



2024 Energy Efficiency Forecast Data Review and Verification: Program Data

Energy Efficiency Forecast Working Group

Tim Costa

SYSTEM PLANNING



Energy Efficiency Forecast Data Collection

- Program Data
 - Submitted by program administrators
 - Contain program level costs and savings data, broken out by measure
- Distributed Generation Survey
 - Submitted by program administrators
 - Contain cost and savings data for distributed generation that meets one or both of the following criteria:
 - Is funded with EE dollars
 - Produces savings included in EE performance data
- State Budget Data
 - Submitted by state representatives
 - Contain annual funds available for energy efficiency



2024 Energy Efficiency Forecast Data Collection

- Program Administrators were provided the 2024 Energy Efficiency Forecast Data Form
 - Forms were pre-populated with the data submitted in previous years for consistency
 - Program administrators had the option to revise older program data and add new programs they have implemented
 - Program administrators included distributions of up to 10 measure types
- Program Administrators were provided the 2024 Distributed Generation Survey Form
- States were requested to provide the following budget data
 - Systems benefit charges
 - FCM dollars allocated to EE
 - RGGI dollars allocated to EE
 - Dollars budgeted beyond SBC/FCM/RGGI
 - Approved EE budgets where available
 - ADR breakout
- Program Administrators were also asked for additional insight through the following surveys
 - Heating Electrification Survey
 - End-use Shares Projections Survey
- Program Administrators were asked to provide their BCR Screening Tools



PROGRAM DATA SUMMARY



Program Data Summary

- 13 Program Administrator Reports
- 15 years of data
- 4 Unique Program Sectors (prescribed)
- 17 Unique Program Types (prescribed)
- 13 Unique Measure/End-uses (prescribed)



Program Data Summary – by State

Period	Budget (\$1000's)	Total Costs (\$1000's)	Achieved Annual Energy (MWh)	Dollars per MWh	Achieved Summer Peak (MW)	Dollars per MW	% Energy Achieved	% Budget Spent	% Peak Achieved	Peak to Energy Ratio Achieved (MW/GWh)	Achieved Lifetime Energy (MWh)	Lifetime Dollars Per MWh
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New England

2018	\$907,857	\$890,198	2,458,078	\$362	359	\$2,476,671	125%	98%	133%	0.15	24,222,183	\$37
2019	\$989,613	\$976,896	1,957,564	\$499	295	\$3,316,350	110%	99%	113%	0.15	18,641,730	\$52
2020	\$992,536	\$945,481	1,858,030	\$509	290	\$3,265,567	97%	95%	109%	0.16	21,224,453	\$45
2021	\$1,020,620	\$1,038,367	1,571,836	\$661	230	\$4,521,288	105%	102%	112%	0.15	15,597,232	\$67
2022	\$1,013,291	\$915,969	935,419	\$979	129	\$7,107,353	105%	90%	98%	0.14	9,221,128	\$99
Avg 2019-2021	\$1,000,923	\$986,914	1,795,810	\$556	271	\$3,701,068	104%	99%	111%	0.15	18,487,805	\$55
Avg 2020-2022	\$1,008,816	\$966,605	1,455,095	\$716	216	\$4,964,736	102%	96%	106%	0.15	15,347,605	\$70

Massachusetts

2018	\$582,618	\$553,464	1,517,809	\$365	225	\$2,463,288	110%	95%	117%	0.15	14,225,585	\$39
2019	\$558,589	\$573,940	1,093,958	\$525	168	\$3,410,134	104%	103%	109%	0.15	9,784,529	\$59
2020	\$525,384	\$541,797	1,098,882	\$493	182	\$2,973,604	91%	103%	111%	0.17	13,428,376	\$40
2021	\$570,030	\$591,980	879,958	\$673	129	\$4,579,974	96%	104%	105%	0.15	8,428,017	\$70
2022	\$543,231	\$502,715	357,978	\$1,404	47	\$10,649,519	86%	93%	79%	0.13	3,530,850	\$142
Avg 2019-2021	\$551,335	\$569,239	1,024,266	\$563	160	\$3,654,571	97%	103%	108%	0.16	10,546,974	\$56
Avg 2020-2022	\$546,215	\$545,497	778,939	\$857	120	\$6,067,699	91%	100%	98%	0.15	8,462,415	\$84

Connecticut

2018	\$123,471	\$151,517	377,990	\$401	55	\$2,742,902	186%	123%	204%	0.15	4,090,142	\$37
2019	\$185,395	\$178,268	346,562	\$514	54	\$3,300,987	113%	96%	113%	0.16	3,664,354	\$49
2020	\$211,849	\$187,105	289,604	\$646	45	\$4,147,471	92%	88%	97%	0.16	3,059,900	\$61
2021	\$187,363	\$222,544	311,443	\$715	49	\$4,572,144	140%	119%	156%	0.16	3,285,407	\$68
2022	\$223,642	\$226,719	257,493	\$880	39	\$5,740,065	132%	101%	115%	0.15	2,394,702	\$95
Avg 2019-2021	\$194,869	\$195,973	315,870	\$625	49	\$4,006,867	115%	101%	122%	0.16	3,336,554	\$59
Avg 2020-2022	\$207,618	\$212,123	286,180	\$747	44	\$4,819,894	121%	103%	123%	0.16	2,913,336	\$75

Rhode Island

2018	\$66,217	\$66,279	206,209	\$321	29	\$2,300,496	112%	100%	116%	0.14	1,848,845	\$36
2019	\$92,565	\$95,401	190,159	\$502	30	\$3,223,522	98%	103%	98%	0.16	1,624,417	\$59
2020	\$95,793	\$77,772	157,346	\$494	24	\$3,303,805	88%	81%	79%	0.15	1,299,159	\$60
2021	\$99,225	\$89,064	131,365	\$678	19	\$4,737,343	95%	90%	83%	0.14	1,046,790	\$85
2022	\$90,274	\$66,691	105,036	\$635	15	\$4,503,534	94%	74%	85%	0.14	712,989	\$94
Avg 2019-2021	\$95,861	\$87,412	159,623	\$558	24	\$3,754,890	94%	91%	87%	0.15	1,323,456	\$68
Avg 2020-2022	\$95,097	\$77,842	131,249	\$602	19	\$4,181,561	92%	82%	82%	0.14	1,019,646	\$79

