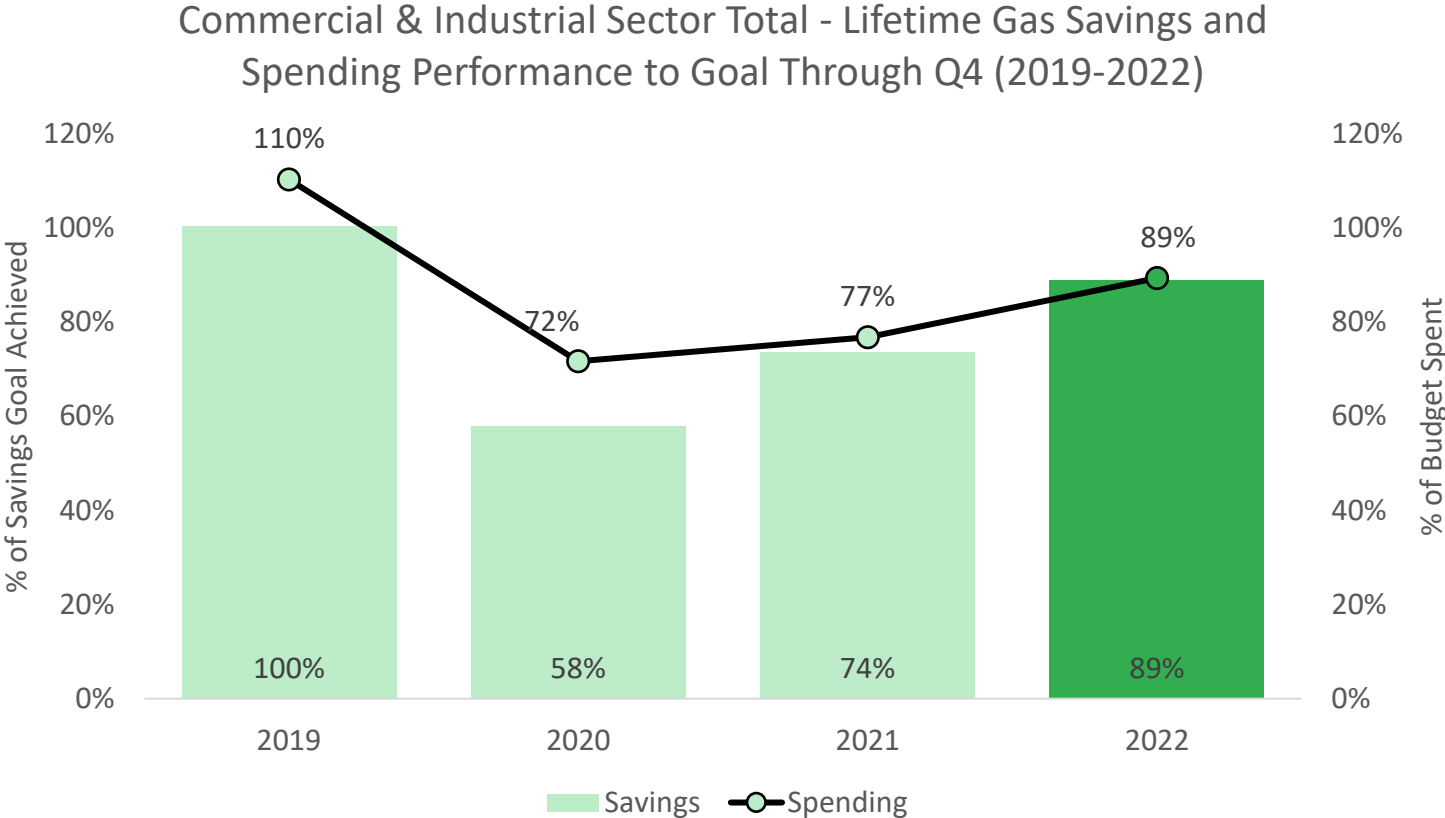
\*Does not include existing controllable equipment



Share of Planned Portfolio Savings **58%**

# Commercial & Industrial

**Key Takeaway** Upward trend observed in actual spending across gas C&I programs since onset of COVID-19 in 2020.





Share of Planned Portfolio Savings **58%**

# Commercial & Industrial

**Key Takeaway** Savings goals adjusted based on program performance and evaluation impacts. More lifetime savings and higher percent achieved in 2022.

Gas Program	2021		2022	
	Lifetime Savings Goal	Lifetime Savings Achieved (%)	Lifetime Savings Goal	Lifetime Savings Achieved (%)
Large C&I New Construction	437,398	158%	788,763	72%
Large C&I Retrofit	1,455,776	49%	1,332,508	103%
Small Business Direct Install	48,861	132%	91,700	86%
C&I Multifamily	141,869	41%	131,220	45%
<b>Gas C&amp;I Total</b>	<b>2,083,905</b>	<b>74%</b>	<b>2,344,192</b>	<b>89%</b>



# Commercial & Industrial

**Key Takeaway** Only 3 out of the 15 top-saving gas projects in 2022 involved direct installation of new gas equipment. Future of Gas Docket & Act on Climate are important considerations.

End Use	Measure Description	Incentive Amount (\$)	Lifetime Savings (MMBtu)	Cost to Achieve (\$/MMBtu)
Process	Process Equipment/Controls	\$244,847	231,496	\$1.06
Hot Water	Pipe Insulation	\$545,100	107,945	\$5.05
Hot Water	Pipe Insulation	\$296,974	98,972	\$3.00
HVAC	HVAC Controls and EMS	\$75,818	48,694	\$1.56
HVAC	Operation & Maintenance	\$6,026	38,968	\$0.15
HVAC	Condensing Boiler - All	\$29,561	38,819	\$0.76
Hot Water	Pipe Insulation	\$22,010	36,266	\$0.61
Hot Water	Pipe Insulation	\$33,360	32,534	\$1.03
HVAC	HVAC Equipment	\$29,957	28,323	\$1.06
Hot Water	Pipe Insulation	\$60,646	26,340	\$2.30
Hot Water	Pipe Insulation	\$224,314	25,125	\$8.93
Hot Water	Pipe Insulation	\$24,327	24,138	\$1.01
HVAC	Retro-commissioning/Tune-up/Optimization	\$148,724	23,436	\$6.35
HVAC	Retro-commissioning/Tune-up/Optimization	\$88,148	20,835	\$4.23
HVAC	HVAC Equipment	\$31,917	20,117	\$1.59



# RESIDENTIAL & INCOME ELIGIBLE SECTOR HIGHLIGHTS



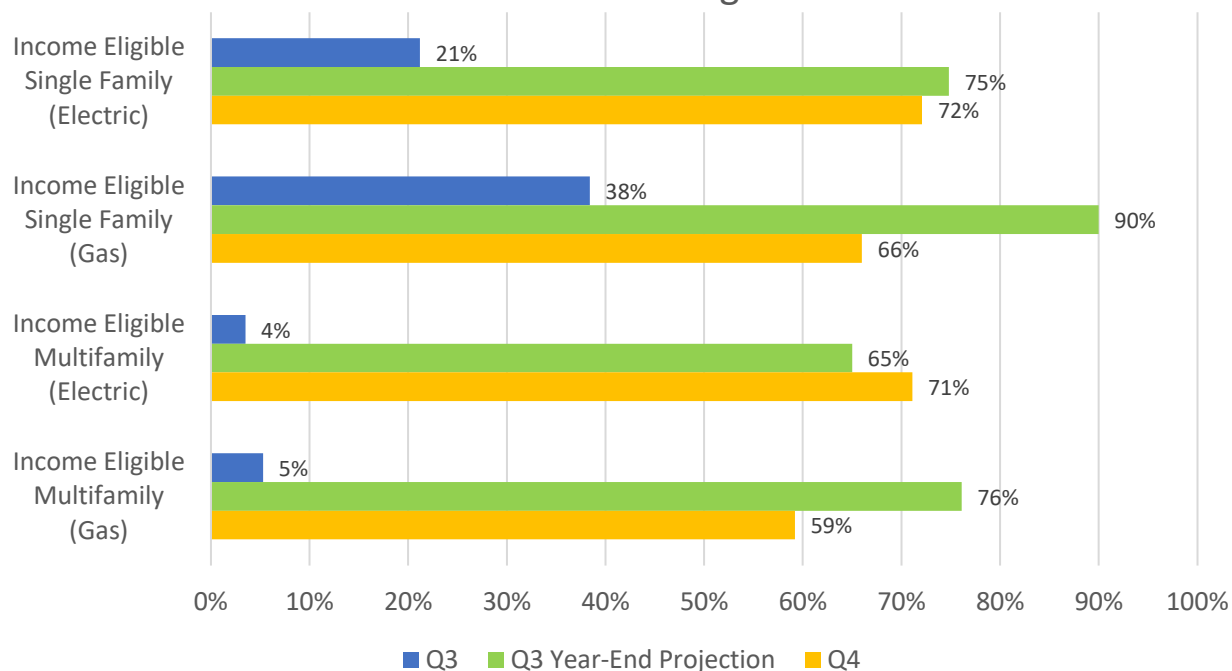


# Income Eligible

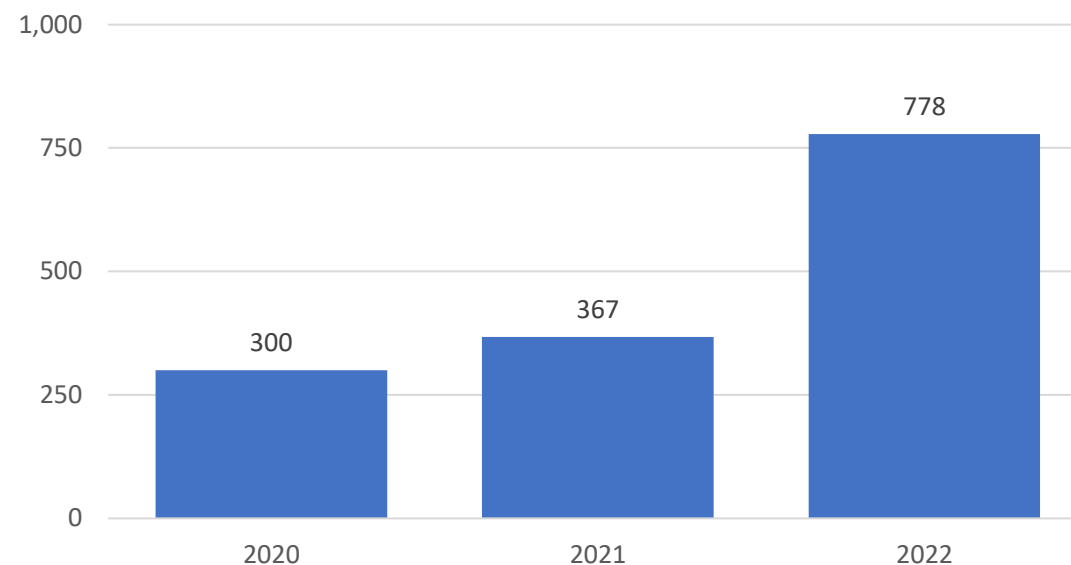
## Key Takeaways

- All four Income Eligible programs fell well short of goal
- Weatherizations of single-family homes increased substantially in 2022

% of Lifetime Savings Goal Achieved



Income Eligible Single Family Weatherizations



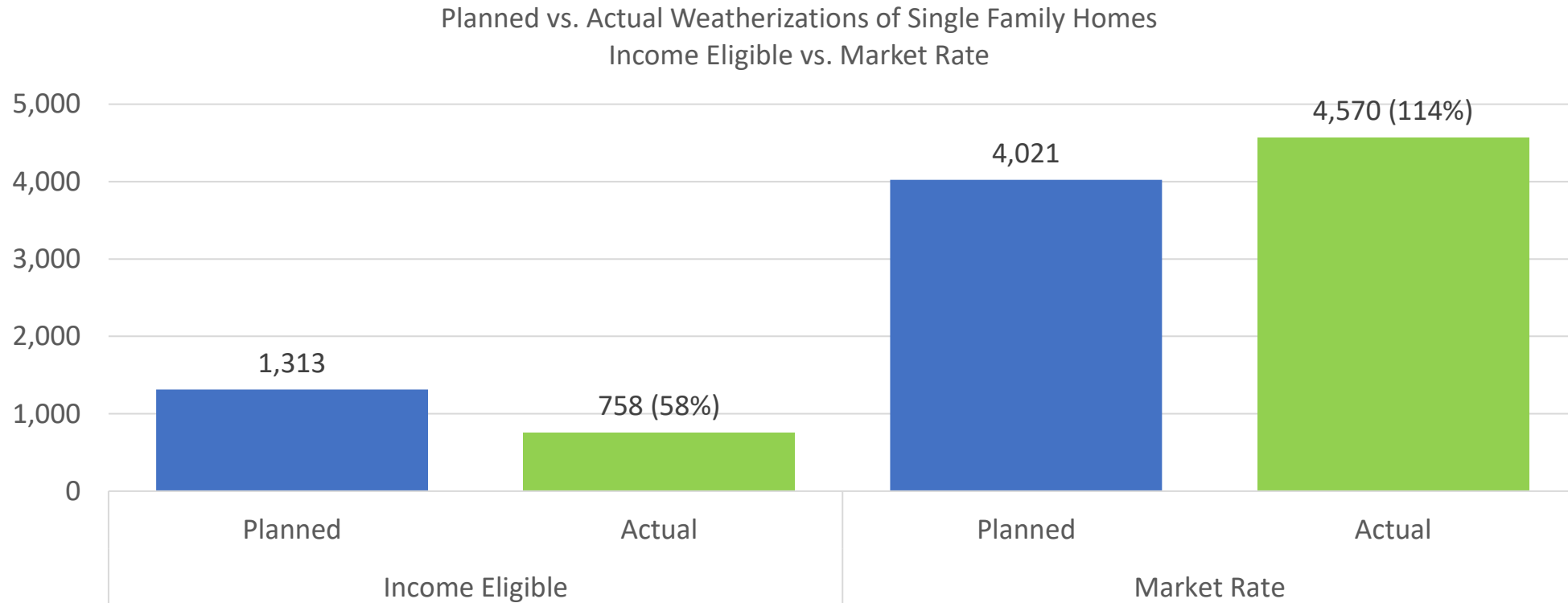




# Single Family Home Weatherizations

## Key Takeaway

Large disparity in weatherization plan achievement between market rate and income eligible single-family homes



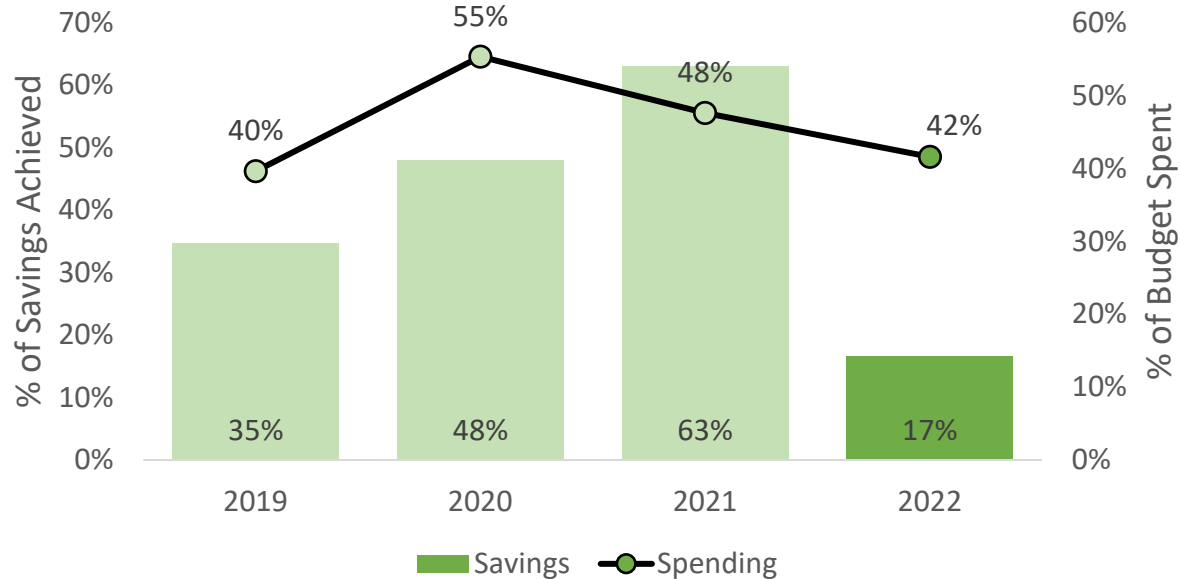


Share of Planned Portfolio Savings **2%**

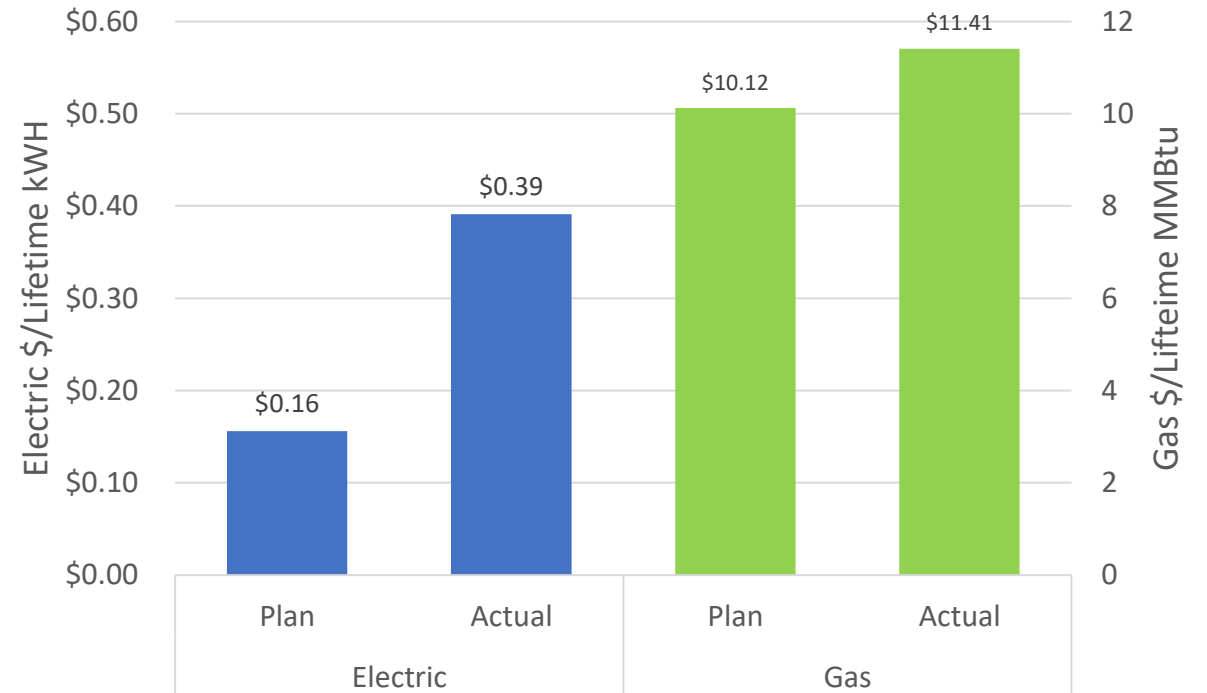
# Market Rate Multifamily

**Key Takeaway** Very low savings achievement at a cost to achieve much higher than planned

EnergyWise Multifamily (5+ Units) - Lifetime Electric Savings and Spending Performance to Goal Through Q4 (2019-2022)



