CONSULTANT TEAM

INCOME ELIGIBLE ANALYSIS

- November 16, 2022

STAKES ARE HIGHER THAN EVER FOR LOW INCOME CUSTOMERS

Inflation hits 8.2% in September — higher than expected — as rent, food prices soar

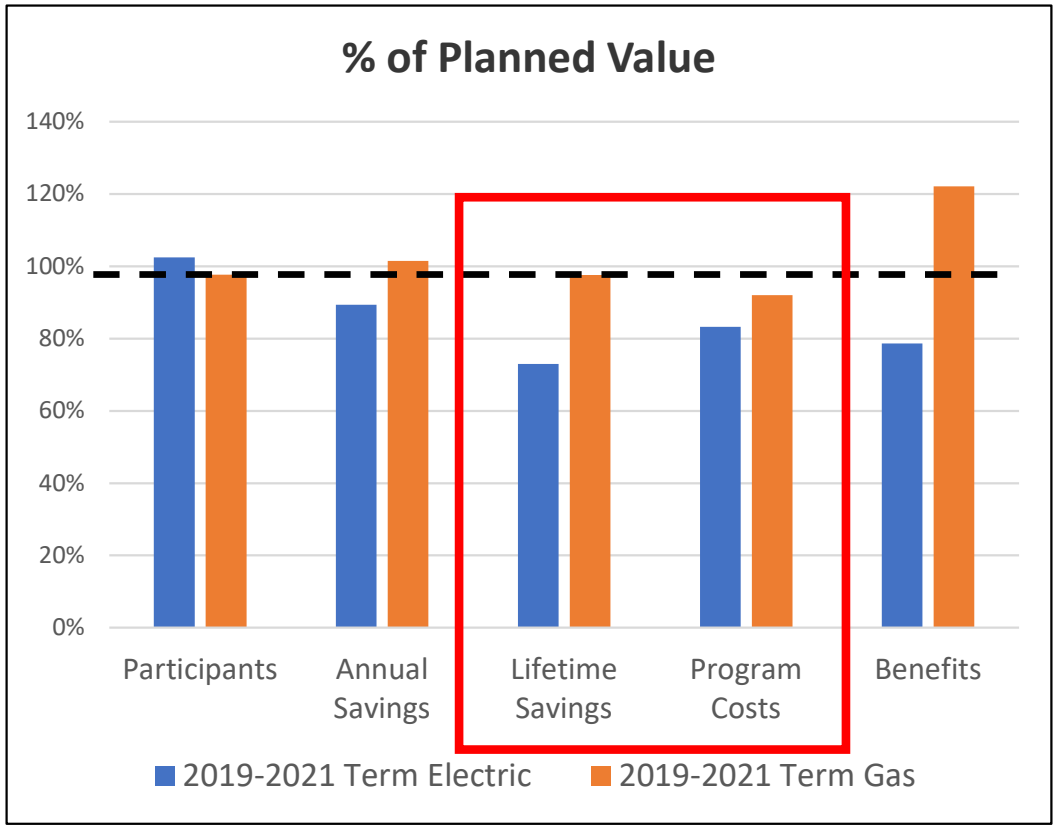
ENERGY COSTS

Mass. Energy Price Hikes Go Into Effect

Energy costs are going up significantly for National Grid and Eversource customers beginning Tuesday

COVID-19 Pandemic Pinches Finances of America's Lower- and Middle-Income Families

NEED TO MAKE UP FOR LOWER IES PROGRAM SPEND AND PRODUCTION IN 2019-2021 TERM DUE LARGELY TO COVID



- **Both electric and gas programs were underspent statewide**
  - Electric: 83%
  - Gas: 92%
- **Several PAs did not meet their statutory minimum LI spend of 10% electric and 20% gas: Eversource electric and gas (both EGMA and NSTAR), National Grid electric and gas, Cape Light Compact, Berkshire**
- **Covid impacts included inability to serve MF buildings, appliance backlogs, other**

COUNCIL'S INCOME ELIGIBLE PRIORITIES FOR THE 2022-2024 TERM—OCTOBER RESOLUTION SUMMARY

- Prioritize installation of heat pumps over fossil fuel HVAC and hot water systems
- Prioritize installation of envelope measures; reduce reliance on achieving savings through installation of gas HVAC equipment
- Integrate active demand strategies into the Income Eligible program
- Provide more detail to the Council on the enhanced strategy for serving small multi-family buildings, including "naturally occurring" low-income housing.
- Provide the Council with details and implement a mixed income protocol for multi-unit buildings
- Include a commitment to a new Income Eligible KPI
- Develop and implement a statewide computerized audit tool