Program Data Summary – by State

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Maine

2018	\$50,194	\$36,061	117,597	\$307	21	\$1,746,248	0%	72%	0%	0.18	1,532,647	\$24
2019	\$61,717	\$35,783	105,708	\$339	16	\$2,266,299	0%	58%	0%	0.15	1,181,498	\$30
2020	\$53,730	\$35,917	89,832	\$400	12	\$2,964,174	0%	67%	0%	0.13	868,729	\$41
2021	\$58,826	\$33,845	57,152	\$592	8	\$4,464,418	0%	58%	0%	0.13	596,432	\$57
2022	\$60,970	\$33,110	46,531	\$712	6	\$5,523,867	0%	54%	0%	0.13	524,683	\$63
Avg 2019-2021	\$58,091	\$35,182	84,231	\$444	12	\$3,231,630	0%	61%	0%	0.14	882,220	\$43
Avg 2020-2022	\$57,842	\$34,291	64,505	\$568	9	\$4,317,486	0%	60%	0%	0.13	663,282	\$54

Vermont

2018	\$50,212	\$47,667	145,697	\$327	19	\$2,546,073	115%	95%	116%	0.13	1,413,251	\$34
2019	\$45,933	\$46,754	120,010	\$390	14	\$3,365,468	96%	102%	87%	0.12	1,260,810	\$37
2020	\$45,225	\$42,066	99,607	\$422	12	\$3,648,821	130%	93%	105%	0.12	1,077,374	\$39
2021	\$42,008	\$38,785	69,503	\$558	8	\$5,133,416	77%	92%	76%	0.11	925,214	\$42
2022	\$45,008	\$41,635	88,808	\$469	11	\$3,739,434	102%	93%	118%	0.13	1,144,035	\$36
Avg 2019-2021	\$44,389	\$42,535	96,373	\$457	11	\$4,049,235	101%	96%	89%	0.11	1,087,799	\$39
Avg 2020-2022	\$44,080	\$40,829	85,973	\$483	10	\$4,173,890	103%	93%	100%	0.12	1,048,874	\$39

New Hampshire

2018	\$35,145	\$35,211	92,777	\$380	11	\$3,108,901	114%	100%	120%	0.12	1,111,712	\$32
2019	\$45,414	\$46,749	101,167	\$462	13	\$3,600,549	97%	103%	110%	0.13	1,126,121	\$42
2020	\$60,556	\$60,823	122,759	\$495	15	\$4,046,988	93%	100%	101%	0.12	1,490,914	\$41
2021	\$63,167	\$62,149	122,415	\$508	18	\$3,492,099	100%	98%	102%	0.15	1,315,372	\$47
2022	\$50,165	\$45,099	79,574	\$567	10	\$4,405,646	101%	90%	100%	0.13	913,869	\$49
Avg 2019-2021	\$56,379	\$56,573	115,447	\$488	15	\$3,713,212	97%	101%	104%	0.13	1,310,802	\$43
Avg 2020-2022	\$57,963	\$56,023	108,249	\$523	14	\$3,981,578	98%	96%	101%	0.13	1,240,052	\$46



Program Data Summary – by Sector

Period	Budget (\$1000's)	Total Costs (\$1000's)	Achieved Annual Energy (MWh)	Dollars per MWh	Achieved Summer Peak (MW)	Dollars per MW	% Energy Achieved	% Budget Spent	% Peak Achieved	Peak to Energy Ratio Achieved (MW/GWh)	Achieved Lifetime Energy (MWh)	Lifetime Dollars Per MWh	% Total Costs	% Total Energy	% Total Summer Peak
New England															
2018	\$907,857	\$890,198	2,458,078	\$362	359	\$2,476,671	125%	98%	133%	0.15	24,222,183	\$37	100%	100%	100%
2019	\$989,613	\$976,896	1,957,564	\$499	295	\$3,316,350	110%	99%	113%	0.15	18,641,730	\$52	100%	100%	100%
2020	\$992,536	\$945,481	1,858,030	\$509	290	\$3,265,567	97%	95%	109%	0.16	21,224,453	\$45	100%	100%	100%
2021	\$1,020,620	\$1,038,367	1,571,836	\$661	230	\$4,521,288	105%	102%	112%	0.15	15,597,232	\$67	100%	100%	100%
2022	\$1,013,291	\$915,969	935,419	\$979	129	\$7,107,353	105%	90%	98%	0.14	9,221,128	\$99	100%	100%	100%
Avg 2019-2021	\$1,000,923	\$986,914	1,795,810	\$556	271	\$3,701,068	104%	99%	111%	0.15	18,487,805	\$55	100%	100%	100%
Avg 2020-2022	\$1,008,816	\$966,605	1,455,095	\$716	216	\$4,964,736	102%	96%	106%	0.15	15,347,605	\$70	100%	100%	100%
Commercial and Industrial															
2018	\$454,181	\$431,237	1,281,386	\$337	190	\$2,275,380	108%	95%	114%	0.15	16,441,183	\$26	48%	52%	53%
2019	\$473,522	\$460,264	1,102,700	\$417	161	\$2,859,143	97%	97%	98%	0.15	13,624,120	\$34	47%	56%	55%
2020	\$503,702	\$480,934	1,225,732	\$392	195	\$2,464,142	86%	95%	102%	0.16	17,752,778	\$27	51%	66%	67%
2021	\$531,585	\$516,828	1,092,009	\$473	163	\$3,173,481	98%	97%	109%	0.15	12,424,714	\$42	50%	69%	71%
2022	\$445,533	\$376,780	710,693	\$530	99	\$3,792,866	105%	85%	101%	0.14	6,965,141	\$54	41%	76%	77%
Avg 2019-2021	\$502,936	\$486,009	1,140,147	\$428	173	\$2,832,255	94%	97%	103%	0.15	14,600,537	\$34	49%	64%	64%
Avg 2020-2022	\$493,607	\$458,181	1,009,478	\$465	152	\$3,143,496	97%	92%	104%	0.15	12,380,877	\$41	47%	70%	72%



Program Data Summary – by Sector

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Low Income

2018	\$110,034	\$113,697	83,966	\$1,354	11	\$10,516,594	153%	103%	168%	0.13	826,579	\$138	13%	3%	3%
2019	\$119,762	\$117,747	67,686	\$1,740	9	\$12,880,776	101%	98%	102%	0.14	645,350	\$182	12%	3%	3%
2020	\$94,775	\$77,019	39,386	\$1,956	5	\$15,981,652	69%	81%	63%	0.12	372,615	\$207	8%	2%	2%
2021	\$121,652	\$121,018	58,141	\$2,081	7	\$17,112,580	126%	99%	138%	0.12	543,332	\$223	12%	4%	3%
2022	\$158,371	\$142,723	45,848	\$3,113	5	\$26,716,123	110%	90%	96%	0.12	519,780	\$275	16%	5%	4%
Avg 2019-2021	\$112,063	\$105,261	55,071	\$1,926	7	\$15,325,003	99%	93%	101%	0.13	520,432	\$204	11%	3%	3%
Avg 2020-2022	\$124,933	\$113,587	47,791	\$2,383	6	\$19,936,785	102%	90%	99%	0.12	478,576	\$235	12%	4%	3%