EnergyWise Multifamily Cost to Achieve



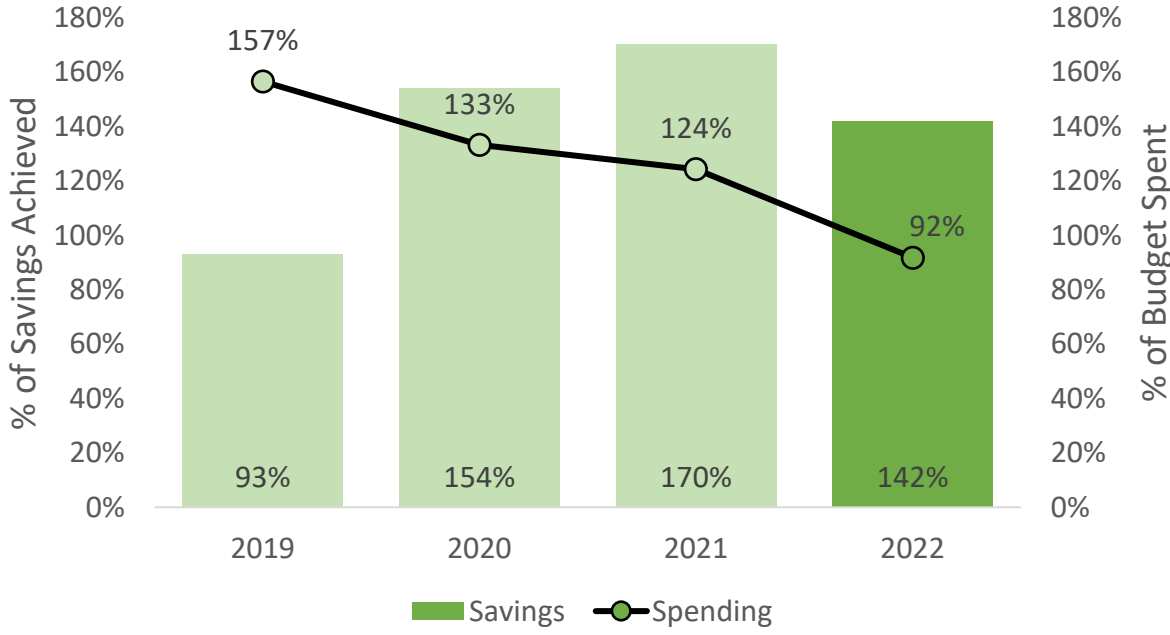


Share of Planned Portfolio Savings **9%**

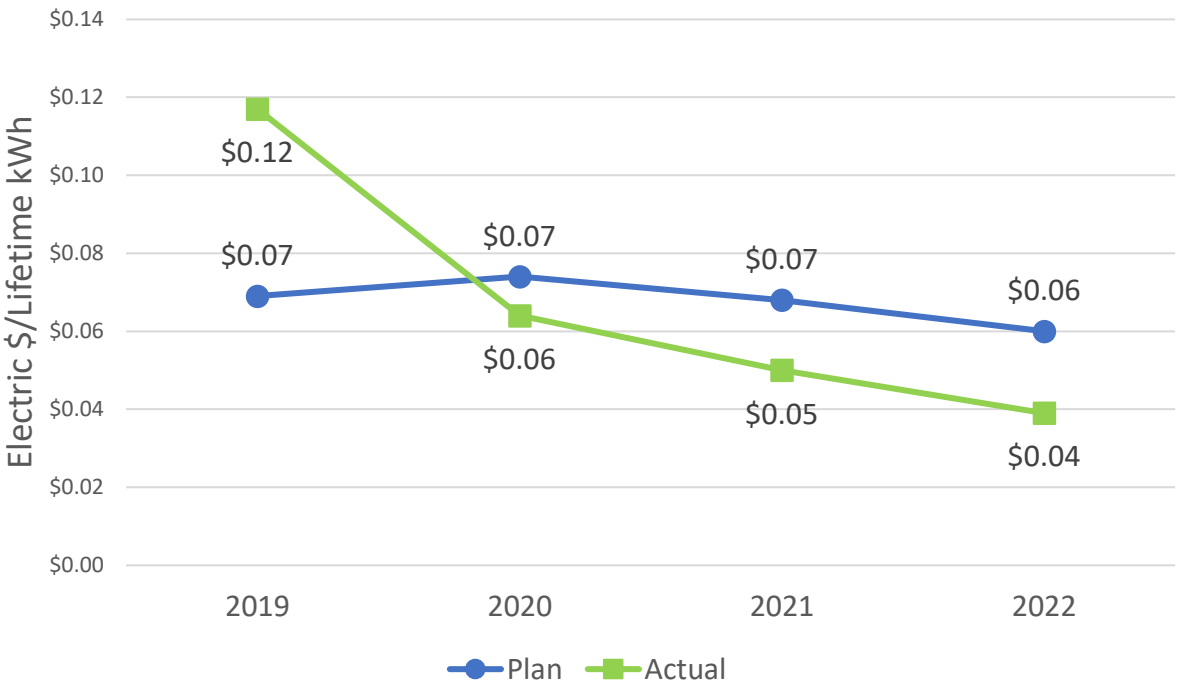
# ENERGY STAR HVAC

**Key Takeaway** Program continues to outperform goal at a lower than planned cost to achieve

Energy Star HVAC - Lifetime Electric Savings and Spending Performance to Goal Through Q4 (2019-2022)



Planned vs. Actual Lifetime Cost-to-Achieve

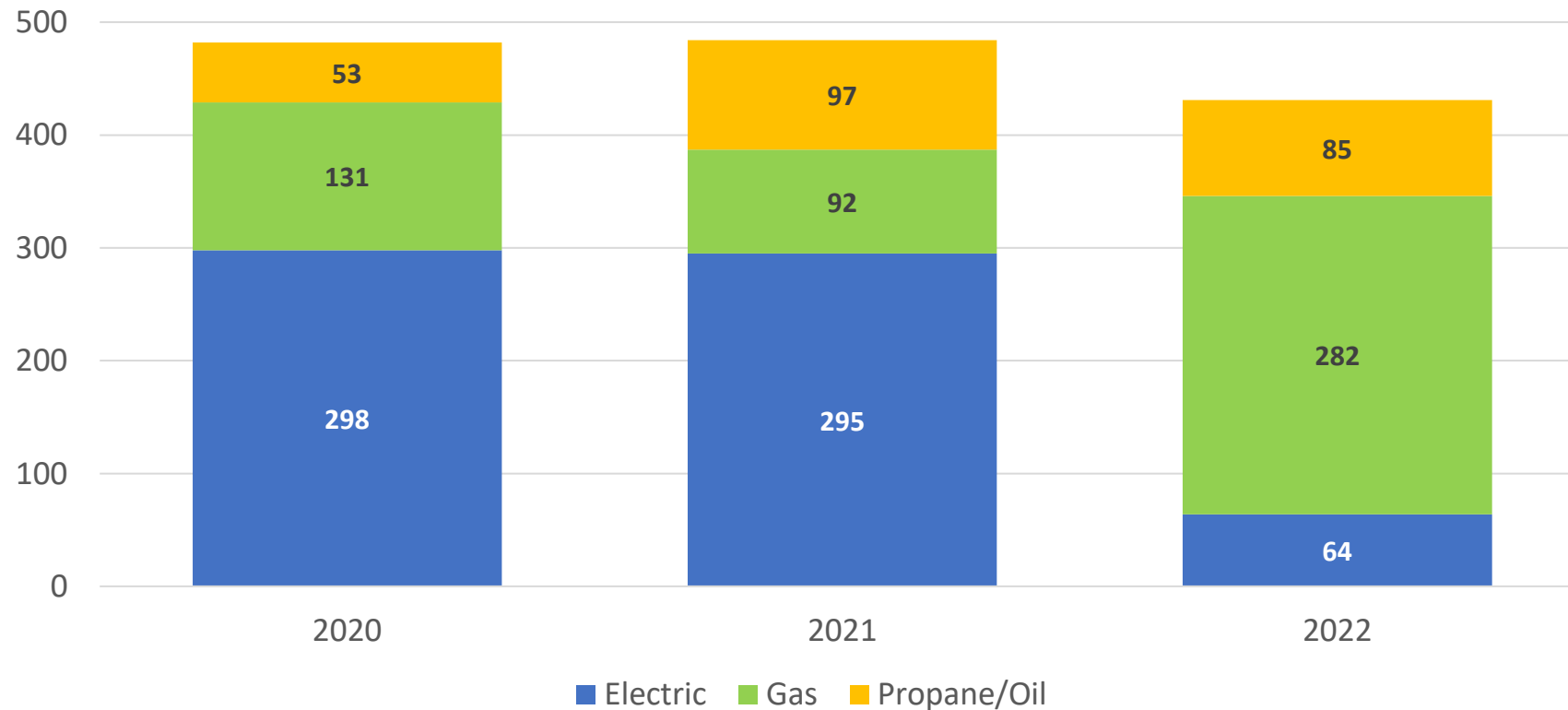




# New Construction

**Key Takeaway** Electric participants significantly decreased while gas participants increased

New Construction Participants by Fuel Type



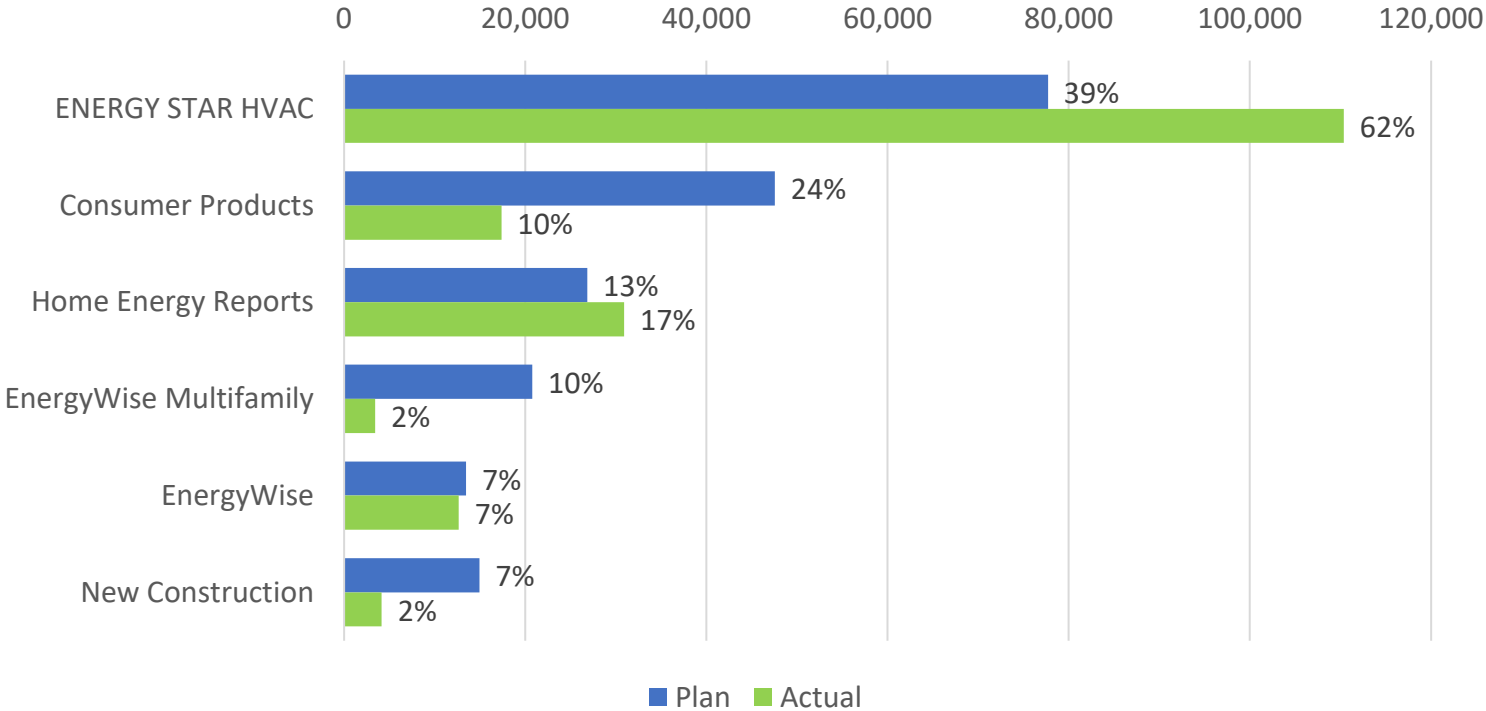


Share of Planned Portfolio Savings **24%**

# Share of Residential Electric Savings by Program

**Key Takeaway** HVAC overperformance boosted sector achievement from 64% to 89% of goal

Share of Residential Sector Electric Savings by Program



HVAC responsible for significantly larger share of savings than planned

Multifamily, Products, and New Construction contributed significantly lower shares of savings than planned



# RI ENERGY HIGHLIGHTS





# Residential & Income Eligible Highlights



## Residential New Construction

- 2022 Q4 saw a significant increase in the number of participating renovation units, with 206 of 263 units served being renovations.
  - Total annual renovations:
    - 2020 = 54
    - 2021 = 25
    - 2022 = 235

## Income Eligible Single Family

- The Lead Appliance Agency has improved communication across the program with the assistance of the Local Appliance Vendor, and the local agencies. The agency processed over \$1.5M in appliance invoices in Q4, an increase over Q3.



# Residential & Income Eligible Highlights



## Income Eligible Multifamily

- The Company worked with two affordable housing complexes in Woonsocket and one in Tiverton on energy upgrades including condensing boilers, high-efficiency pumps, heat pump heating/cooling and heat pump water heaters. Total incentives across the three projects totaled over \$2.5M

## Residential Consumer Products – Partnerships

- Ocean State Job Lot – Advanced Power Strips. Incentives offered in stores, with Rhode Island Energy customers buying approximately 4,170 APS.
- The Home Depot – The Most Efficient Appliance Initiative. Promoted in eight stores, with Rhode Island Energy Customers buying 143 Most Efficient Refrigerators and 11 Most Efficient Clothes Washers.





# Commercial & Industrial Highlights



## Large Commercial New Construction

- The Company completed its redesign of the New Construction whole building pathways, streamlining the program by reducing the number of pathways from four to two, making it simpler for customers to participate.

## Large Commercial Retrofit

- The Company kicked off the Building Analytics Program, providing funding for implementation of software platforms and associated services to identify opportunities to improve the performance and longevity of HVAC and other equipment managed using building automation systems.
- The Company signed a new three-year SEMP MOU with a major retailer and extended its SEMP with Quonset Development Corporation for another three years.



# Commercial & Industrial Highlights

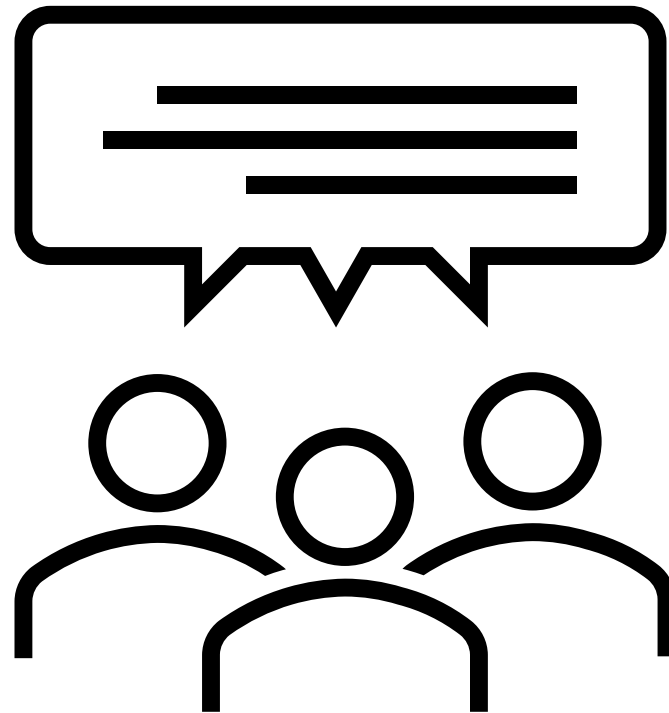


## Partnerships with OER

- Public Schools:
  - School Lighting Accelerator Program – Part of the state’s Lead by Example initiative, this effort helps schools to upgrade to LED lighting with controls in order to reduce energy use and improve lighting quality.
  - Energy Improvements for Rhode Island Schools – Funded by the U.S. DOE in response to concerns related to COVID-19, this program helps schools upgrade their HVAC systems and building controls to improve indoor air quality, while reducing energy consumption and improving comfort.
- Small Business Direct Install
  - Provided over 80 small businesses incentives up to 100% for air sealing, insulation, and ventilation in 2022.