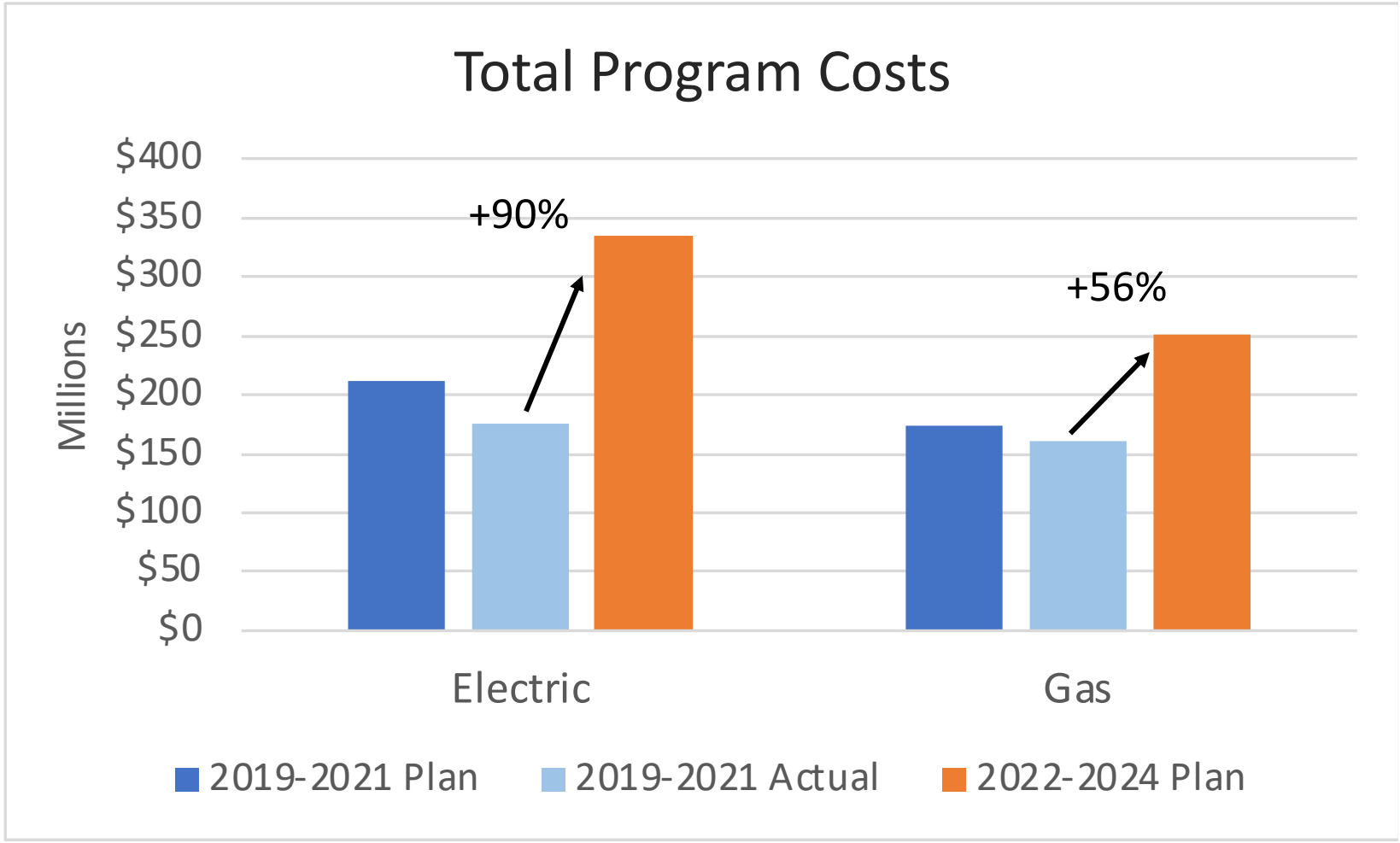
COUNCIL'S INCOME ELIGIBLE PRIORITIES FOR THE 2022-2024 TERM—TERM SHEET

- **Heat pump goals:**

	2022	2023	2024	Term
Full Displacement	480	520	580	1,580
Partial Displacement	1,036	1,170	1,392	3,598
Electric Resistance	460	474	484	1,418
HPWH	325	336	339	1,000