Residential

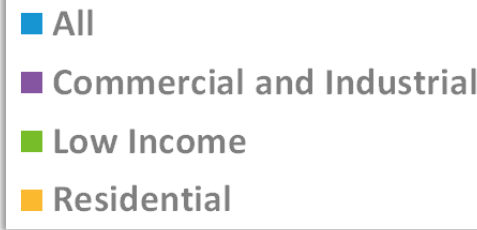
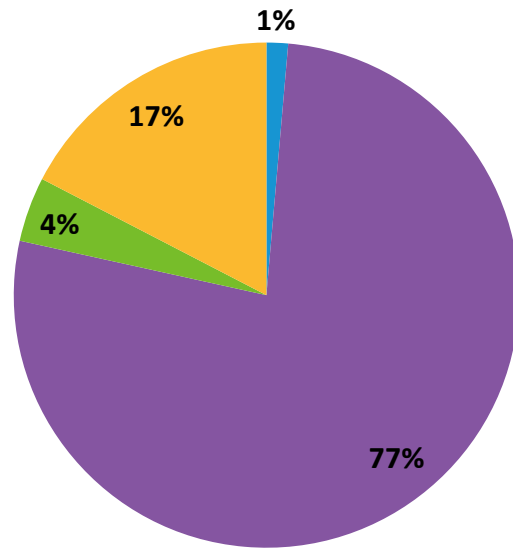
2018	\$334,522	\$339,035	1,090,774	\$311	159	\$2,132,871	151%	101%	165%	0.15	6,926,265	\$49	38%	44%	44%
2019	\$365,132	\$375,993	722,894	\$520	115	\$3,283,690	126%	103%	130%	0.16	3,731,225	\$101	38%	37%	39%
2020	\$366,124	\$364,068	549,476	\$663	83	\$4,395,633	125%	99%	121%	0.15	2,817,196	\$129	39%	30%	29%
2021	\$335,489	\$378,290	399,282	\$947	57	\$6,660,100	118%	113%	112%	0.14	2,442,889	\$155	36%	25%	25%
2022	\$340,054	\$345,489	163,498	\$2,113	22	\$15,410,028	95%	102%	81%	0.14	1,622,226	\$213	38%	17%	17%
Avg 2019-2021	\$355,581	\$372,784	557,218	\$710	85	\$4,779,807	123%	105%	121%	0.15	2,997,103	\$128	38%	31%	31%
Avg 2020-2022	\$347,222	\$362,616	370,752	\$1,241	54	\$8,821,920	113%	105%	105%	0.14	2,294,103	\$166	38%	24%	24%



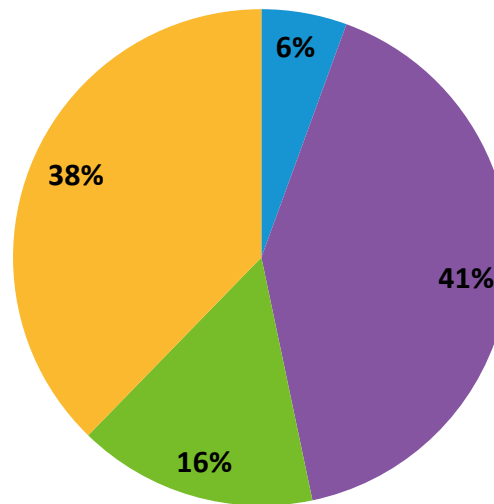
2022 Distribution of Summer Peak, Energy, and Costs