# Council Member Discussion





# Appendix





# Electric Savings Distribution

## LIFETIME MWhs

Program	2022 Plan	% of 2022 Plan Portfolio
Small Business Direct Install	64,394	8%
Large Commercial New Construction	192,343	23%
Large Commercial Retrofit	312,931	38%
<b>C&amp;I Total</b>	<b>569,668</b>	<b>68%</b>
Single Family - Income Eligible Services	38,506	5%
Income Eligible Multifamily	24,309	3%
<b>Income Eligible Total</b>	<b>62,816</b>	<b>8%</b>
Residential New Construction	14,947	2%
ENERGY STAR® HVAC	77,717	9%
EnergyWise	13,472	2%
EnergyWise Multifamily	20,783	2%
Home Energy Reports	26,852	3%
Residential Consumer Products	47,554	6%
<b>Residential Total</b>	<b>201,325</b>	<b>24%</b>
<b>Portfolio Total</b>	<b>833,808</b>	<b>100%</b>

## LIFETIME MWhs

Program	2022 YTD	% of 2022 YTD Portfolio
Small Business Direct Install	40,735	11%
Large Commercial New Construction	47,747	13%
Large Commercial Retrofit	150,098	41%
<b>C&amp;I Total</b>	<b>238,580</b>	<b>65%</b>
Single Family - Income Eligible Services	8,145	2%
Income Eligible Multifamily	846	0%
<b>Income Eligible Total</b>	<b>8,991</b>	<b>2%</b>
Residential New Construction	2,493	1%
ENERGY STAR® HVAC	75,627	21%
EnergyWise	9,233	3%
EnergyWise Multifamily	1,262	0%
Home Energy Reports	23,639	6%
Residential Consumer Products	7,441	2%
<b>Residential Total</b>	<b>119,695</b>	<b>33%</b>
<b>Portfolio Total</b>	<b>367,266</b>	<b>100%</b>



# Gas Savings Distribution

## LIFETIME MMBtus

Program	2022 Plan	% of 2022 Plan Portfolio
Large Commercial New Construction	788,763	19%
Large Commercial Retrofit	1,332,508	33%
Small Business Direct Install	91,700	2%
Commercial & Industrial Multifamily	131,220	3%
<b>C&amp;I Total</b>	<b>2,344,192</b>	<b>58%</b>
Single Family - Income Eligible Services	218,847	5%
Income Eligible Multifamily	273,085	7%
<b>Income Eligible Total</b>	<b>491,932</b>	<b>12%</b>
Energy Star® HVAC	439,717	11%
EnergyWise	478,550	12%
EnergyWise Multifamily	147,064	4%
Home Energy Reports	93,548	2%
Residential New Construction	64,899	2%
<b>Residential Total</b>	<b>1,223,778</b>	<b>30%</b>
<b>Portfolio Total</b>	<b>4,059,902</b>	<b>100%</b>

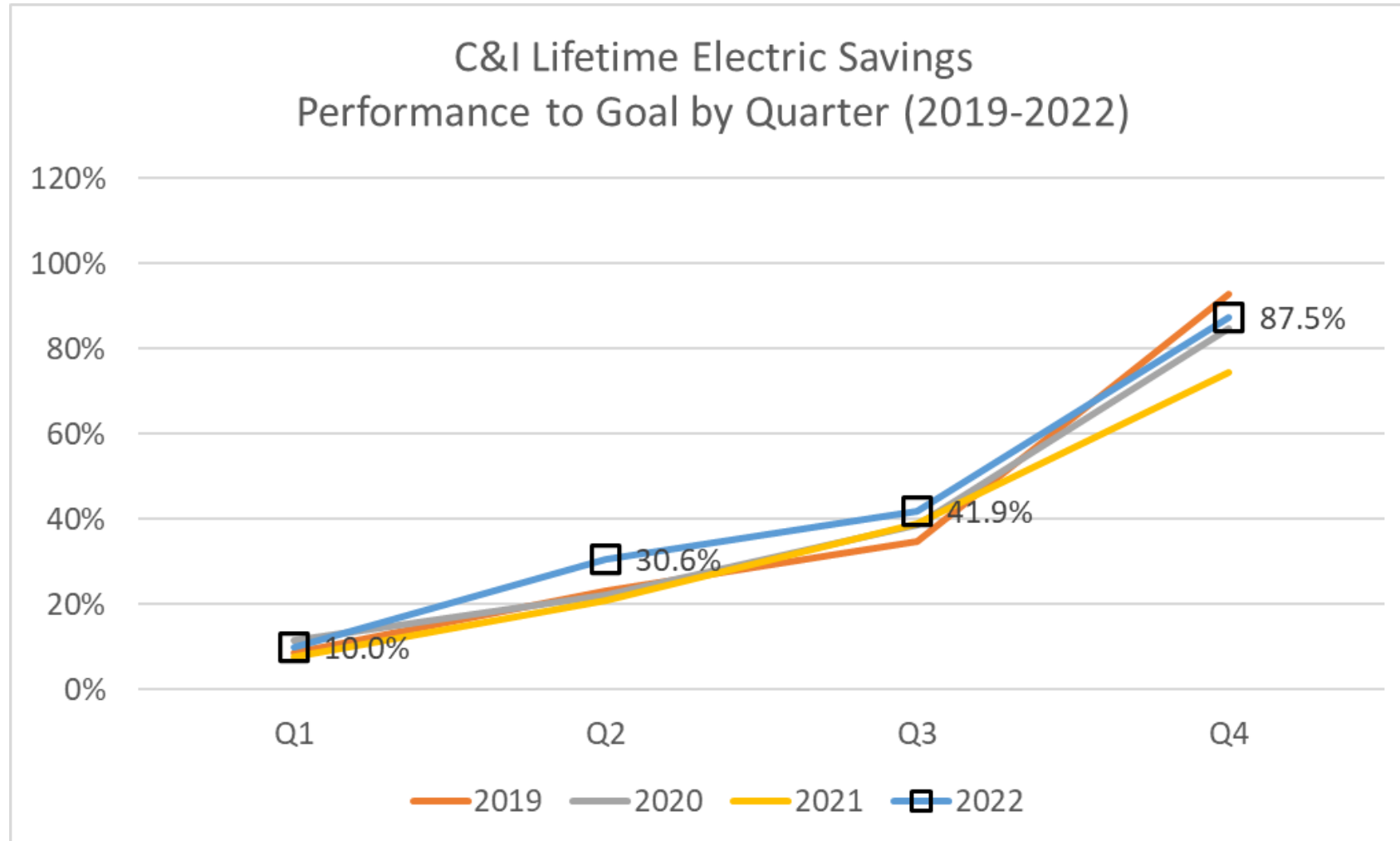
## LIFETIME MMBtus

Program	2022 YTD	% of 2022 YTD Portfolio
Large Commercial New Construction	276,165	15%
Large Commercial Retrofit	644,585	34%
Small Business Direct Install	52,200	3%
Commercial & Industrial Multifamily	21,962	1%
<b>C&amp;I Total</b>	<b>994,912</b>	<b>53%</b>
Single Family - Income Eligible Services	85,428	5%
Income Eligible Multifamily	79,315	4%
<b>Income Eligible Total</b>	<b>164,743</b>	<b>9%</b>
Energy Star® HVAC	199,449	11%
EnergyWise	396,134	21%
EnergyWise Multifamily	23,018	1%
Home Energy Reports	79,792	4%
Residential New Construction	16,802	1%
<b>Residential Total</b>	<b>715,195</b>	<b>38%</b>
<b>Portfolio Total</b>	<b>1,874,850</b>	<b>100%</b>