- **Develop phase out strategy for lighting**
- New affordable multi-family decarbonization/deep energy retrofit offering
- Implementation of mixed-income protocol
- New income eligible KPI

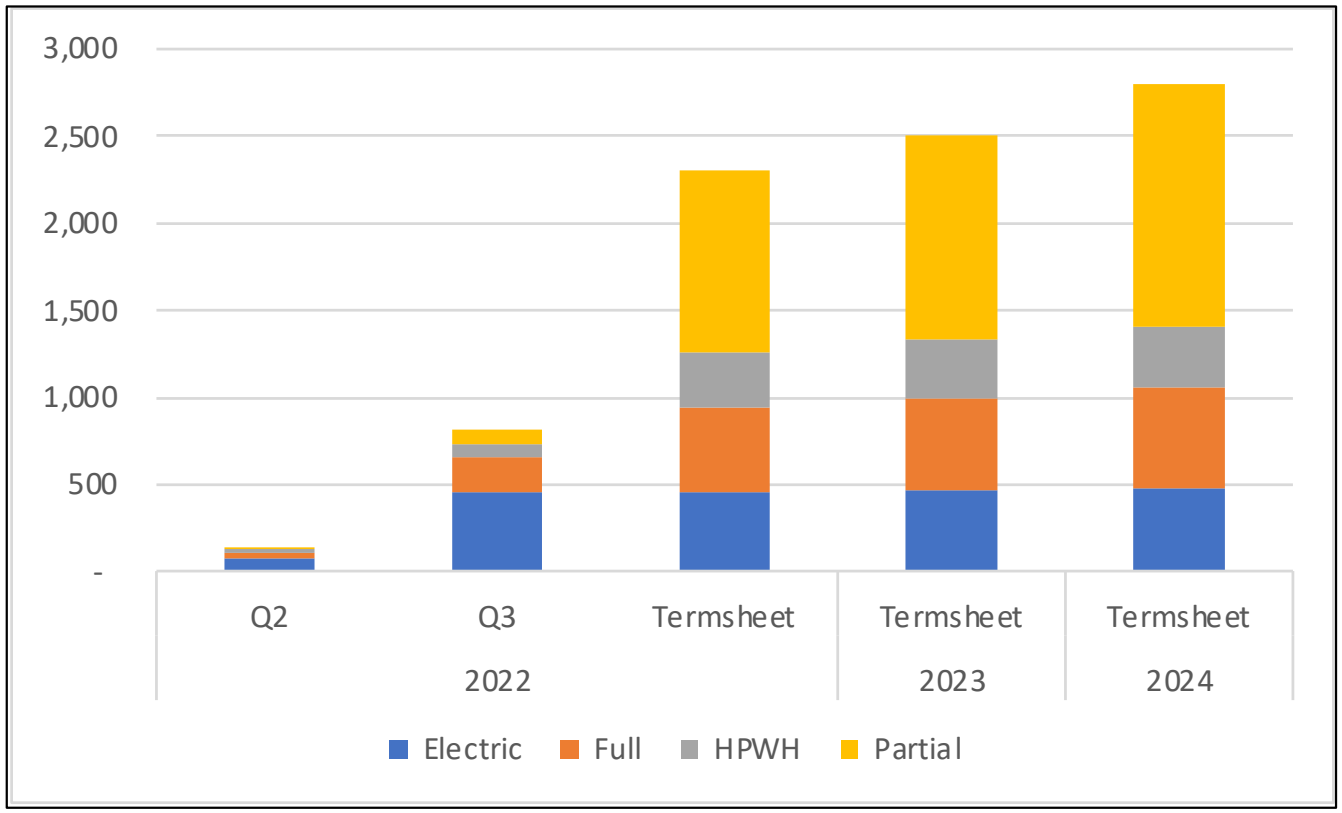
INCOME ELIGIBLE BUDGETS HAVE INCREASED TO SUPPORT ADDITIONAL PRIORITIES



INCOME ELIGIBLE REPORTING

INCOME ELIGIBLE HEAT PUMPS

IES Heat pump units 2022-2024 Term



Data from quarterly KPI #2 and Term Sheet; KPI #2 data are cumulative

- Good progress from Q2 to Q3
- Term sheet goal for electric to HP replacements almost met
- Heat pump water heater and fossil fuel displacement numbers are behind
- 2022 HPs to date:
  - 580 in SF
  - 162 in MF