New England – by Sector

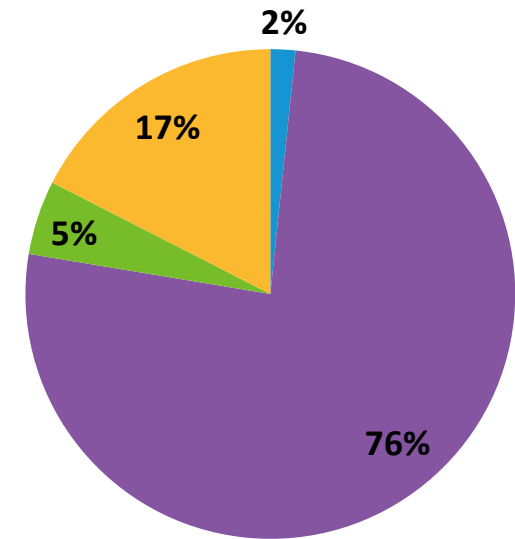
2022% of Summer Peak



2022% of Costs



2022% of Annual Energy

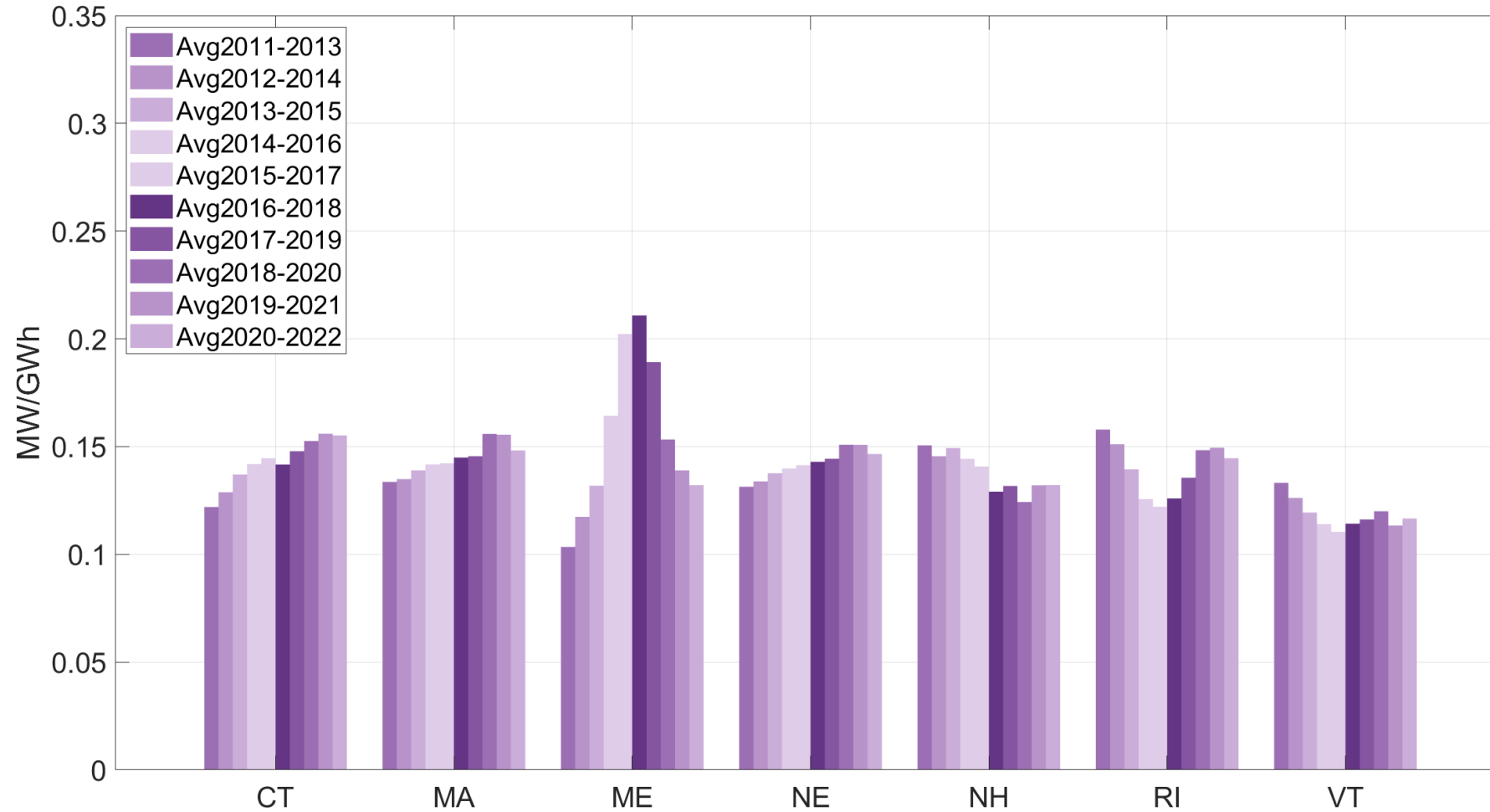


SUMMER PEAK TO ANNUAL ENERGY RATIO