Share of Planned Portfolio Savings **68%**

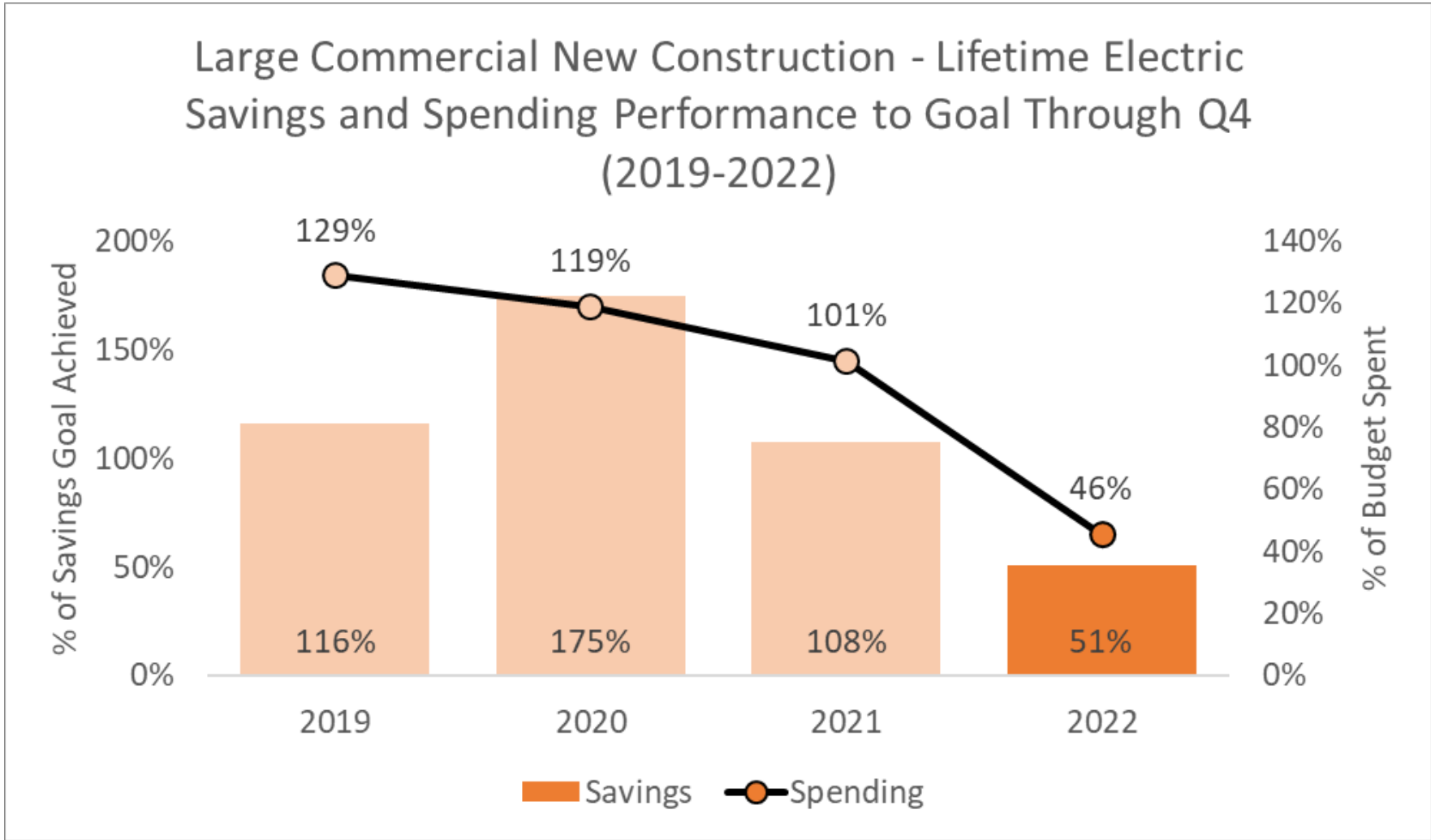
# Electric C&I Performance





Share of Planned Portfolio Savings **23%**

# Electric C&I Programs

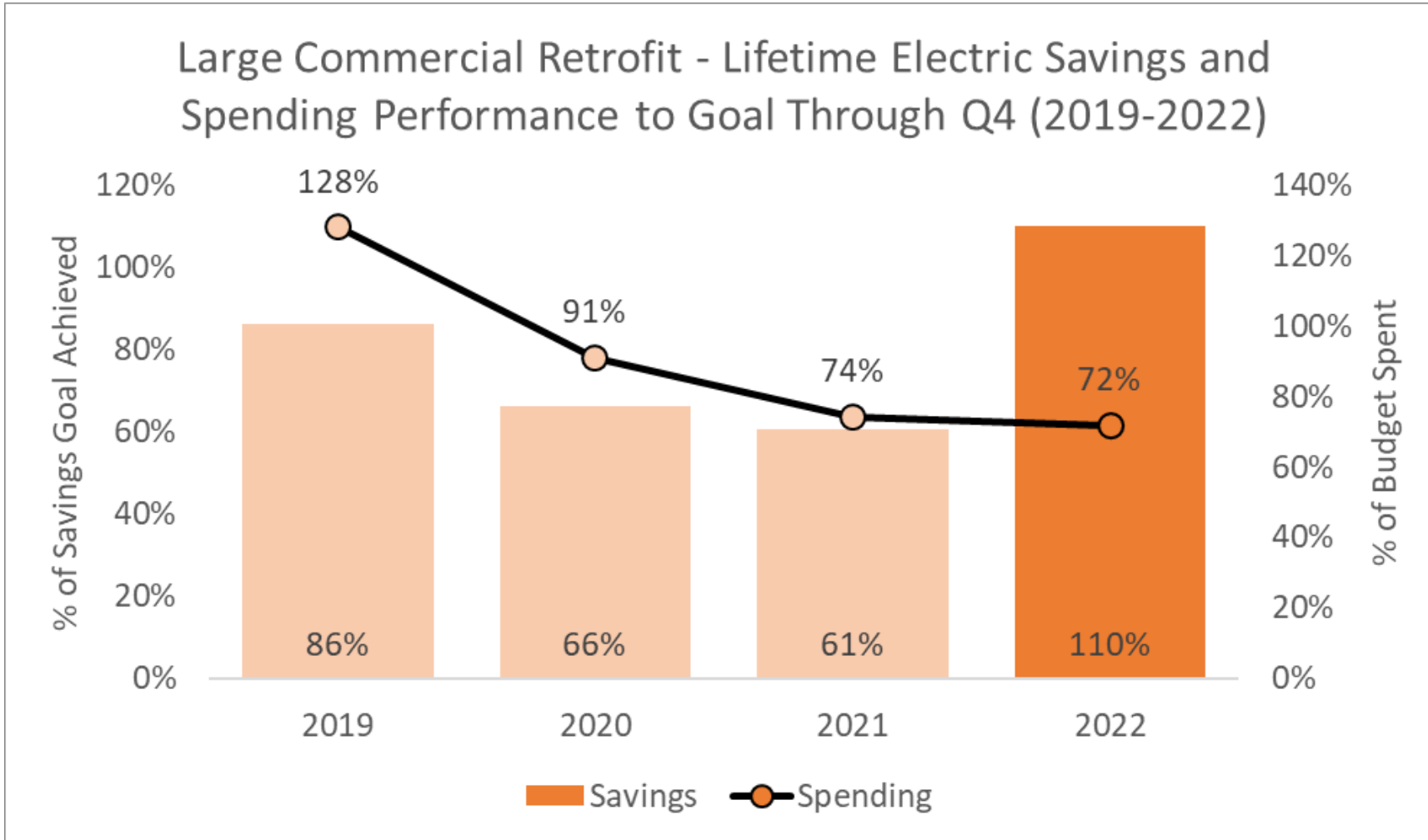






Share of Planned Portfolio Savings **38%**

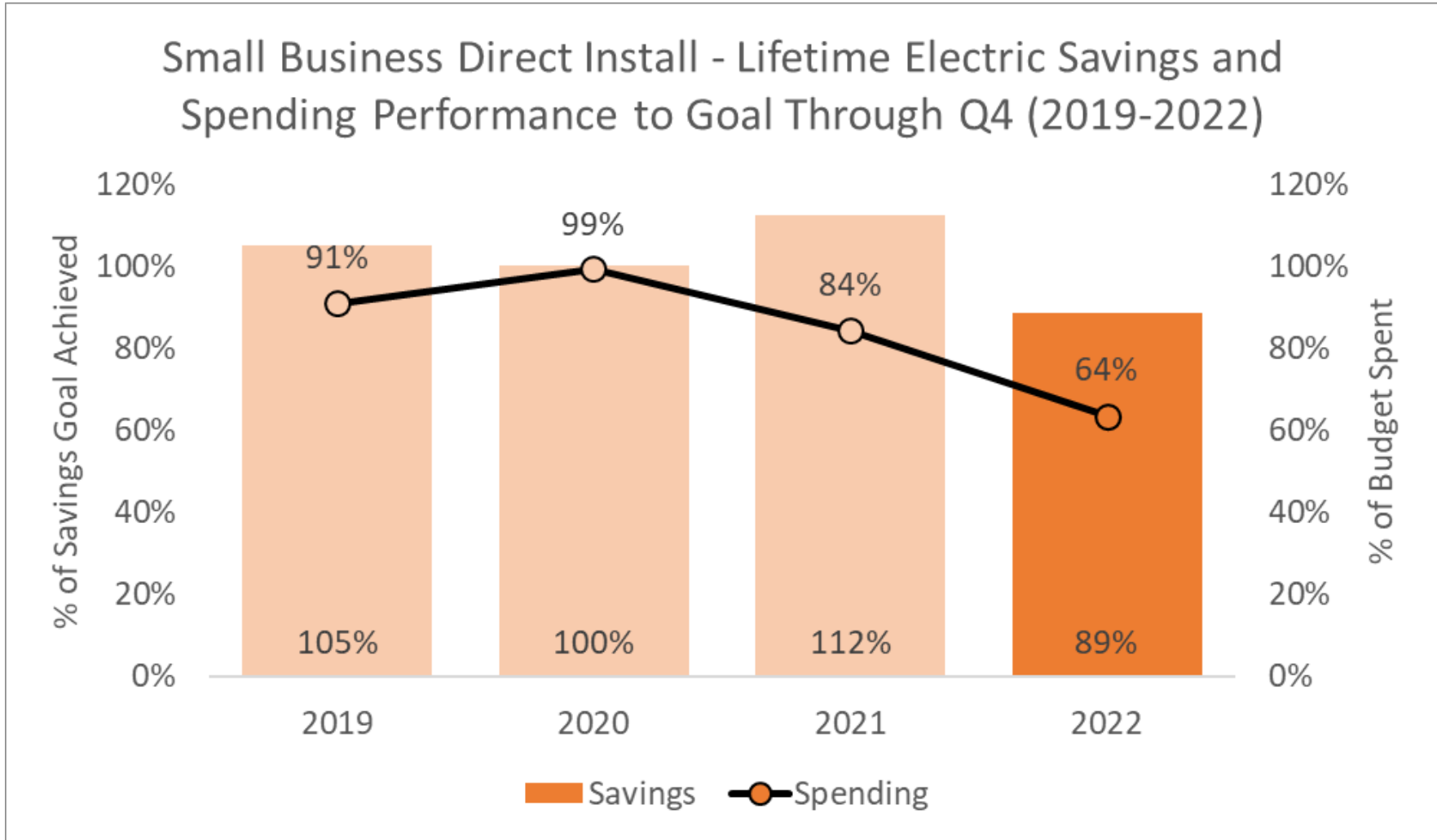
# Electric C&I Programs





Share of Planned Portfolio Savings **8%**

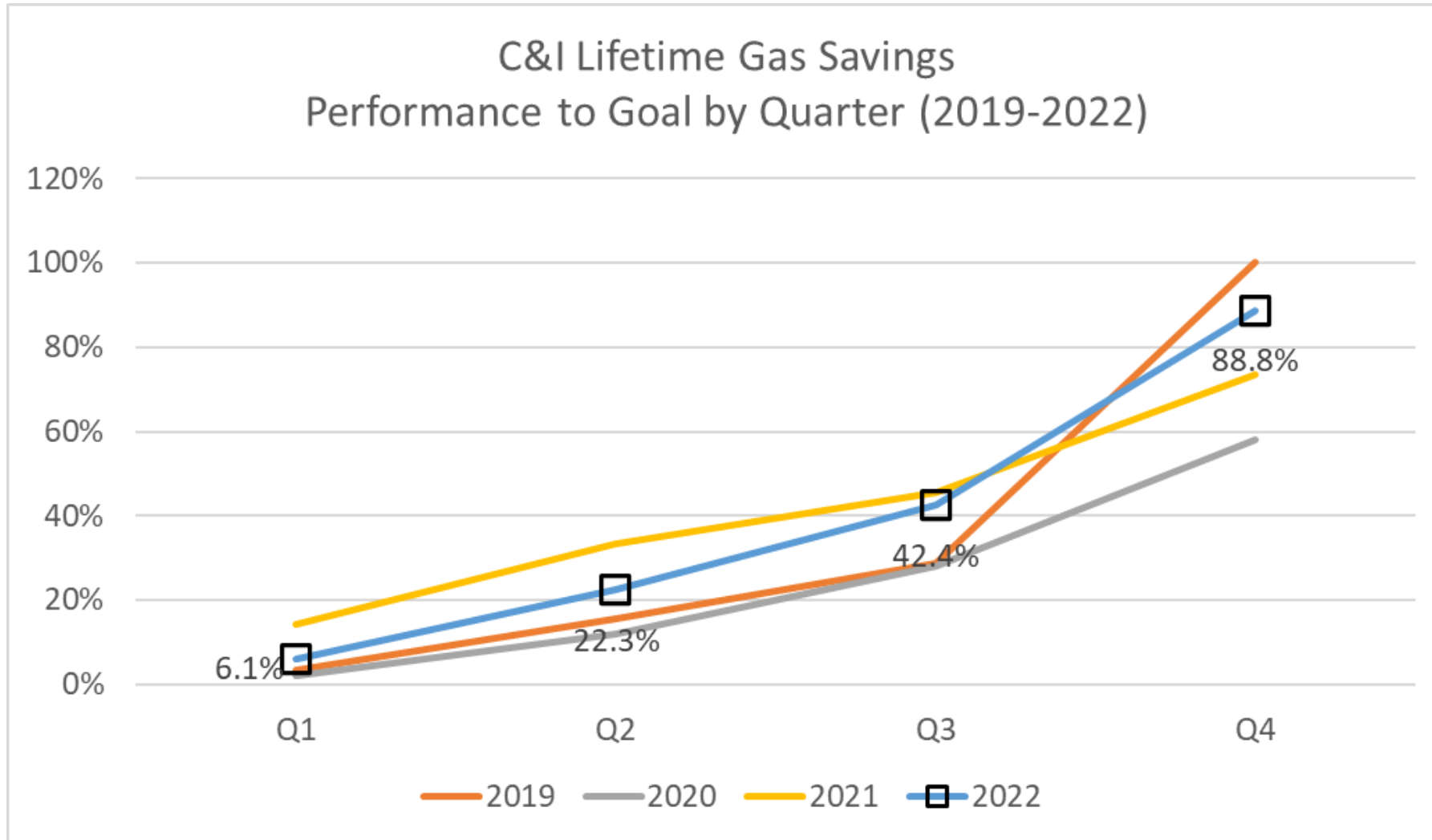
# Electric C&I Programs





Share of Planned Portfolio Savings **58%**

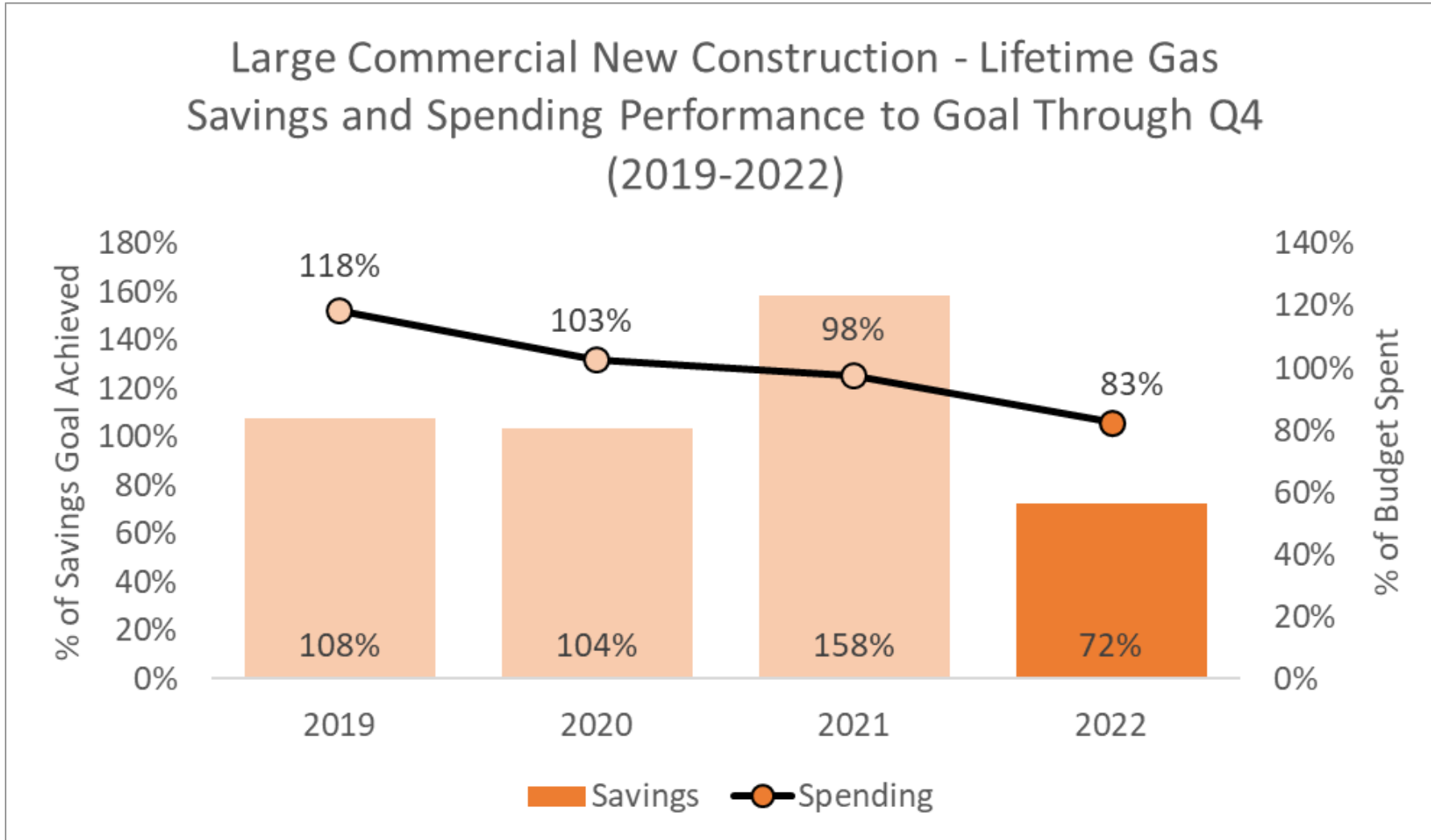
# Gas C&I Performance





Share of Planned Portfolio Savings **19%**