NEW BI-ANNUAL KPI #9: INCOME ELIGIBLE

Statewide Electric Single Family

CAP Area	Participants	Wxn Incentives	Wxn Savings*	Heating System Incentives	Heating System Savings	Other Incentive	Other Savings*
A	691	296,709	-	503,129	-	473,184	-
B	452	77,846	-	35,850	-	349,283	-
C	195	30,729	-	10,243	-	158,765	-
D	906	76,055	-	169,803	-	445,606	-
E	817	118,901	-	232,414	-	700,064	-
F	1,133	127,615	-	280,393	-	930,515	-
G	363	134,710	-	103,968	-	181,979	-
H	176	23,706	-	45,139	-	139,666	-
I	314	12,291	-	7,170	-	302,165	-
J	2,325	12,107	-	185,024	-	503,711	-
K	444	173,354	-	117,951	-	266,766	-
L	176	-	-	8,194	-	124,051	-
M	2,172	114,866	-	122,675	-	2,043,192	-
N	229	96,692	-	118,058	-	162,561	-
O	849	382,710	-	312,122	-	828,595	-
P	111	62,671	-	96,910	-	743,475	-
Q	737	16,389	-	47,117	-	-	-

- Q2 shown as reported by PAs
- Tables also provided for single family gas, multifamily electric and gas
- Savings data will be provided in Q4 of each year

NEWLY REPORTED DATA IDENTIFY AREAS FOR FURTHER REVIEW

Average incentives/participant				
	Single Family		Multifamily	
CAP Area	Electric	Gas	Electric	Gas
A	1842	5392	952	166
B	1024	6010	266	48
C	1024	4377	266	166
D	763	4905	271	0
E	1287	1288	303	245
F	1181	5717	48	503
G	1159	4899	941	0
H	1185	7024	323	331
I	1024	5228	0	386
J	301	5698	53	0
K	1257	6065	348	1393
L	751	5941	266	37000
M	1050	5663	221	1330
N	1648	5054	138	2304
O	1794	4543	408	617
P	8136	4543	266	1293
Q	86	5526	255	285

- **E.g., What are reasons for significant variances from average/typical values in a given category?**
- **What opportunities remain to increase depth of savings in multifamily buildings?**

Note: "CAP Area" indicates that a participant was served in the service area covered by the CAP, not necessarily that it was served by that CAP

NEWLY REPORTED DATA IDENTIFY AREAS FOR FURTHER REVIEW

- **E.g., Does comparatively high production in "Other" category (lighting, appliances) indicate a CAP would benefit from additional support for weatherization and heating installs?**

Statewide Electric Single Family

CAP Area	Participants	Wxn Incentives	% incentives Wx	Heating System Incentives	% incentives heat	Other Incentive	% incentives other
A	691	296,709	23%	503,129	40%	473,184	37%
B	452	77,846	17%	35,850	8%	349,283	75%
C	195	30,729	15%	10,243	5%	158,765	79%
D	906	76,055	11%	169,803	25%	445,606	64%
E	817	118,901	11%	232,414	22%	700,064	67%
F	1,133	127,615	10%	280,393	21%	930,515	70%
G	363	134,710	32%	103,968	25%	181,979	43%
H	176	23,706	11%	45,139	22%	139,666	67%
I	314	12,291	4%	7,170	2%	302,165	94%
J	2,325	12,107	2%	185,024	26%	503,711	72%
K	444	173,354	31%	117,951	21%	266,766	48%
L	176	-	0%	8,194	6%	124,051	94%
M	2,172	114,866	5%	122,675	5%	2,043,192	90%
N	229	96,692	26%	118,058	31%	162,561	43%
O	849	382,710	25%	312,122	20%	828,595	54%
P	111	62,671	7%	96,910	11%	743,475	82%
Q	737	16,389	26%	47,117	74%	-	0%