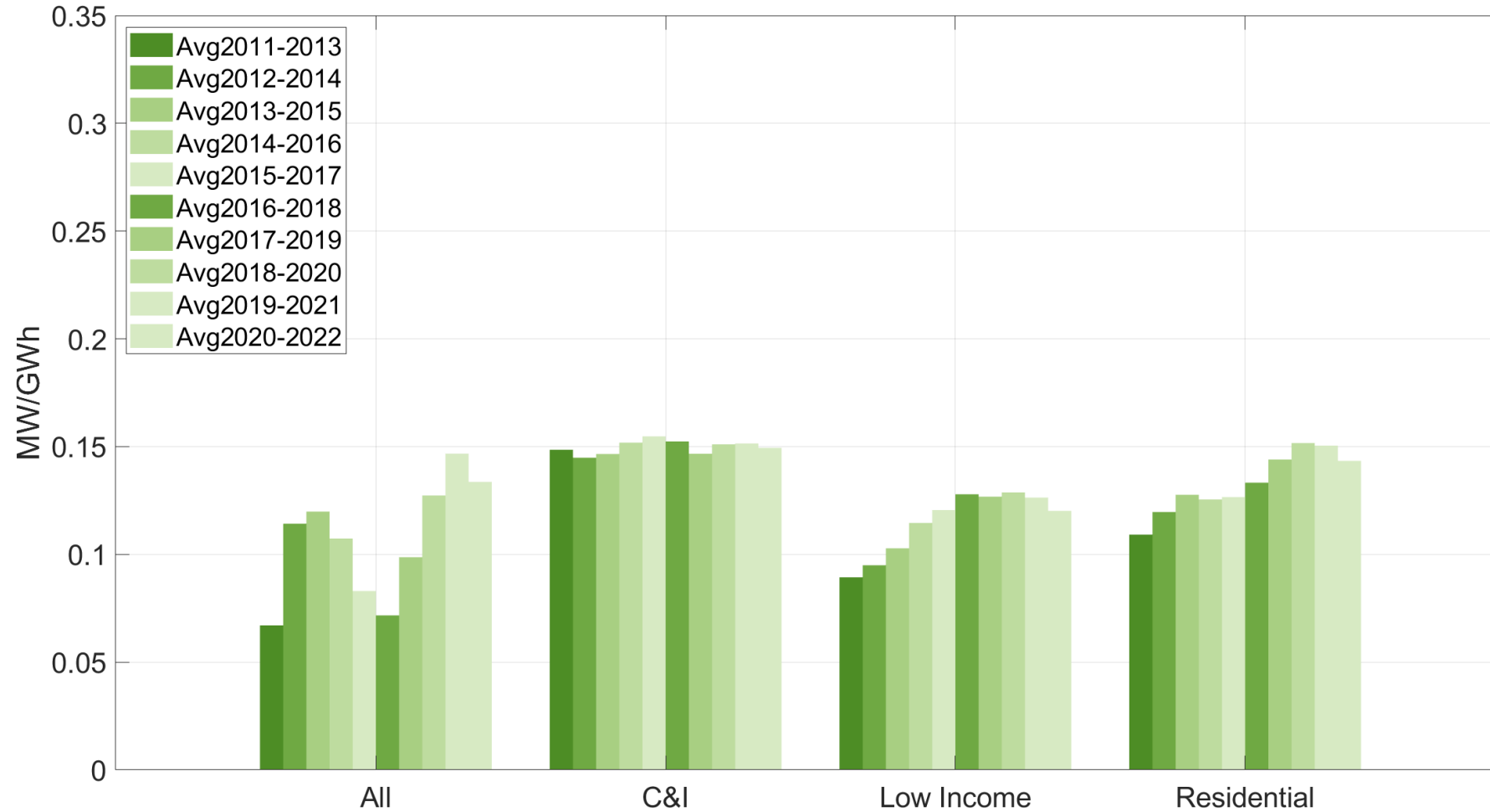
Summer Peak to Annual Energy Ratio

by State



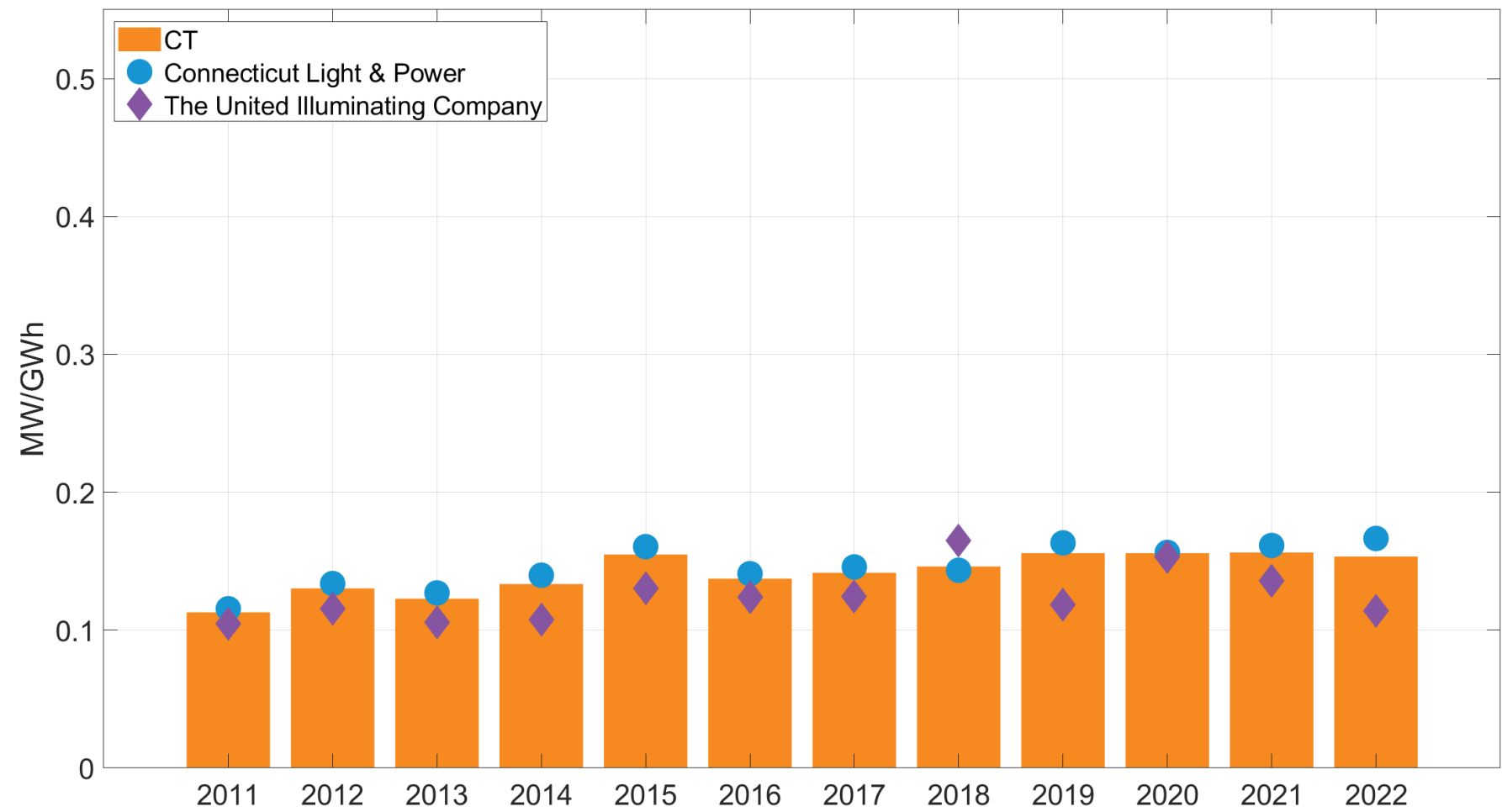
Summer Peak to Annual Energy Ratio

by Sector



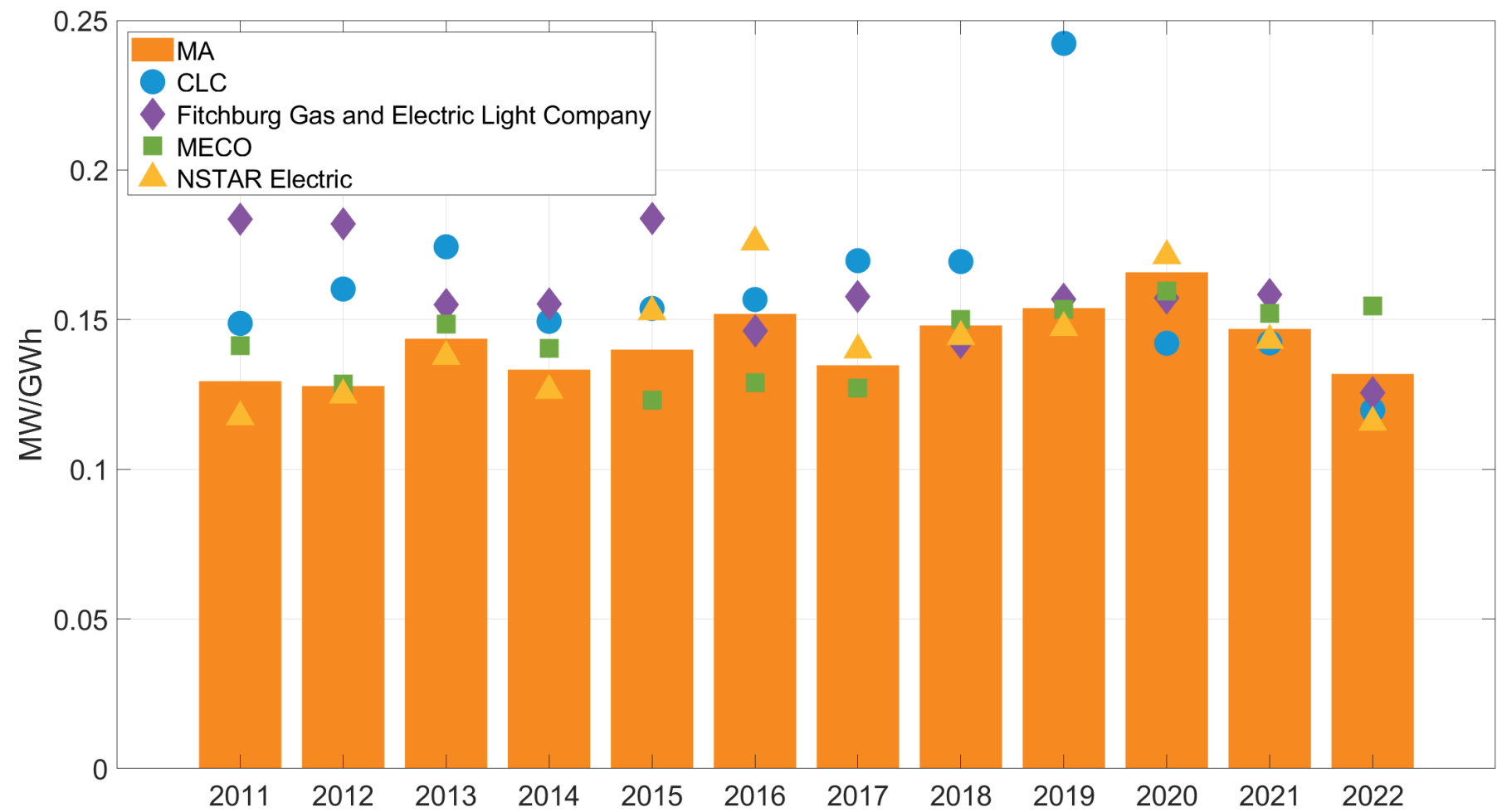