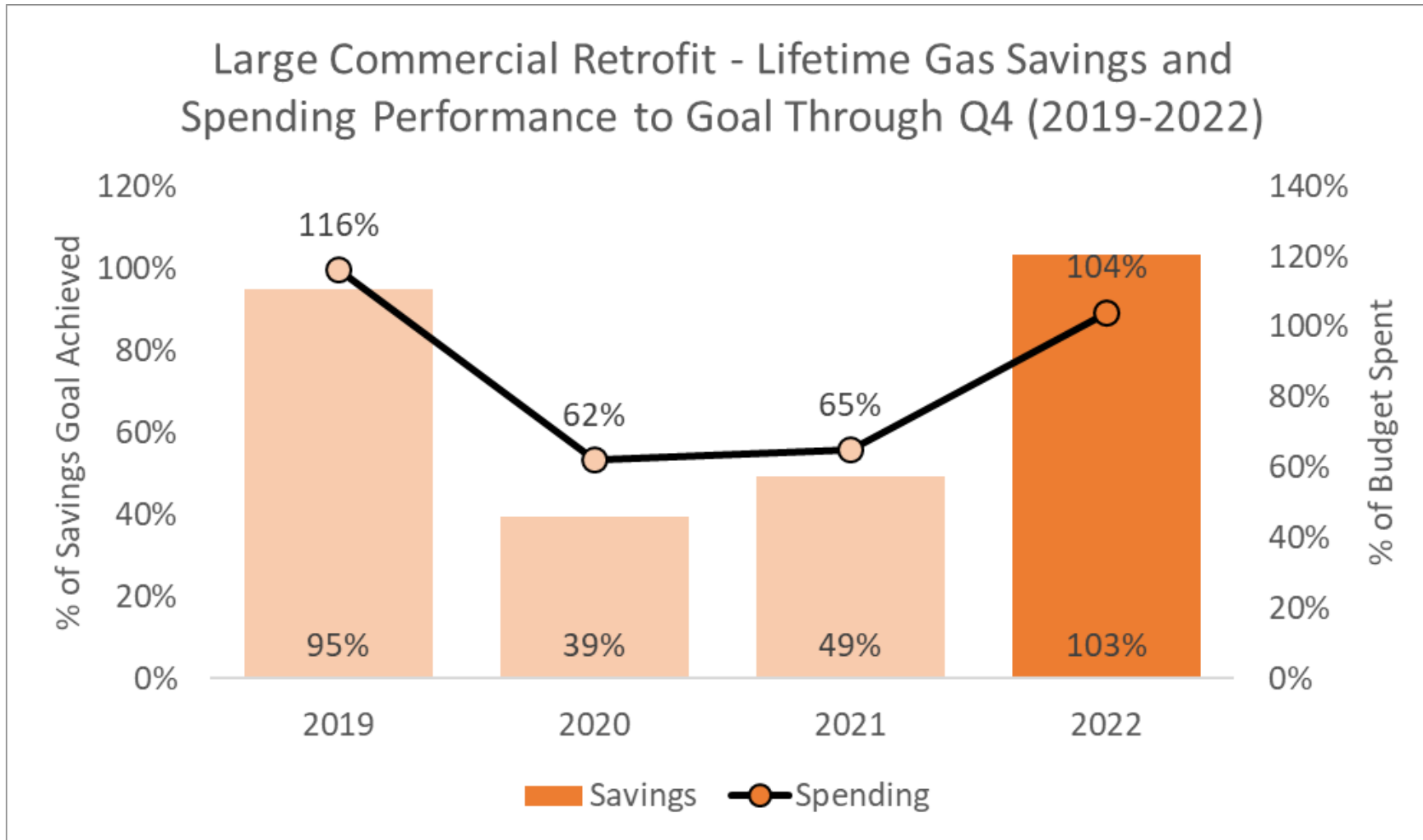
# Gas C&I Programs





Share of Planned Portfolio Savings **33%**

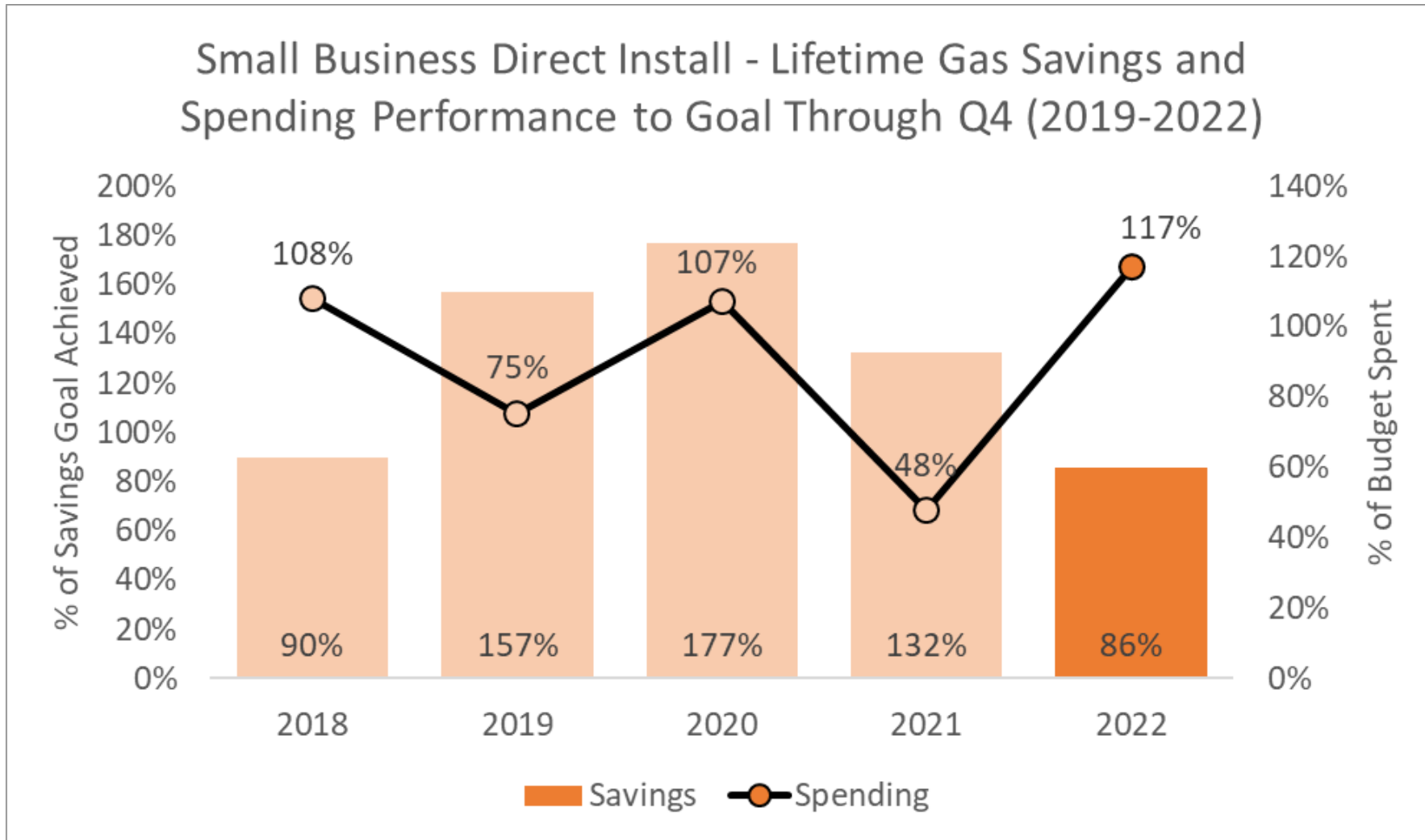
# Gas C&I Programs





Share of Planned Portfolio Savings **2%**

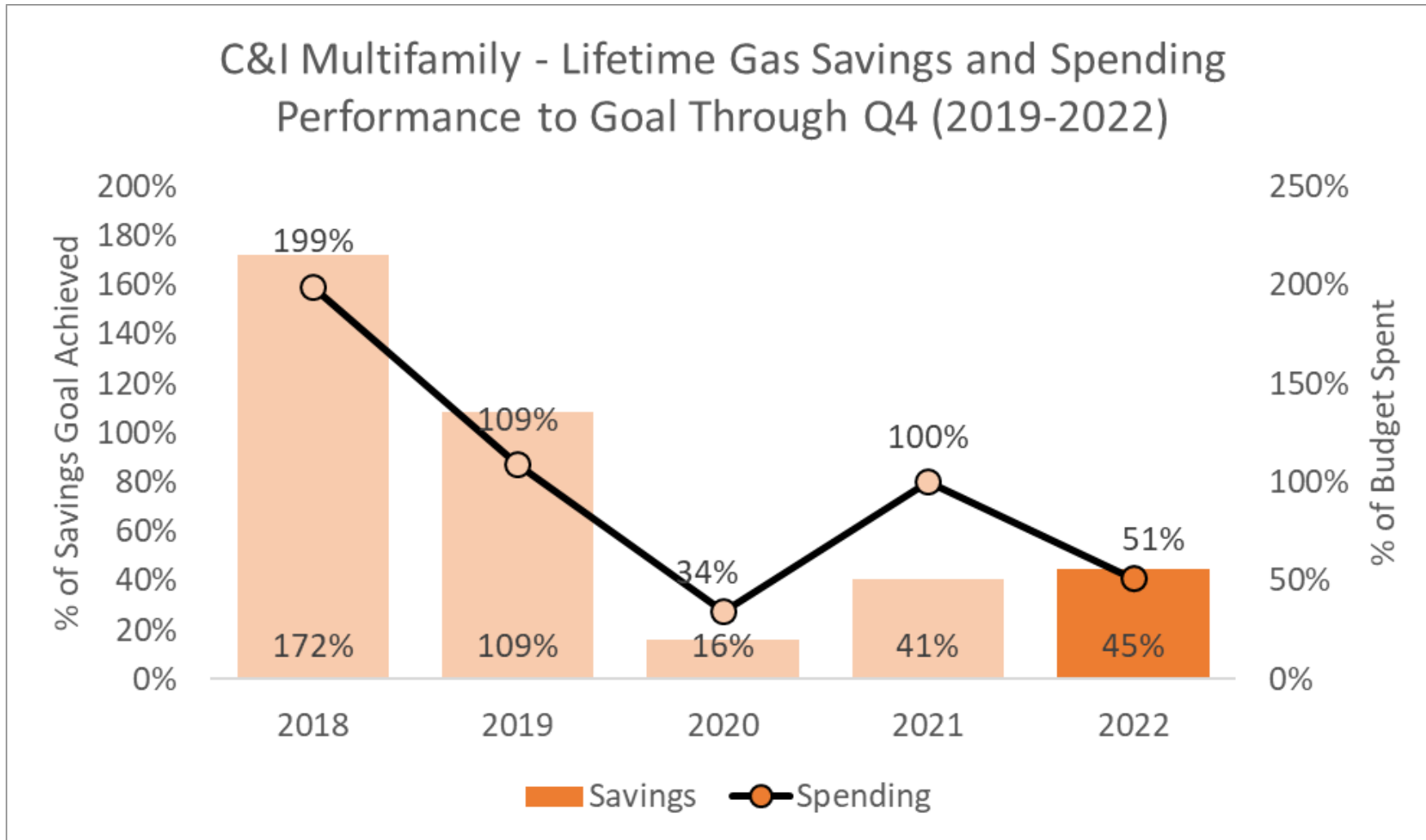
# Gas C&I Programs





Share of Planned Portfolio Savings **3%**

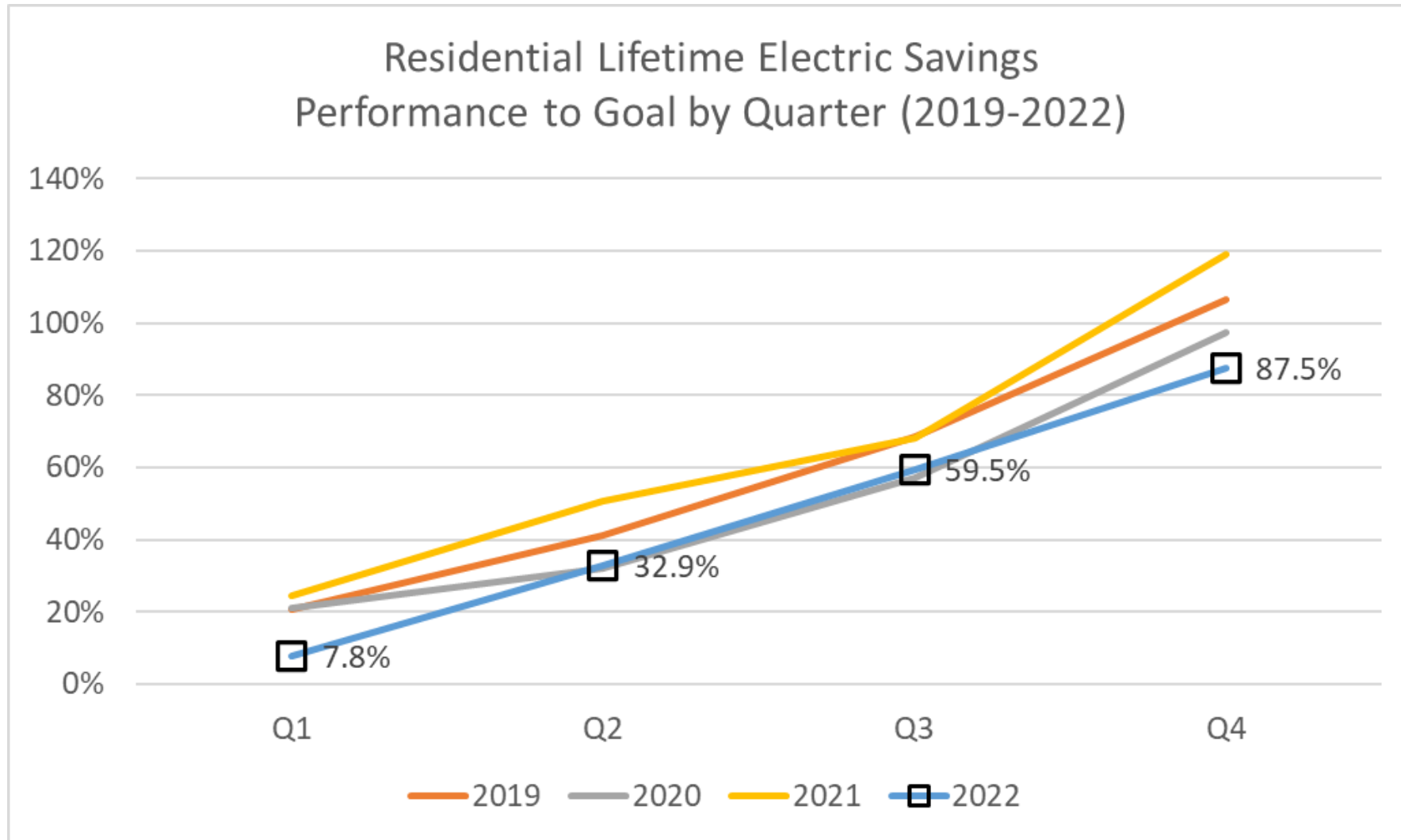
# Gas C&I Programs





Share of Planned Portfolio Savings **24%**

# Electric Res Forecast

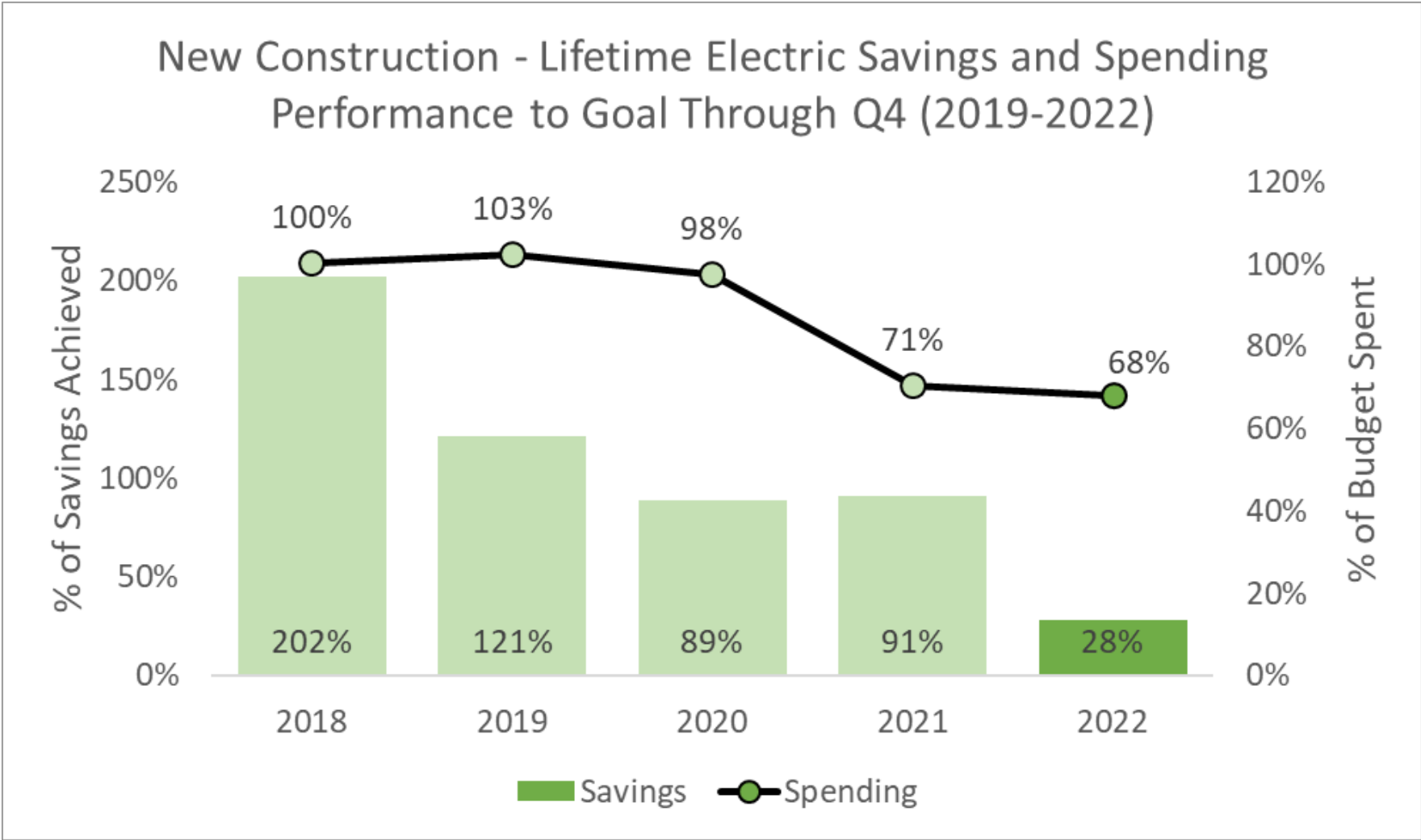






Share of Planned Portfolio Savings **2%**