DATA REPORTED SINCE 2019 HAVE BEEN COMPILED TO SUPPORT USE BY MUNICIPALITIES & FUTURE ANALYSIS

County	ZIP Code	Electric			
		Total Income Eligible Participants	Total Not Income Eligible Participants	Single Family/Attached Low Rise Participants (not moderate income)	Single Family/Attached Low Rise Participants (moderate income)
Barnstable	02532	66	331	192	0
Barnstable	02534	2	53	25	1
Barnstable	02536	55	971	501	2
Barnstable	02537	17	322	155	1
Barnstable	02540	18	485	218	2
Barnstable	02543	3	44	20	0
Barnstable	02553	1	64	28	0
Barnstable	02556	14	239	118	2
Barnstable	02559	7	187	102	0
Barnstable	02561	1	35	18	0
Barnstable	02562	3	124	65	0
Barnstable	02563	62	486	263	1
Barnstable	02601	102	397	220	0
Barnstable	02630	4	116	57	0
Barnstable	02631	78	745	387	0
Barnstable	02632	37	598	301	0
Barnstable	02633	53	258	146	0
Barnstable	02635	7	185	83	0
Barnstable	02637	0	51	20	0

Data as reported in Bi-Annual KPI #6

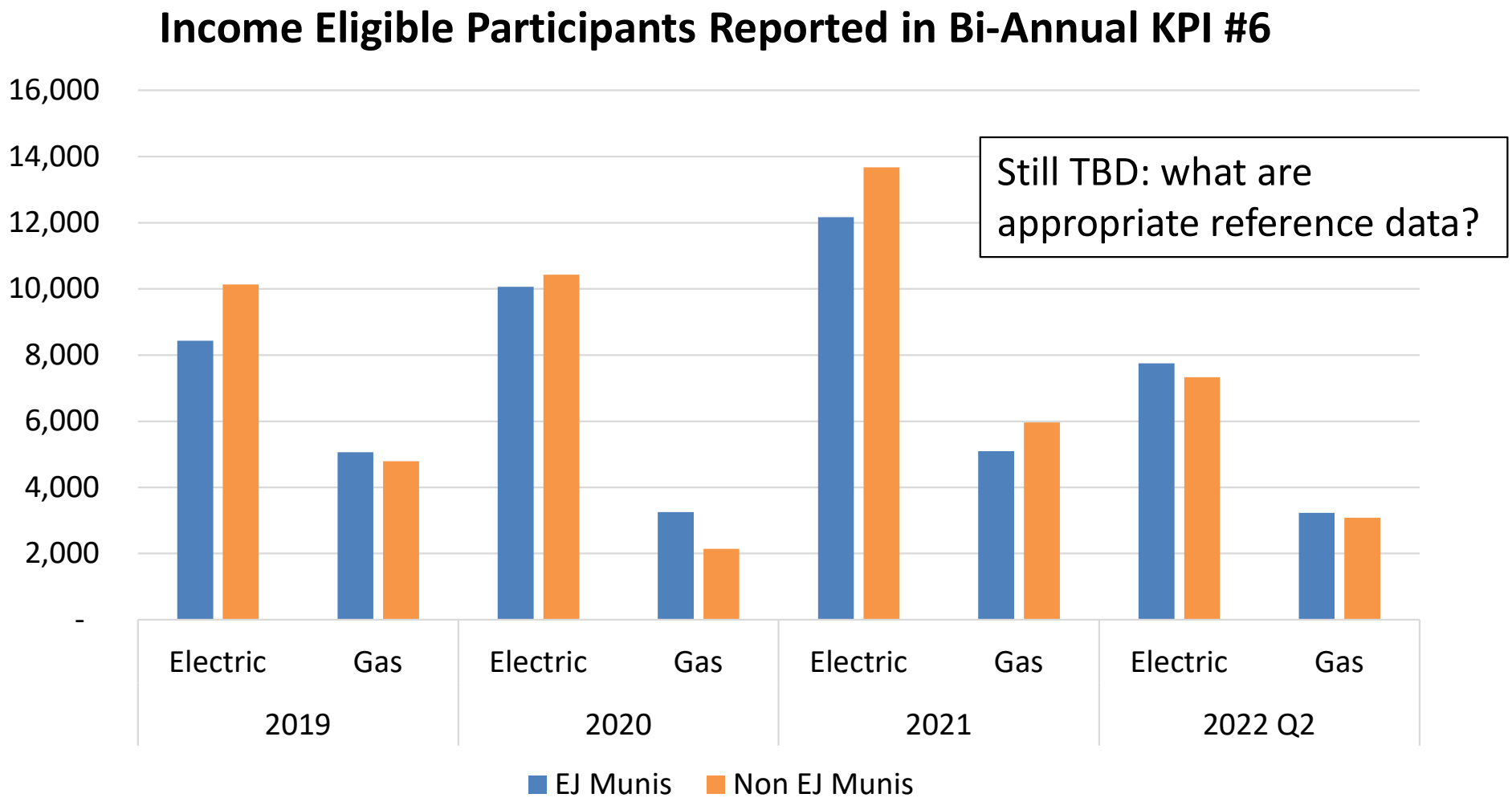
Consultants' compilation

Available on EEAC website: https://ma-eeac.org/results-reporting/quarterly-reports/