Summer Peak to Annual Energy Ratio

Connecticut



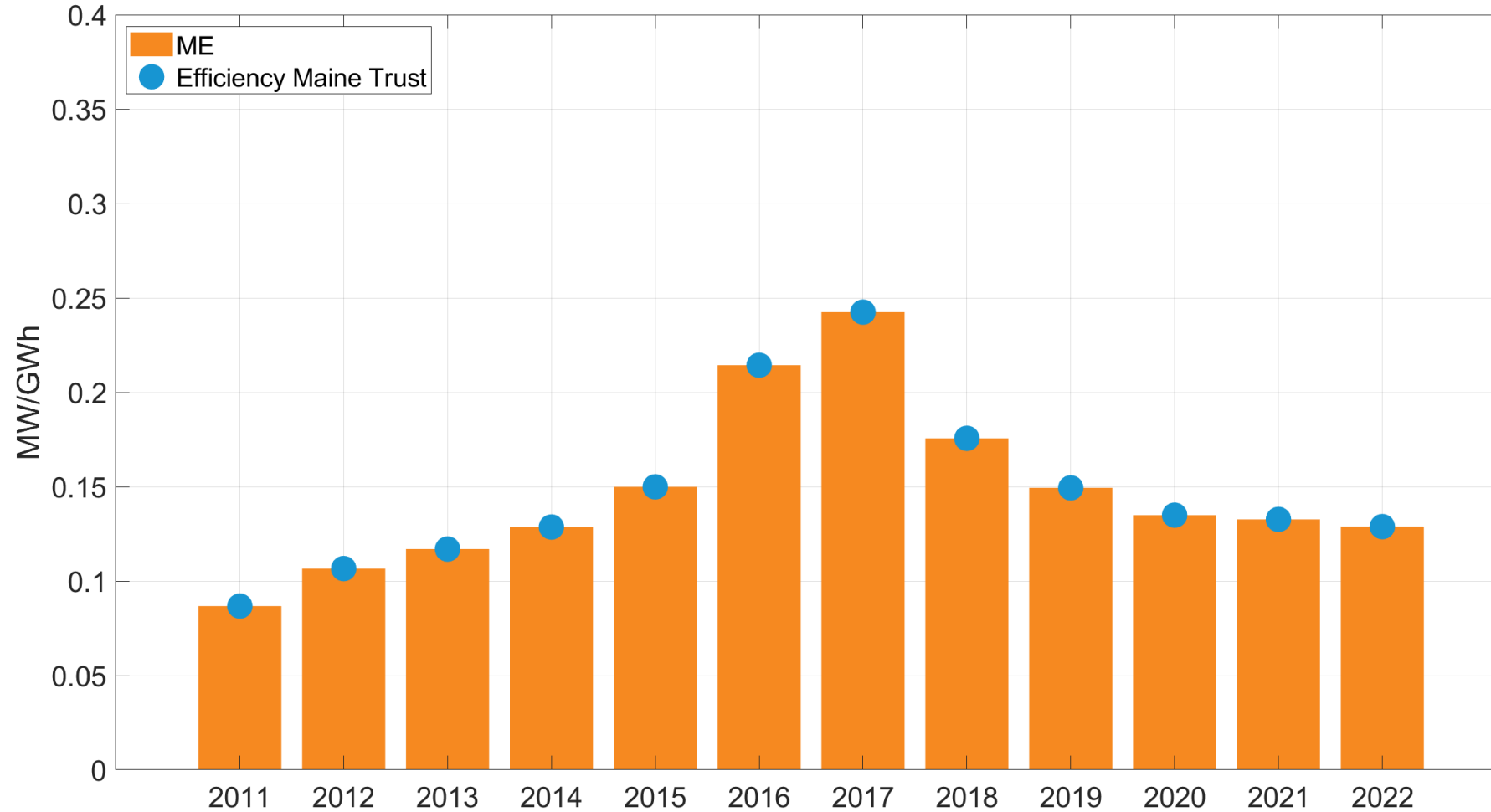
Summer Peak to Annual Energy Ratio

Massachusetts



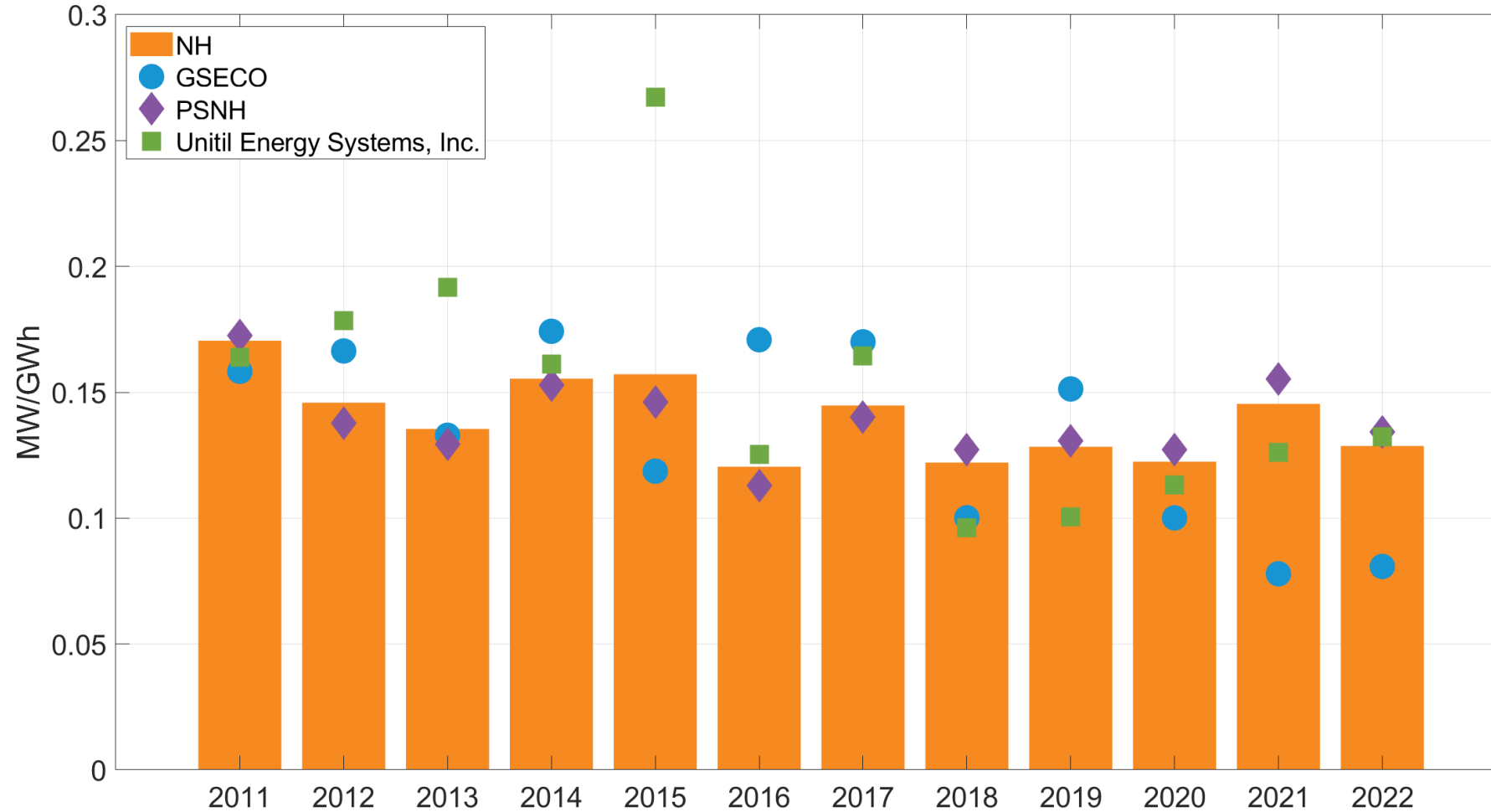