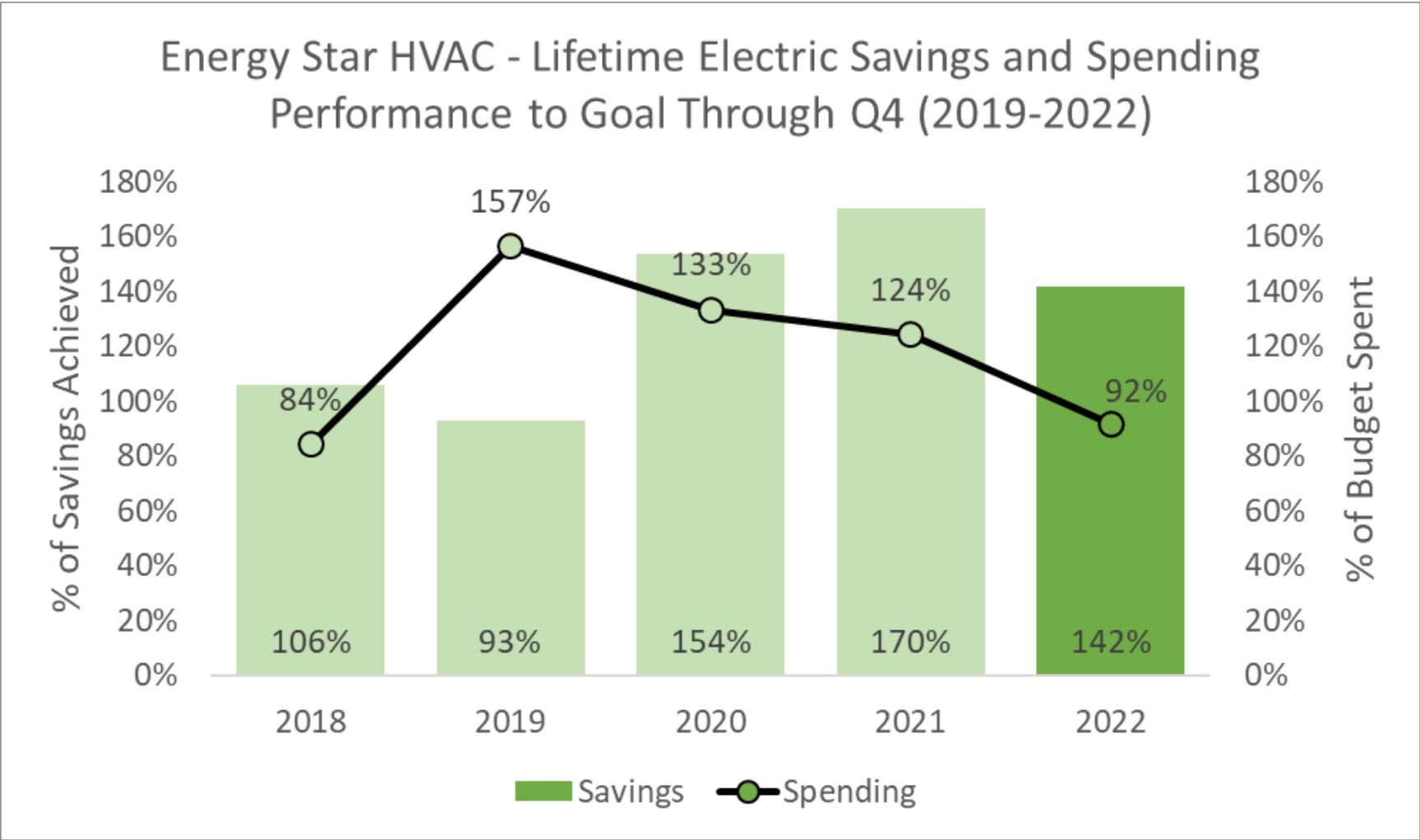
# Electric Res Programs





Share of Planned Portfolio Savings **9%**

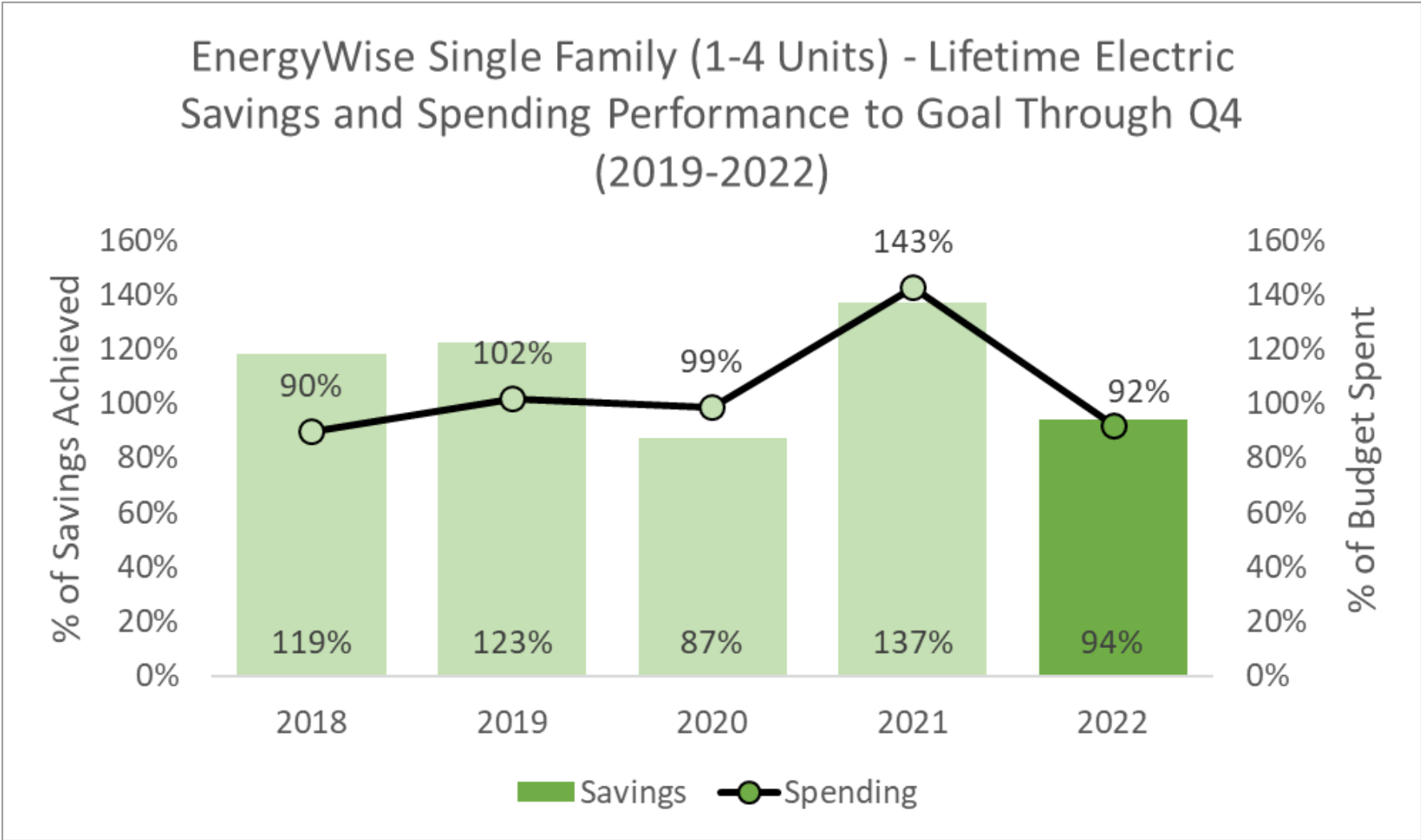
# Electric Res Programs





Share of Planned Portfolio Savings **2%**

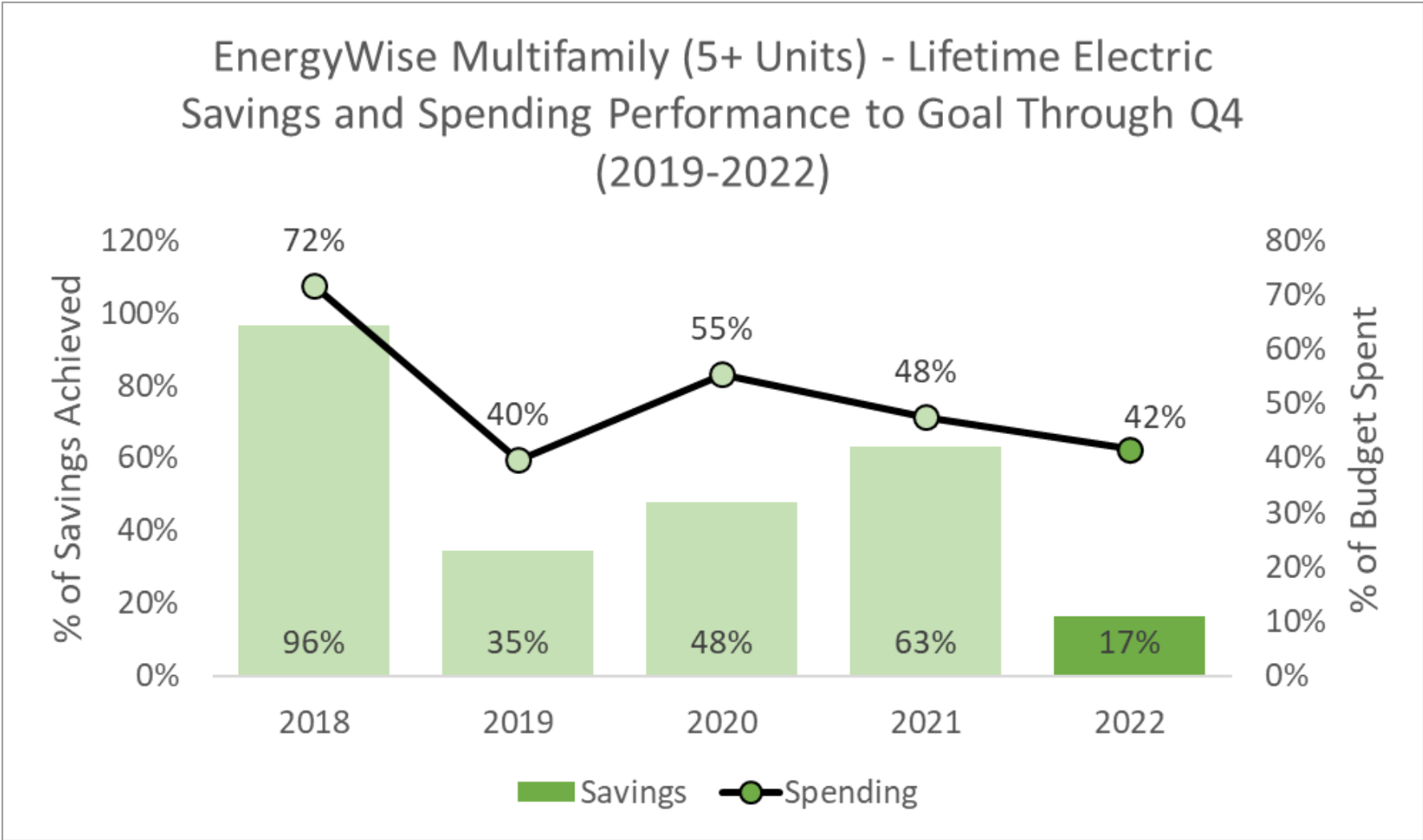
# Electric Res Programs





Share of Planned Portfolio Savings **2%**

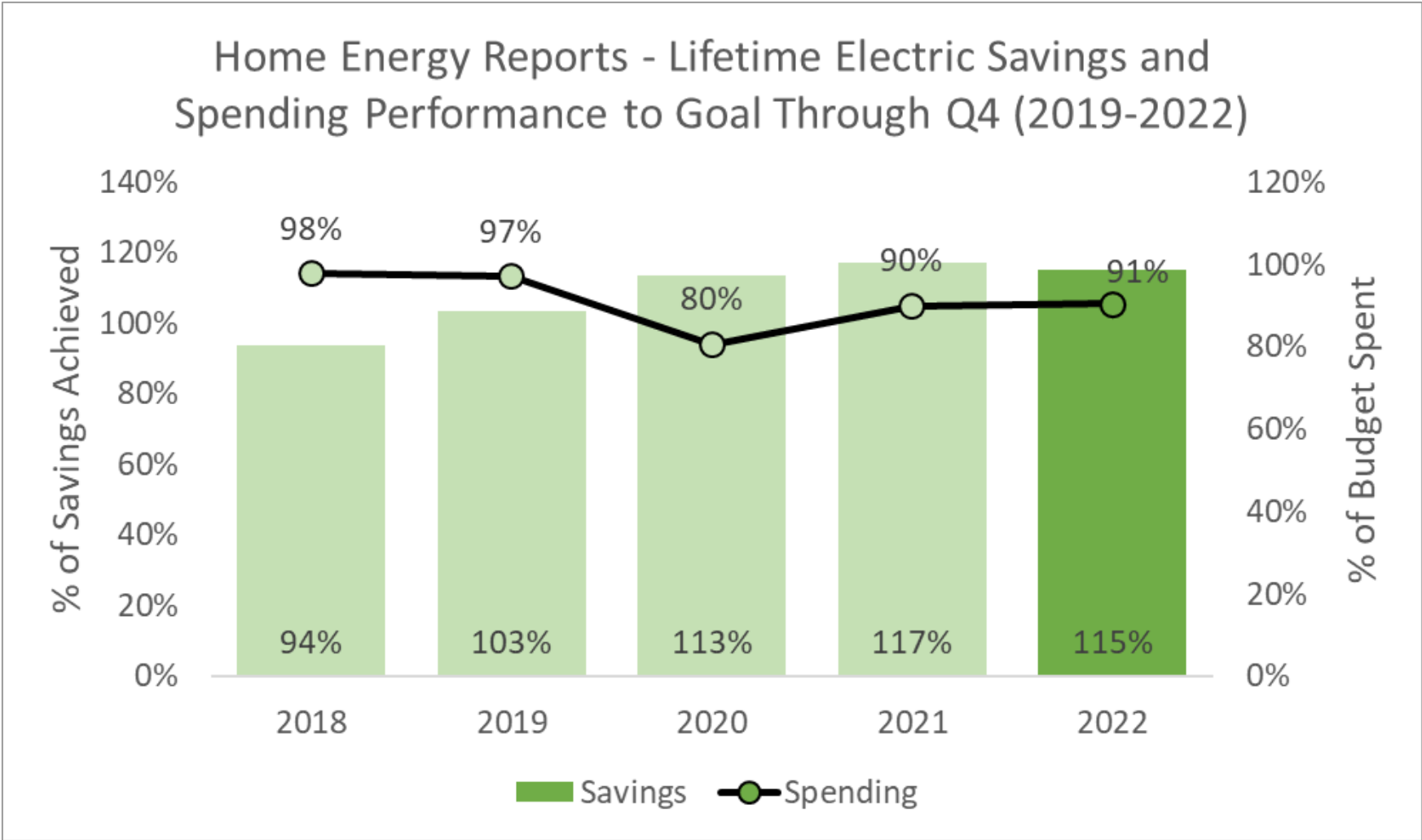
# Electric Res Programs





Share of Planned Portfolio Savings **3%**

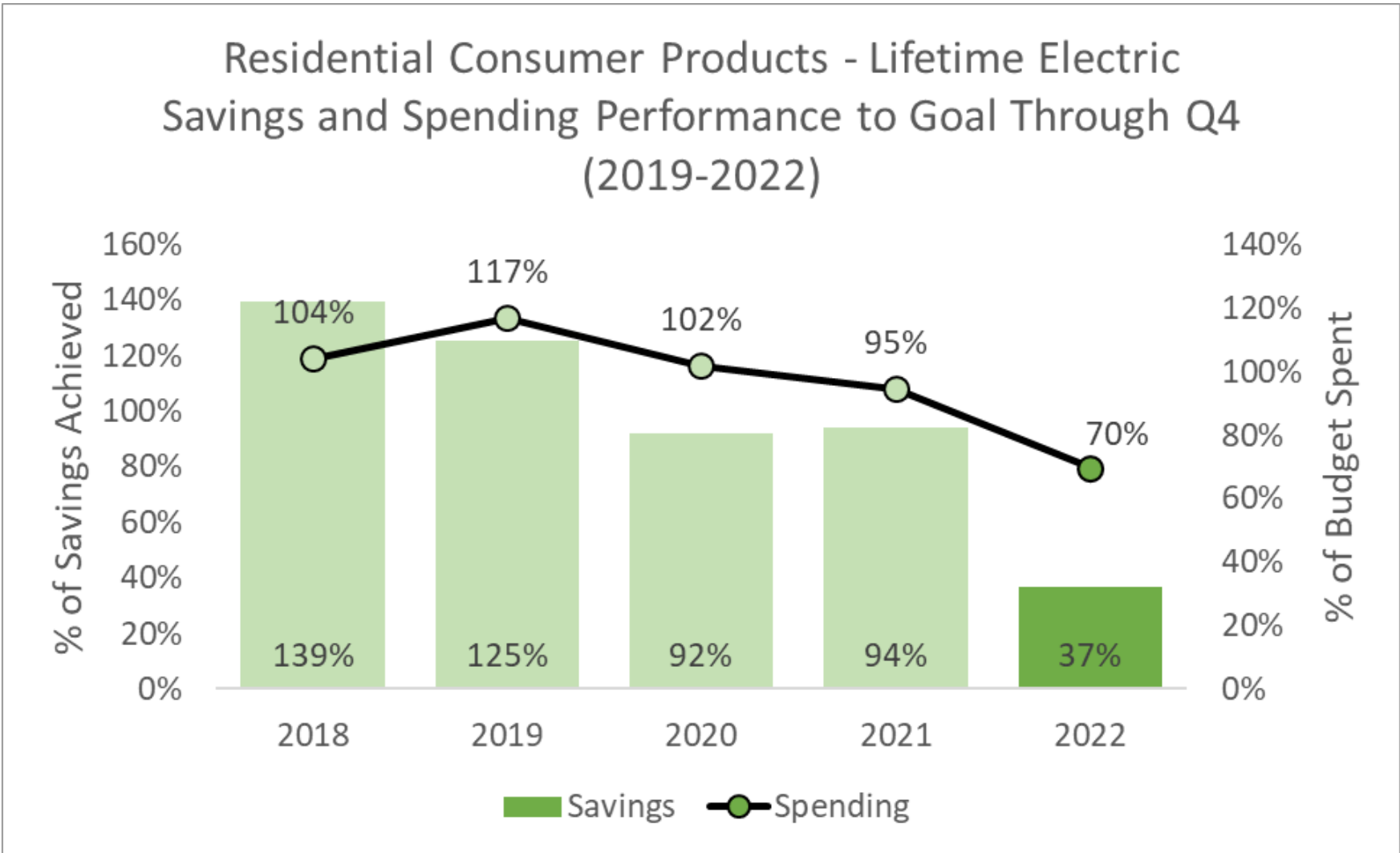
# Electric Res Programs





Share of Planned Portfolio Savings **6%**

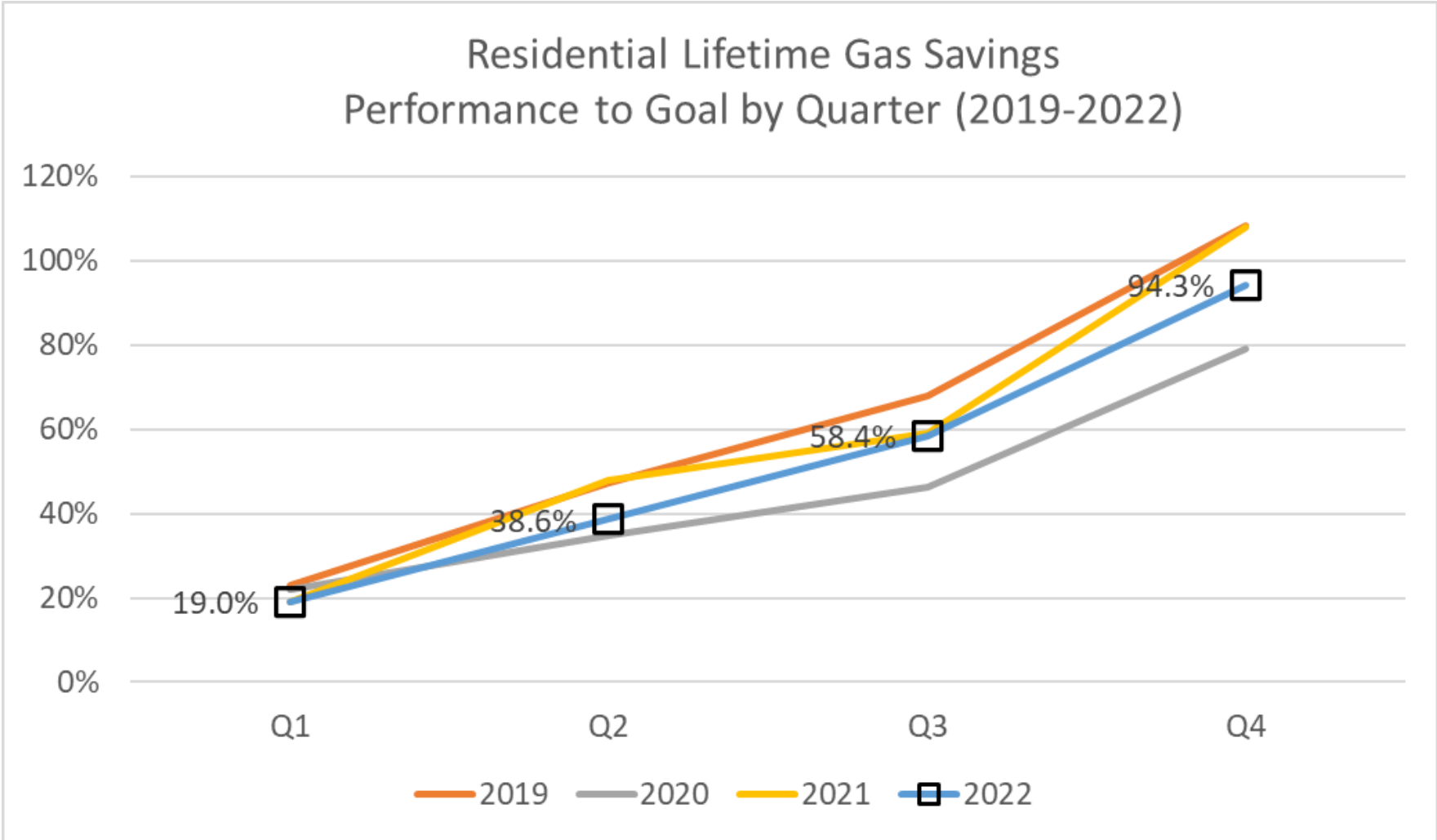