	A	B	C	D	E	F	G	H	I	J	K
1	**Environmental Justice Municipalites as defined for the 2022-2024 Massachusetts Energy Efficiency Plan are indicated in bolded text.**										
2	Population data from 2020 American Community Survey										
3				Electric Participation				Gas Participation			
	Municipality	**Zip Code**	**Population**	**2019**	**2020**	**2021**	**2022 Q2**	**2019**	**2020**	**2021**	**2022 Q2**
231	**Lowell**	**01850**	**15,950**	**60**	**48**	**50**	**14**	**43**	**45**	**21**	**26**
232	**Lowell**	**01851**	**31,558**	**77**	**44**	**56**	**9**	**48**	**27**	**38**	**12**
233	**Lowell**	**01852**	**35,033**	**59**	**47**	**47**	**16**	**36**	**72**	**101**	**73**
234	**Lowell**	**01854**	**28,770**	**50**	**31**	**50**	**22**	**37**	**22**	**16**	**160**

Income eligible tab displayed—there are also tabs for res and moderate income participation

REPORTING OF PARTICIPATION BY ZIP CODE CAN NOW BE MAPPED TO EJ MUNICIPALITIES



IDENTIFYING OPPORTUNITIES FOR CONTINUOUS IMPROVEMENT

2017 INCOME ELIGIBLE PROCESS EVALUATION RECOMMENDATIONS

✓ **Recommendation 1:** Explore strategies for identifying and reaching smaller multifamily property owners.

? **Recommendation 2:** Identify crucial participant data points needed to quantitatively assess effectiveness of program implementation processes.

X **Recommendation 3:** In accordance with DOE requirements and schedules, utilize an electronic audit tool approved by DOE to collect and store participant and performance measure data, including key data points needed to quantitatively assess the effectiveness of program implementation processes. Note that other data required to meet DOE paper requirements may still be collected and stored using paper.

? **Recommendation 4:** Explore how statewide Mass Save marketing resources can be better used at the local level, especially among agencies and PAs with fewer marketing resources.

? **Recommendation 5:** Investigate the viability of establishing a thorough, statewide assessment of marketing effectiveness with ongoing tracking and monitoring of marketing material performance metrics.

✓ **Recommendation 6:** Review the measure list identified as part of this study and determine whether there is value in conducting additional research to develop Massachusetts- and low-income-specific applicability factors, costs, and savings.

UNCLEAR WHETHER RECOMMENDATIONS HAVE BEEN FULLY IMPLEMENTED

- **Key theme in recommendations is taking steps to assess effectiveness**
  - Program implementation processes
    - **Identify crucial participant data points**, supported by utilization of an electronic audit tool
  - Marketing
    - Ongoing tracking and monitoring of marketing material performance metrics

ADDITIONAL DATA POINTS NEEDED TO SUPPORT ASSESSMENT OF PROGRAM EFFECTIVENESS

- **Time to service (various stages)**
- **# of service visits to dwelling/project site**
- **# of deferrals and reasons**
  - Not cost effective
  - Budget not available
  - Physical barriers can't be overcome
  - Out of income
  - Other
- **Units of naturally occurring affordable housing served**
- **# of callbacks**
- **Customer satisfaction**
- **Customers served by enrollment channel (e.g., discount rate, other)**