Summer Peak to Annual Energy Ratio

Maine



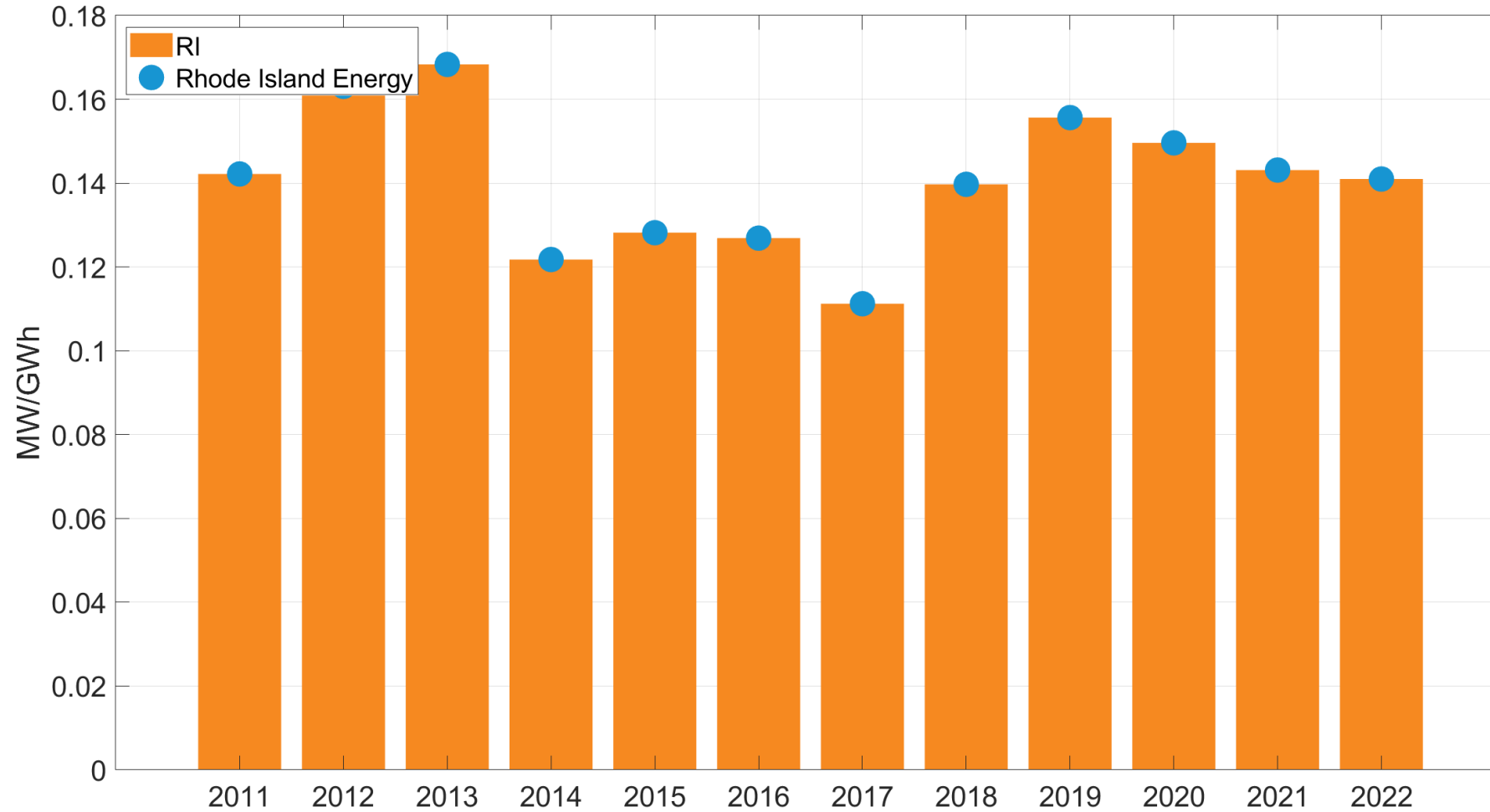
Summer Peak to Annual Energy Ratio

New Hampshire



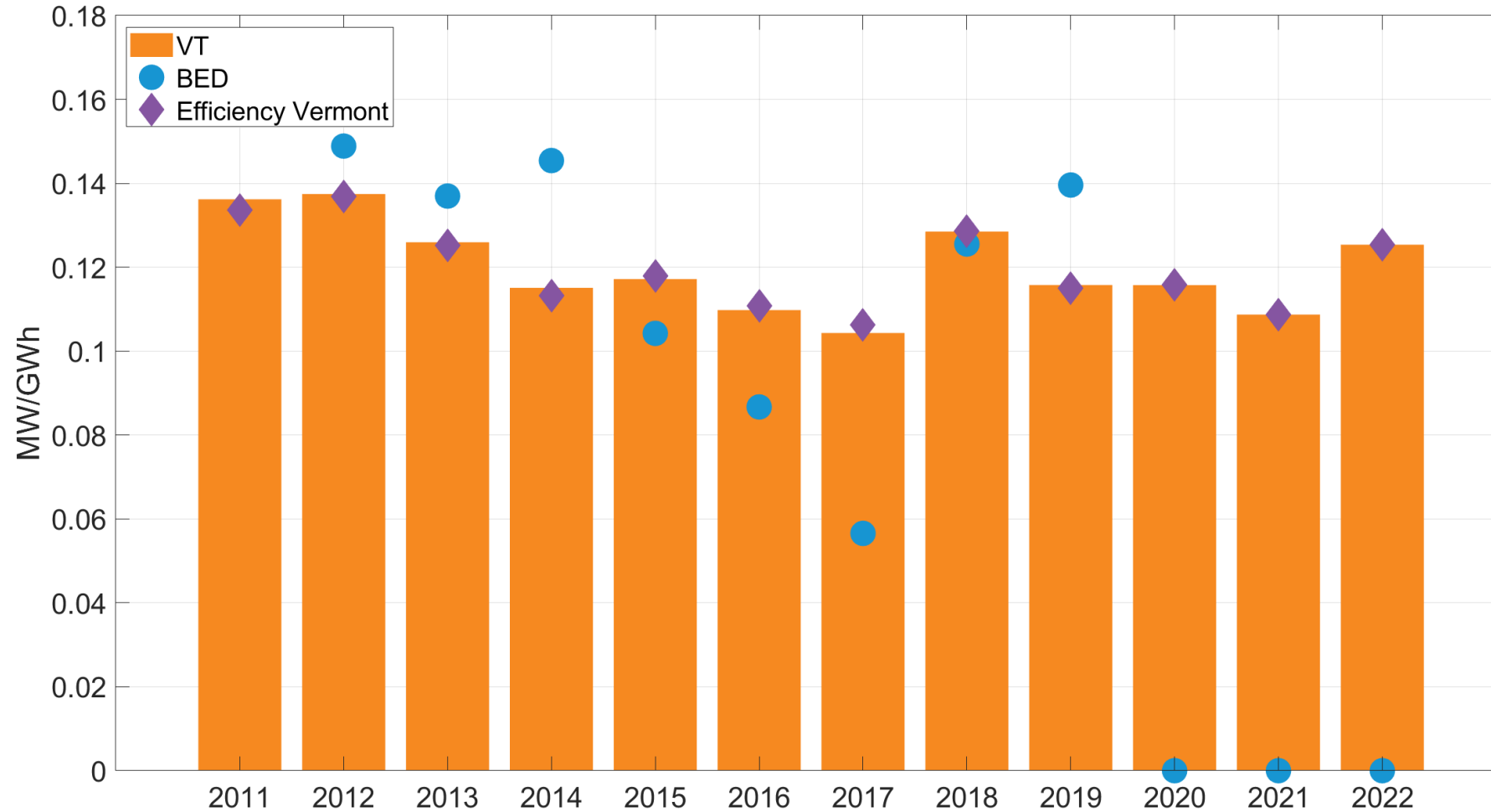
Summer Peak to Annual Energy Ratio

Rhode Island