# Electric Res Programs





Share of Planned Portfolio Savings **30%**

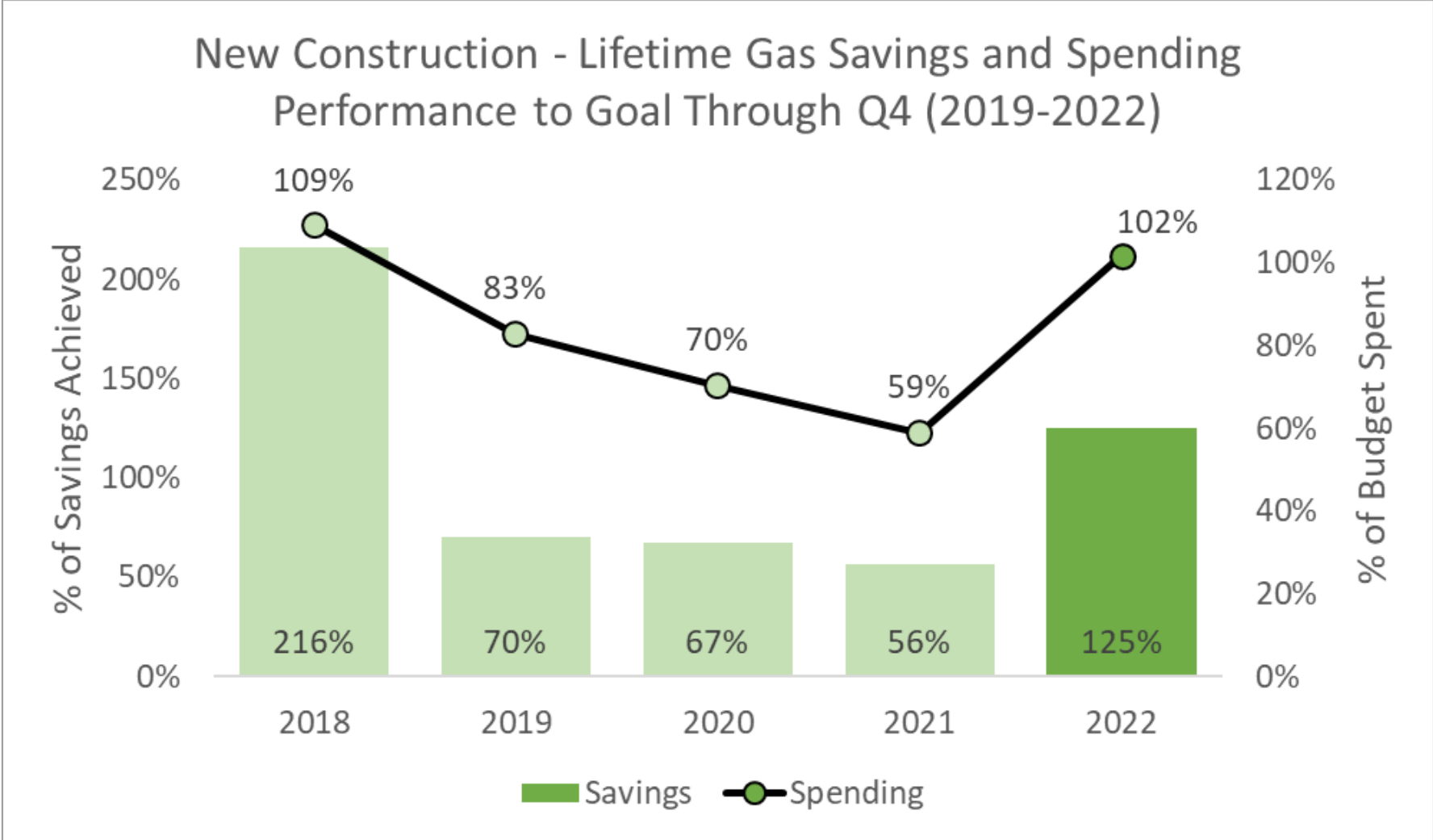
# Gas Res Forecast





Share of Planned Portfolio Savings **2%**

# Gas Res Programs

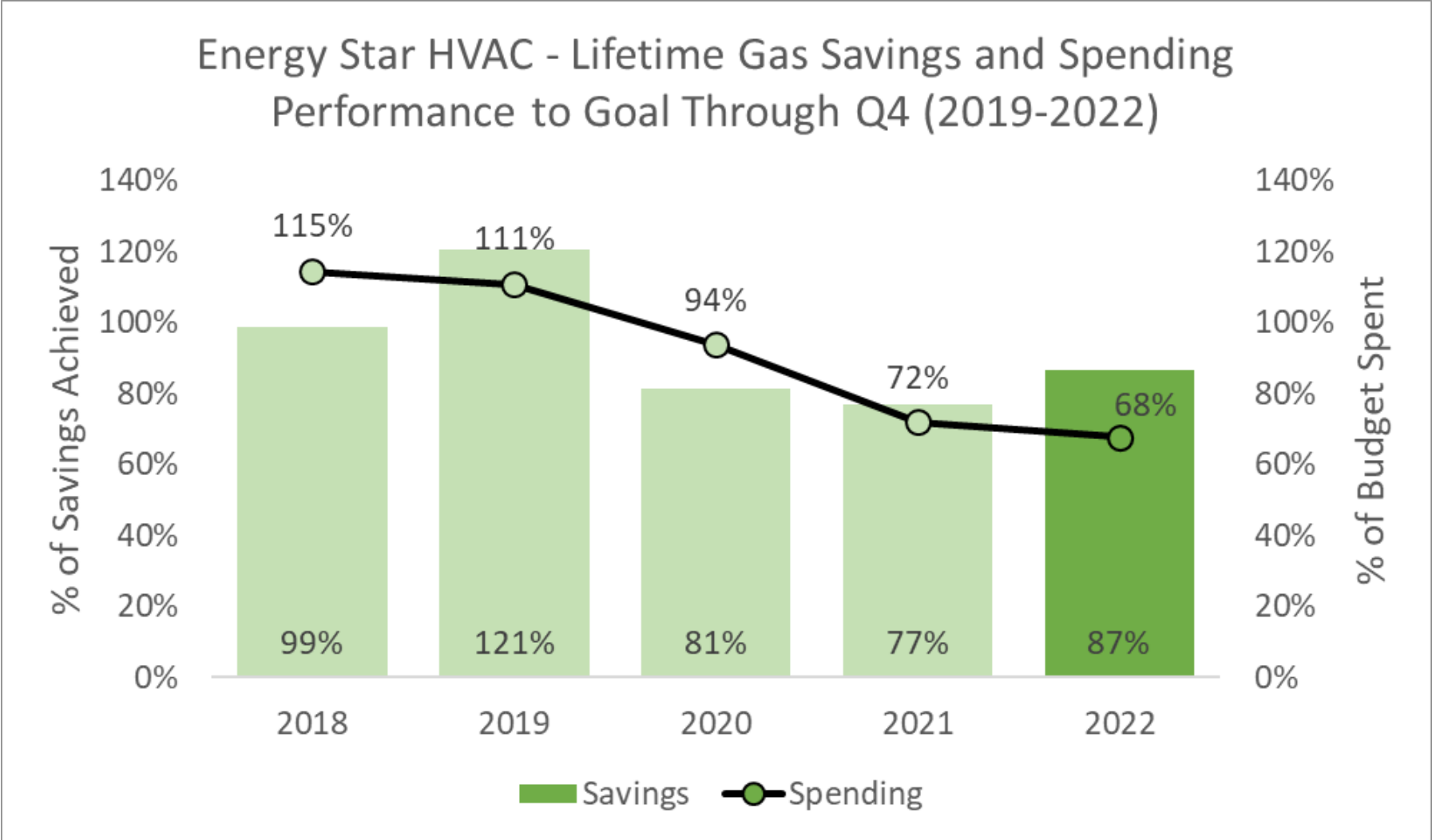






Share of Planned Portfolio Savings **11%**

# Gas Res Programs

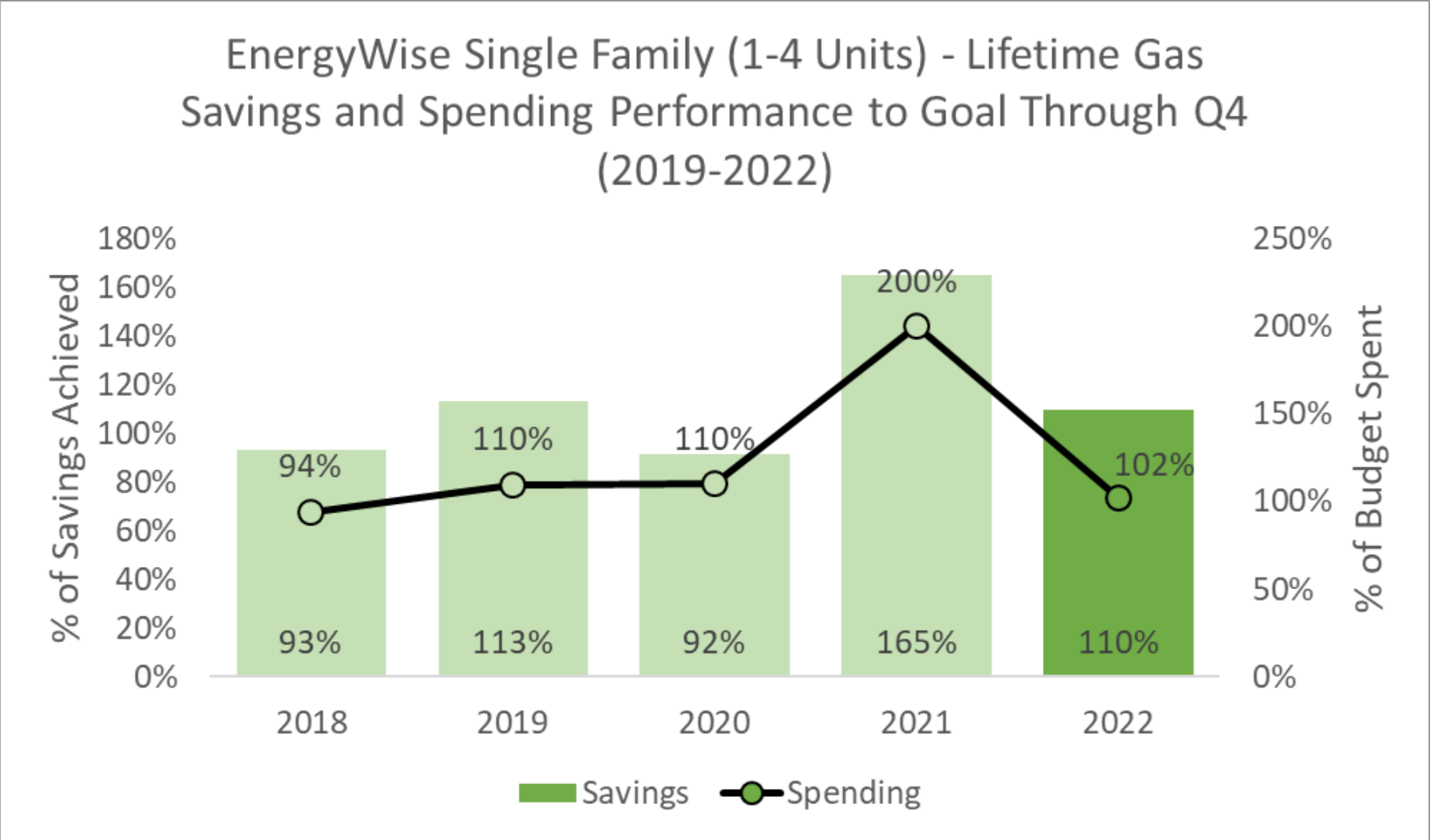




Share of Planned Portfolio Savings **12%**

# Gas Res Programs

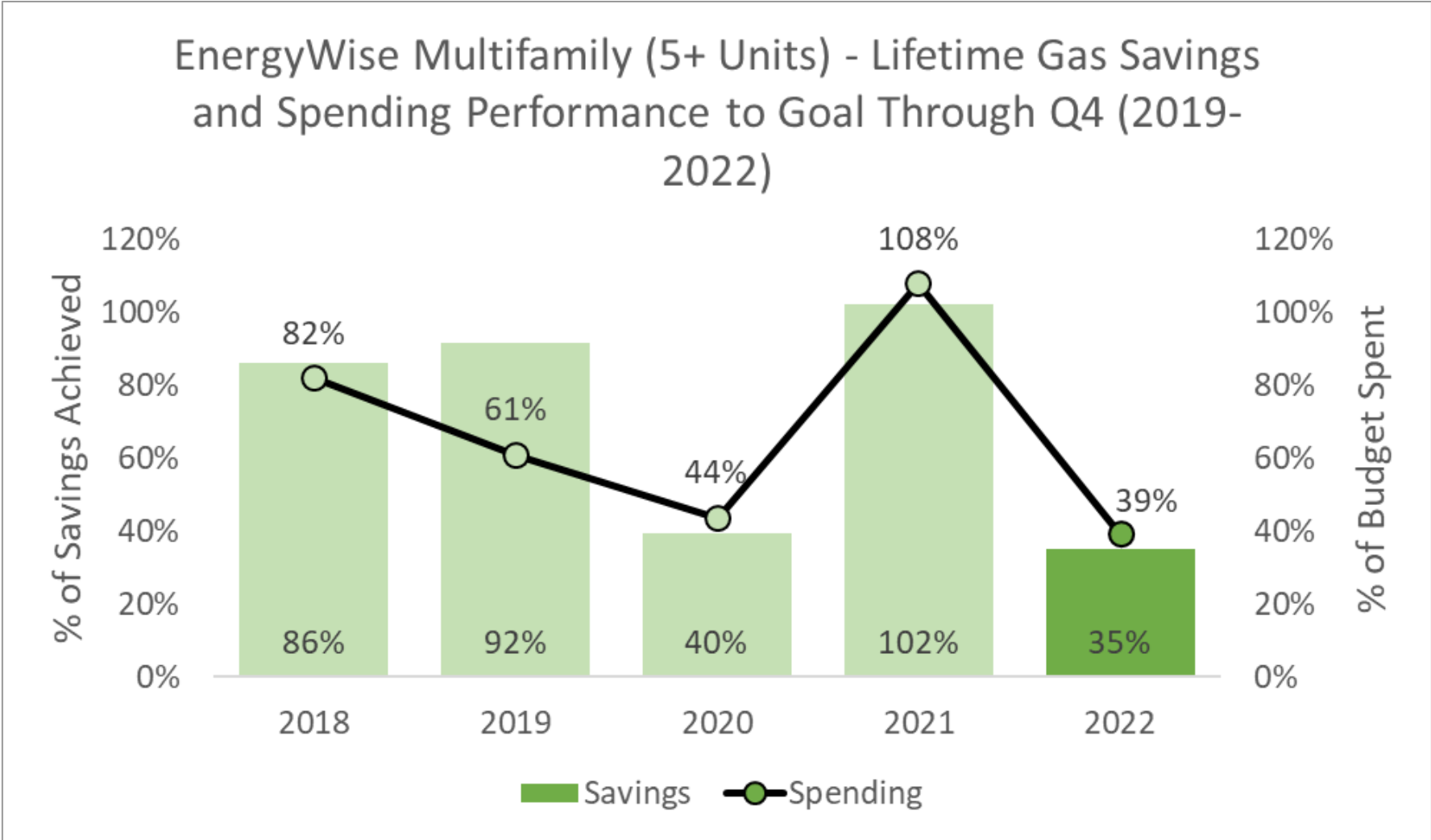
EnergyWise Single Family (1-4 Units) - Lifetime Gas Savings and Spending Performance to Goal Through Q4 (2019-2022)