These data points could be reported using various methods, including evaluation

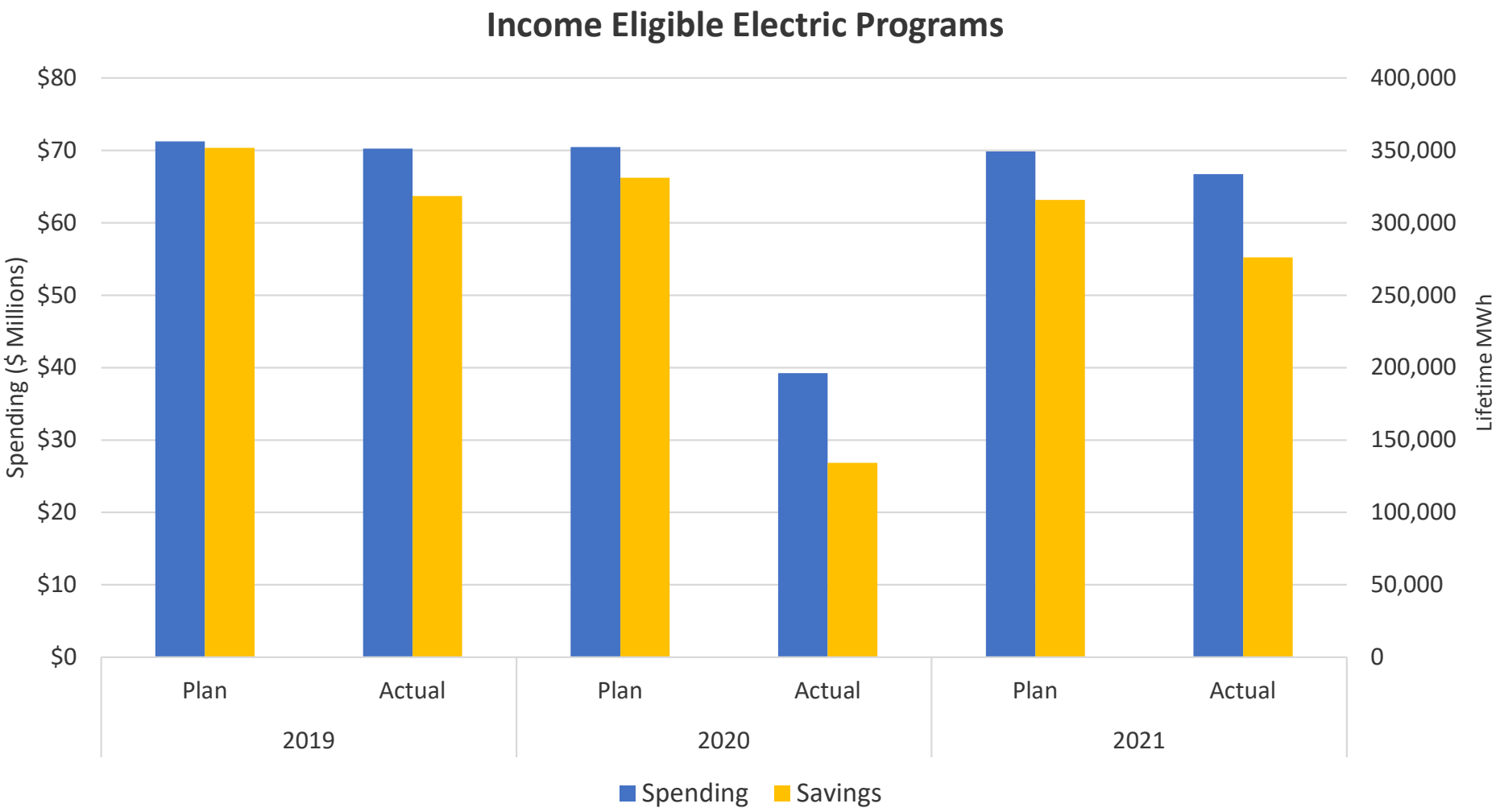
NEXT STEPS

STEP	CONSIDERATIONS
Implement 2017 Process Evaluation recommendations	Collect info to support assessment of program implementation and marketing effectiveness
Advance new low income process and impact evaluations	Present opportunities for closer examination of existing program conditions & possib. improvements
Continue work with LEAN and PAs to review progress in meeting Term Sheet commitments	Heat pumps, Affordable Housing Deep Energy Retrofit, mixed income protocol, active demand reduction, etc.
Continue work to better understand any service disparities	Determine how resources can be allocated to address them
Ensure Mass Save goals continue to be emphasis as new federal funds flow	Review and assess possible impacts of federal requirements