Share of Planned Portfolio Savings **4%**

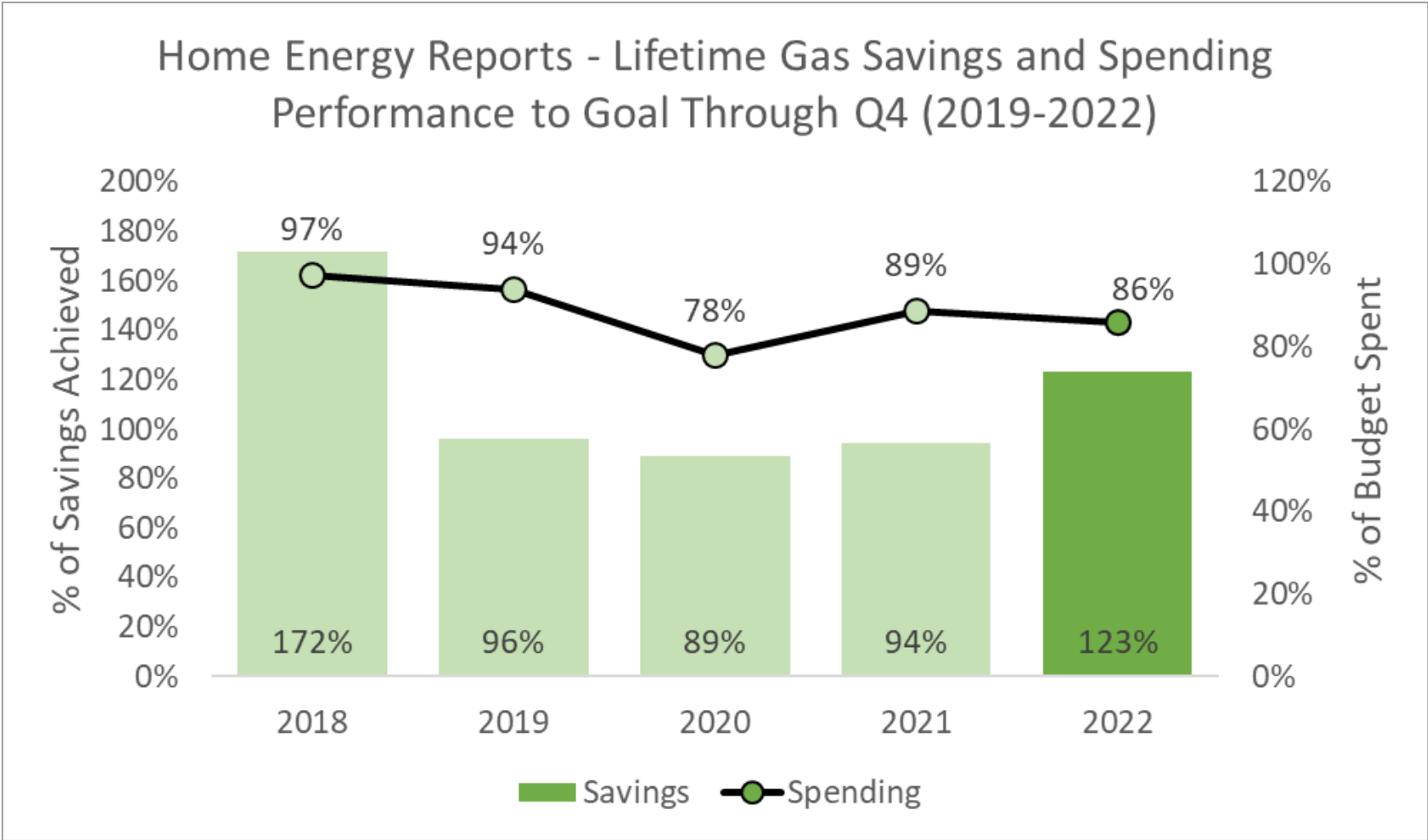
# Gas Res Programs





Share of Planned Portfolio Savings **2%**

# Gas Res Programs

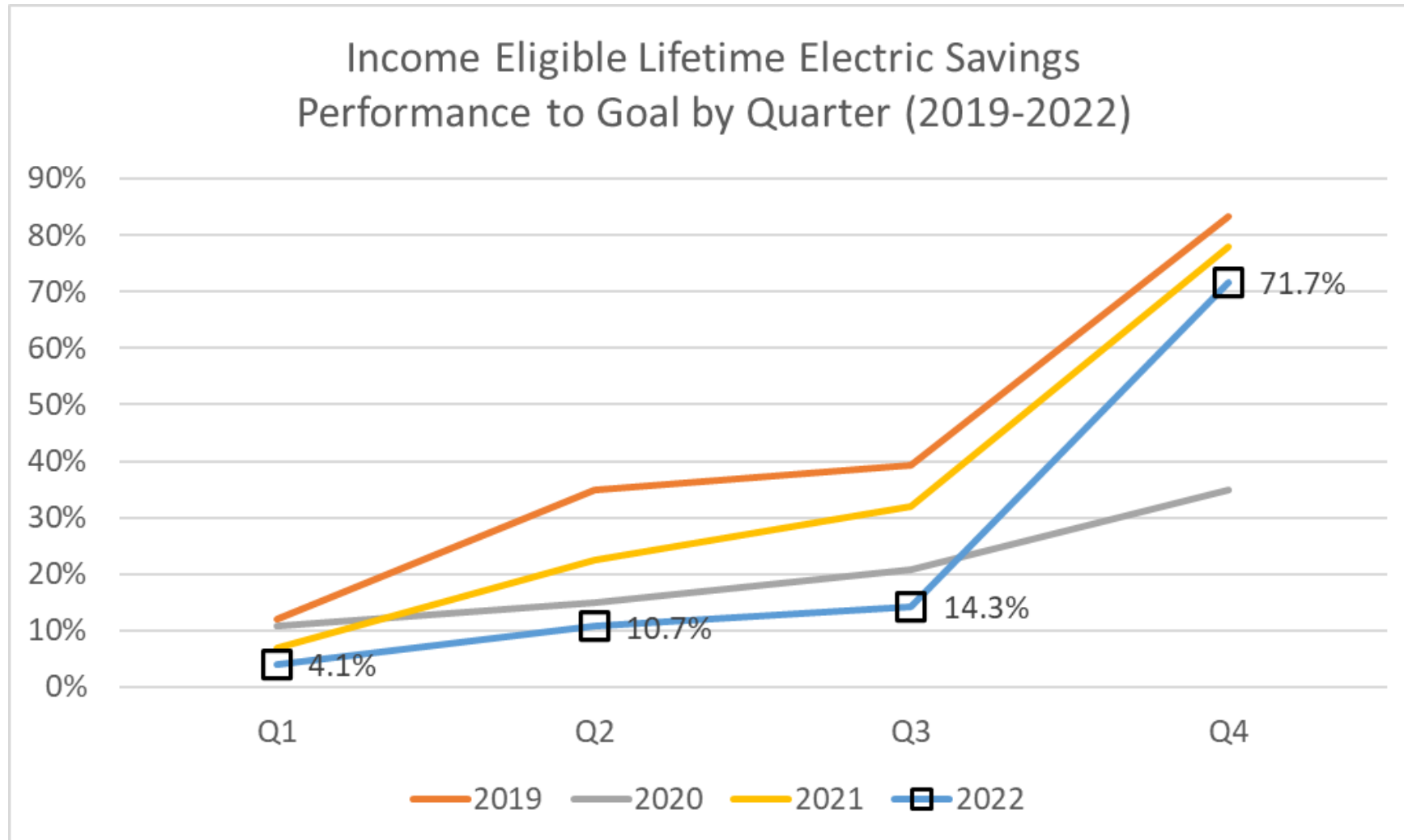




Share of Planned Portfolio Savings

8%

# Electric IE Forecast

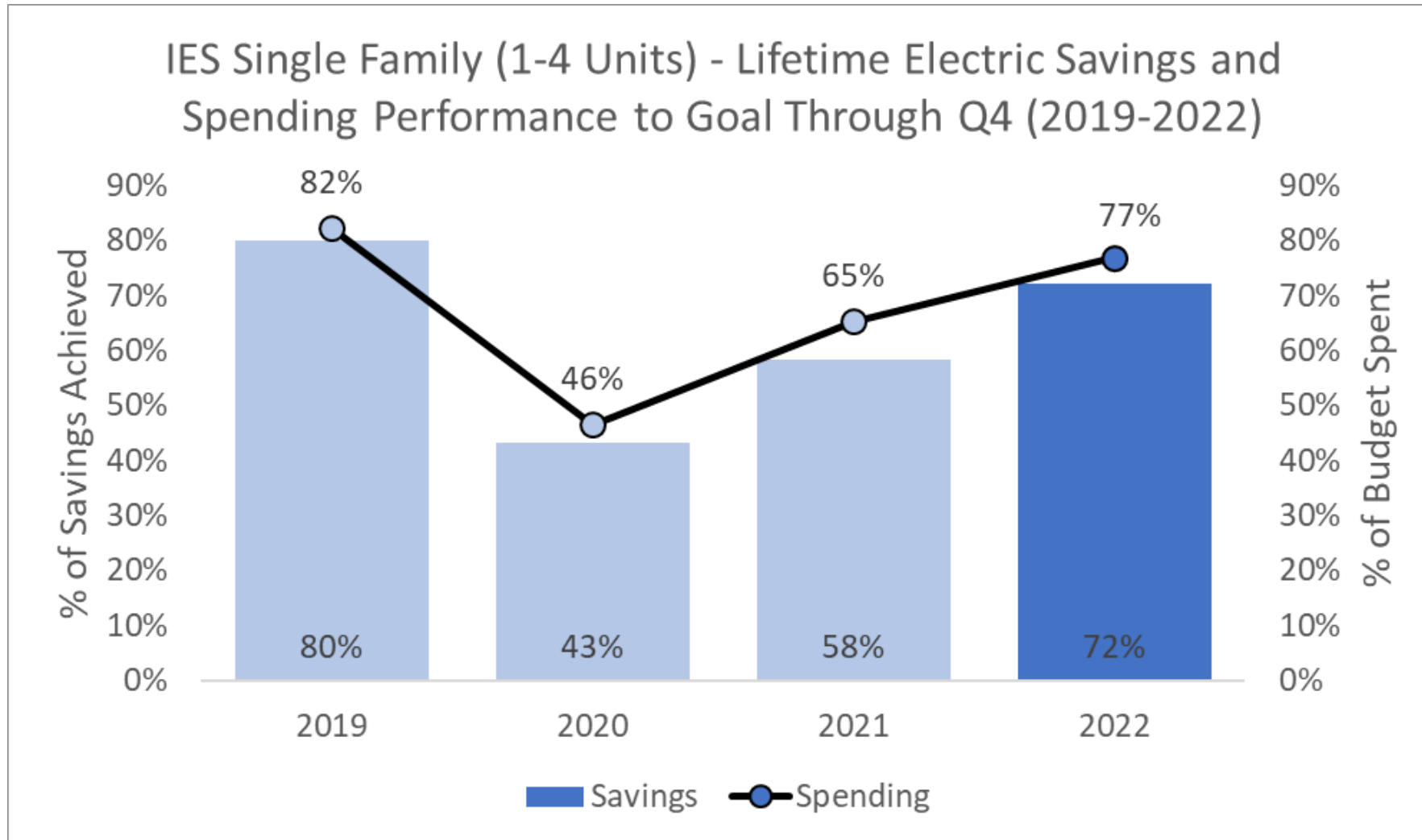




Share of Planned  
Portfolio Savings

5%

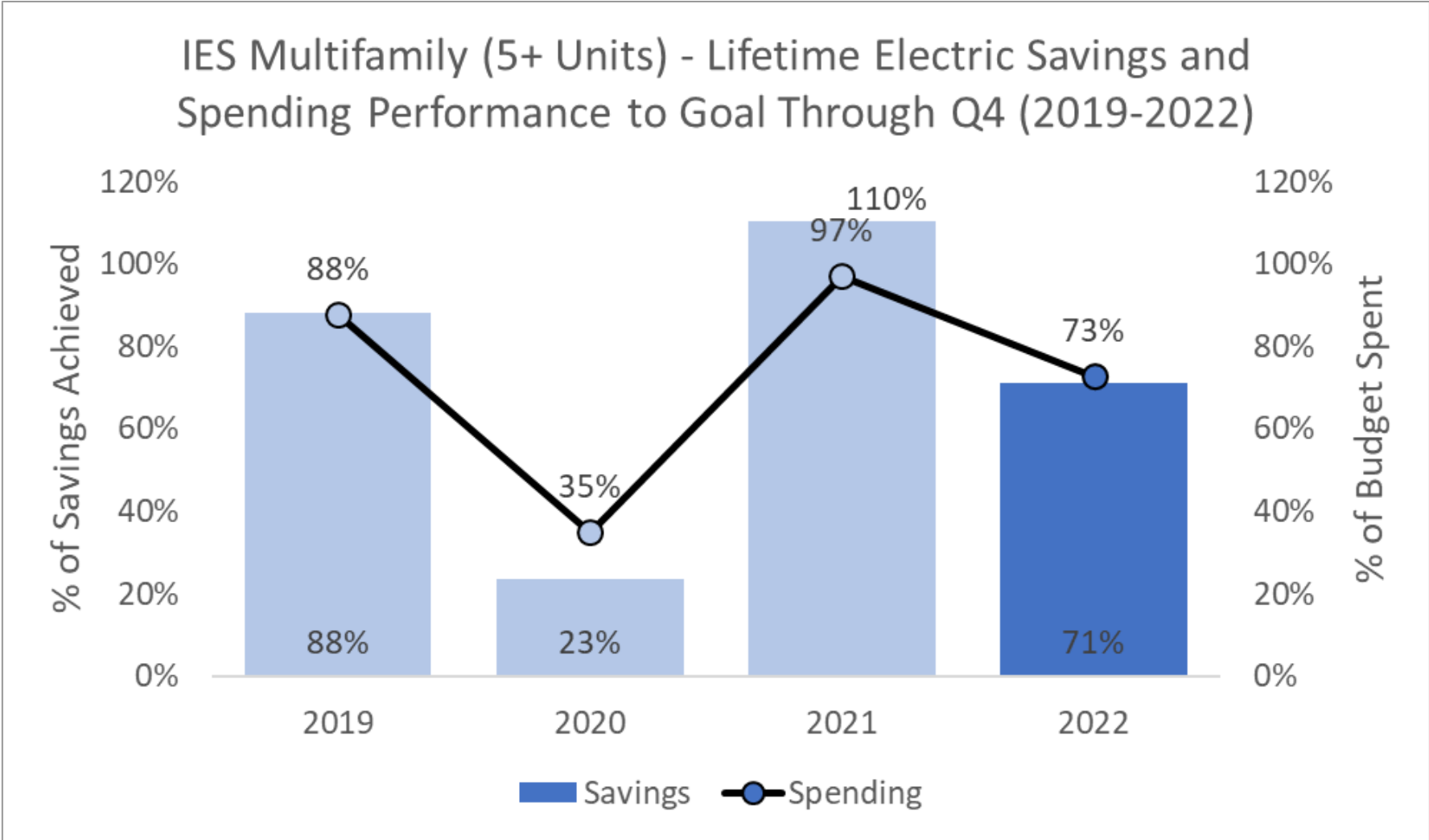
# Electric IE Programs





Share of Planned Portfolio Savings **3%**

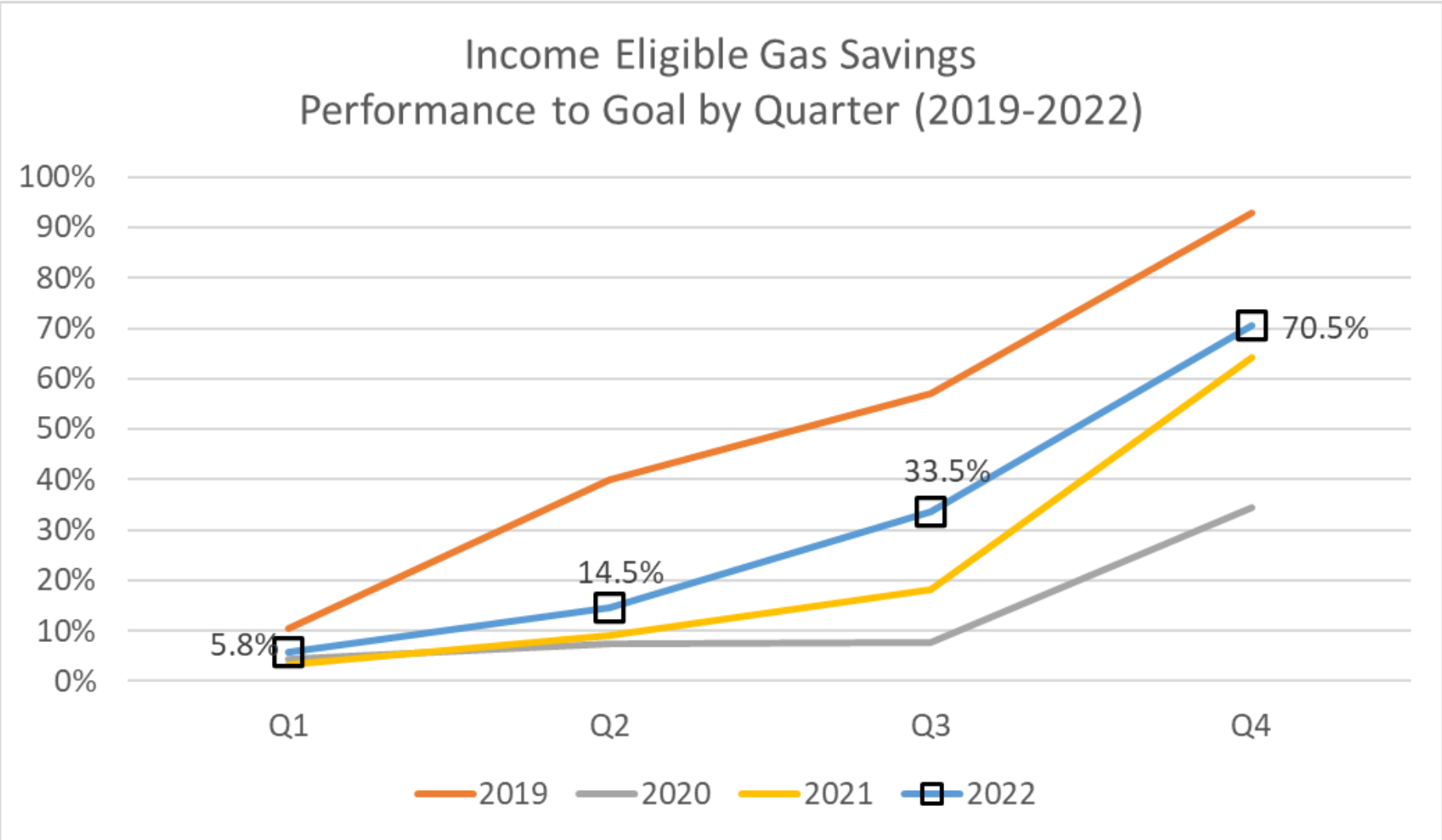
# Electric IE Programs





Share of Planned Portfolio Savings **12%**

# Gas IE Forecast

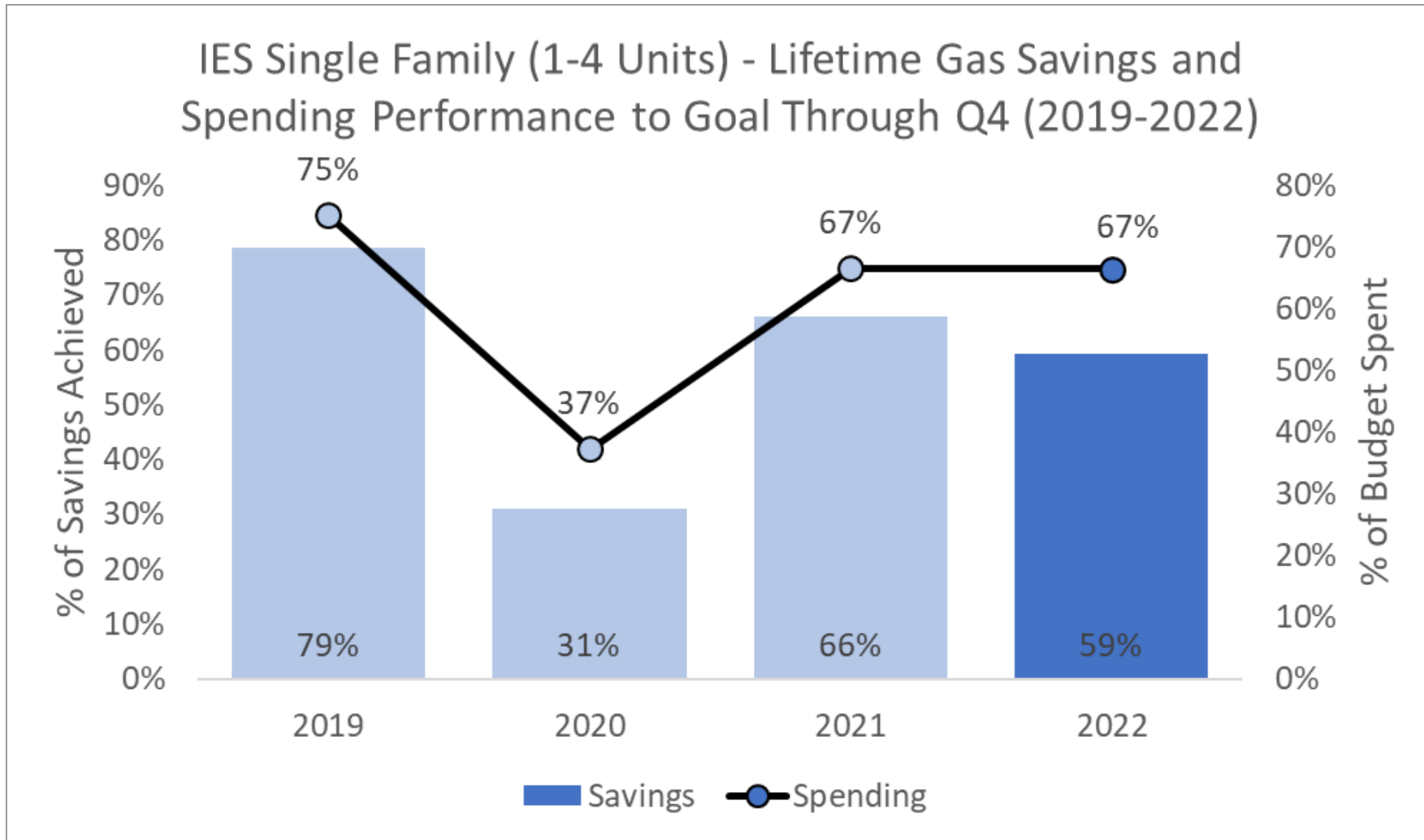






Share of Planned Portfolio Savings **5%**

# Gas IE Programs





Share of Planned Portfolio Savings **7%**

# Gas IE Programs