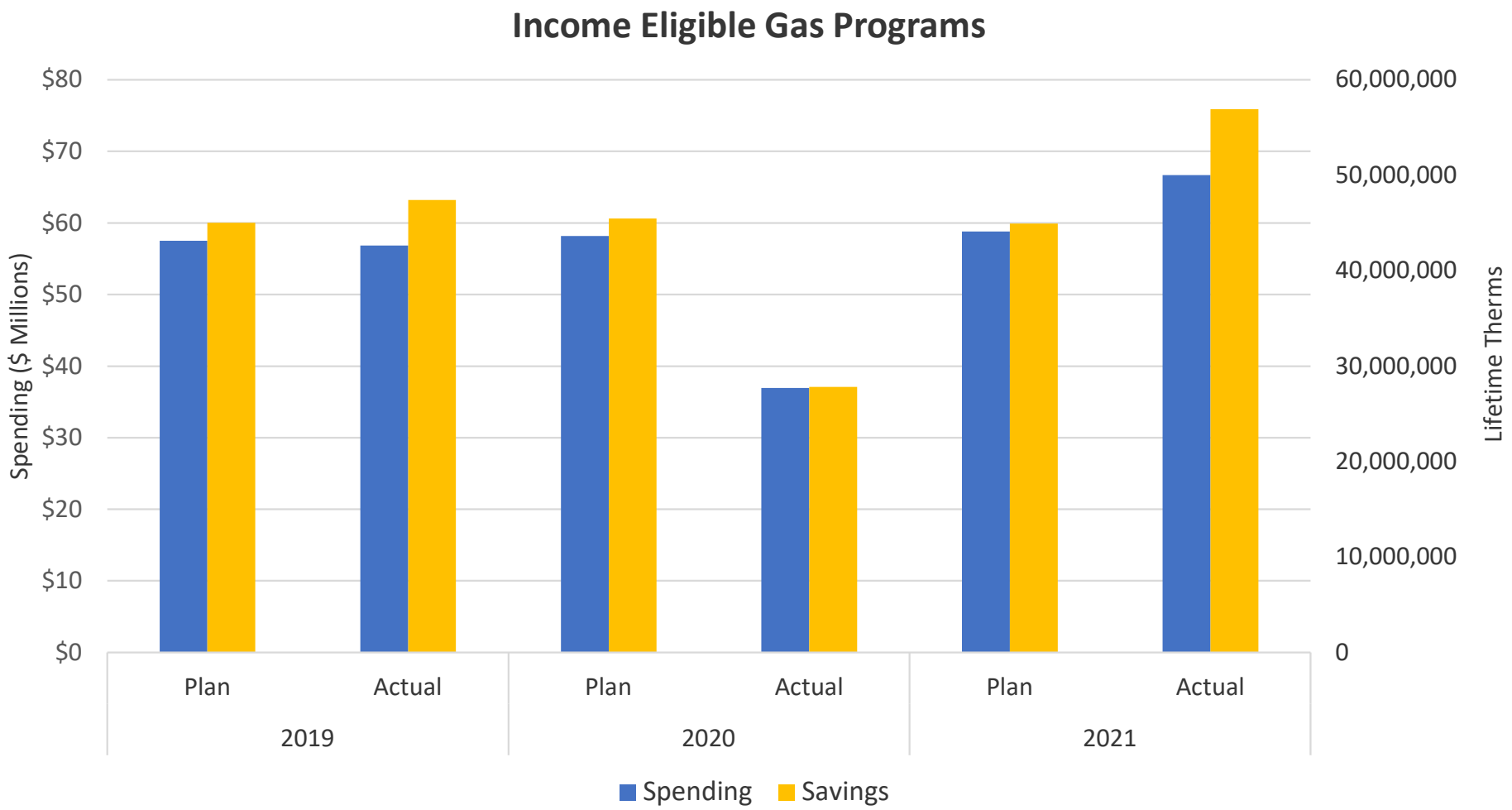
QUESTIONS AND DISCUSSION

ADDITIONAL RESOURCE SLIDES

COVID IMPACTS ILLUSTRATED ELECTRIC



COVID IMPACTS ILLUSTRATED GAS



INCOME ELIGIBLE PERFORMANCE BY PA

2019-2021 Term

	Lifetime Savings (% of Plan)		% of Portfolio Spend	
	Electric	Gas	Electric	Gas
Eversource	101%	90%	9.4%	17.4%
National Grid	56%	104%	9.6%	19.4%
Unitil	278%	122%	15.6%	27.3%
Cape Light Compact	57%	N/A	7.7%	N/A
Berkshire	N/A	81%	N/A	14.7%
Liberty	N/A	94%	N/A	21.8%

PA 2021 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%