Summer Peak to Annual Energy Ratio

Vermont



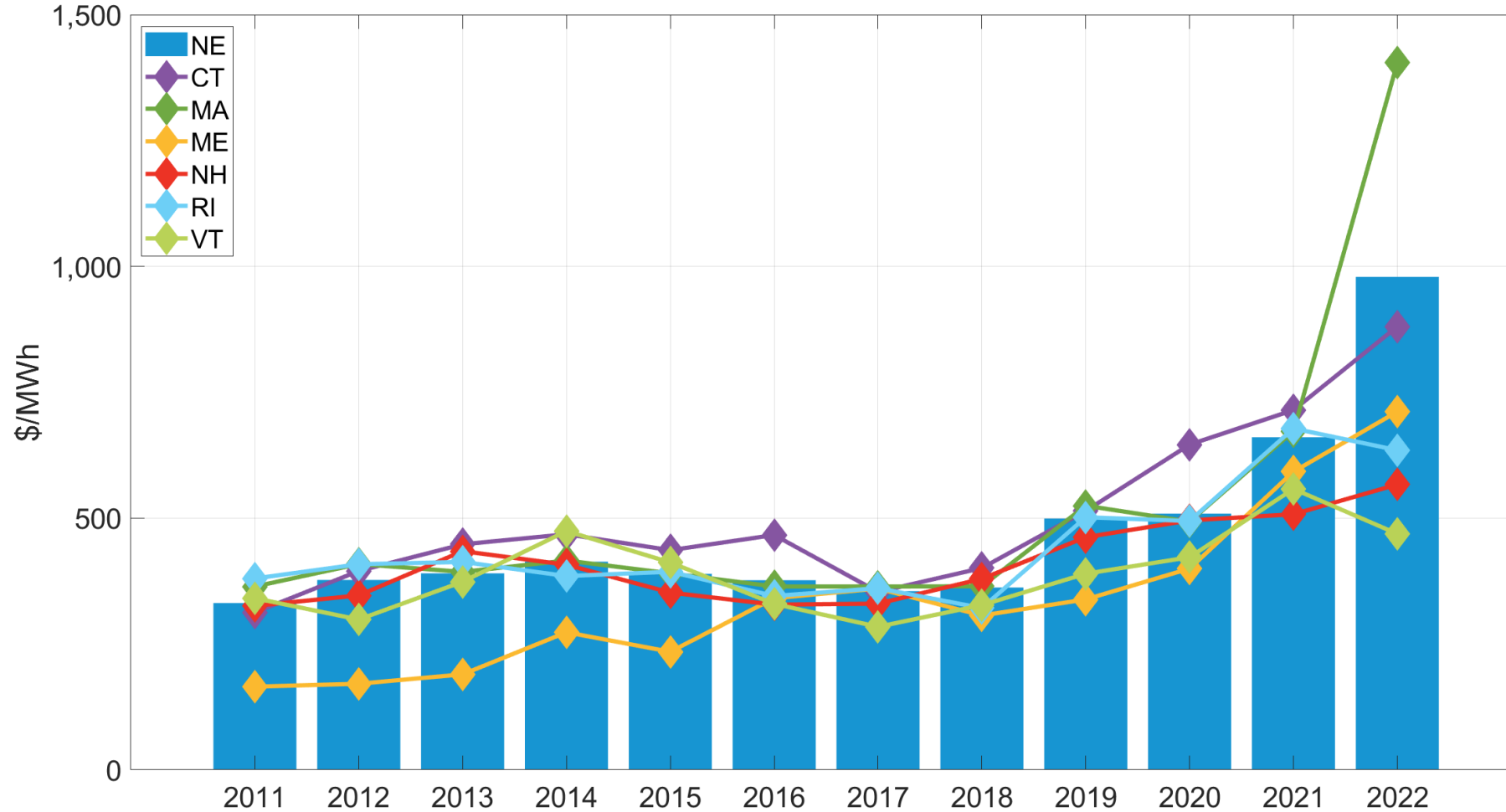
Note: As of the time of this presentation, BED has not submitted data for the 2022 EE forecast

PRODUCTION COSTS



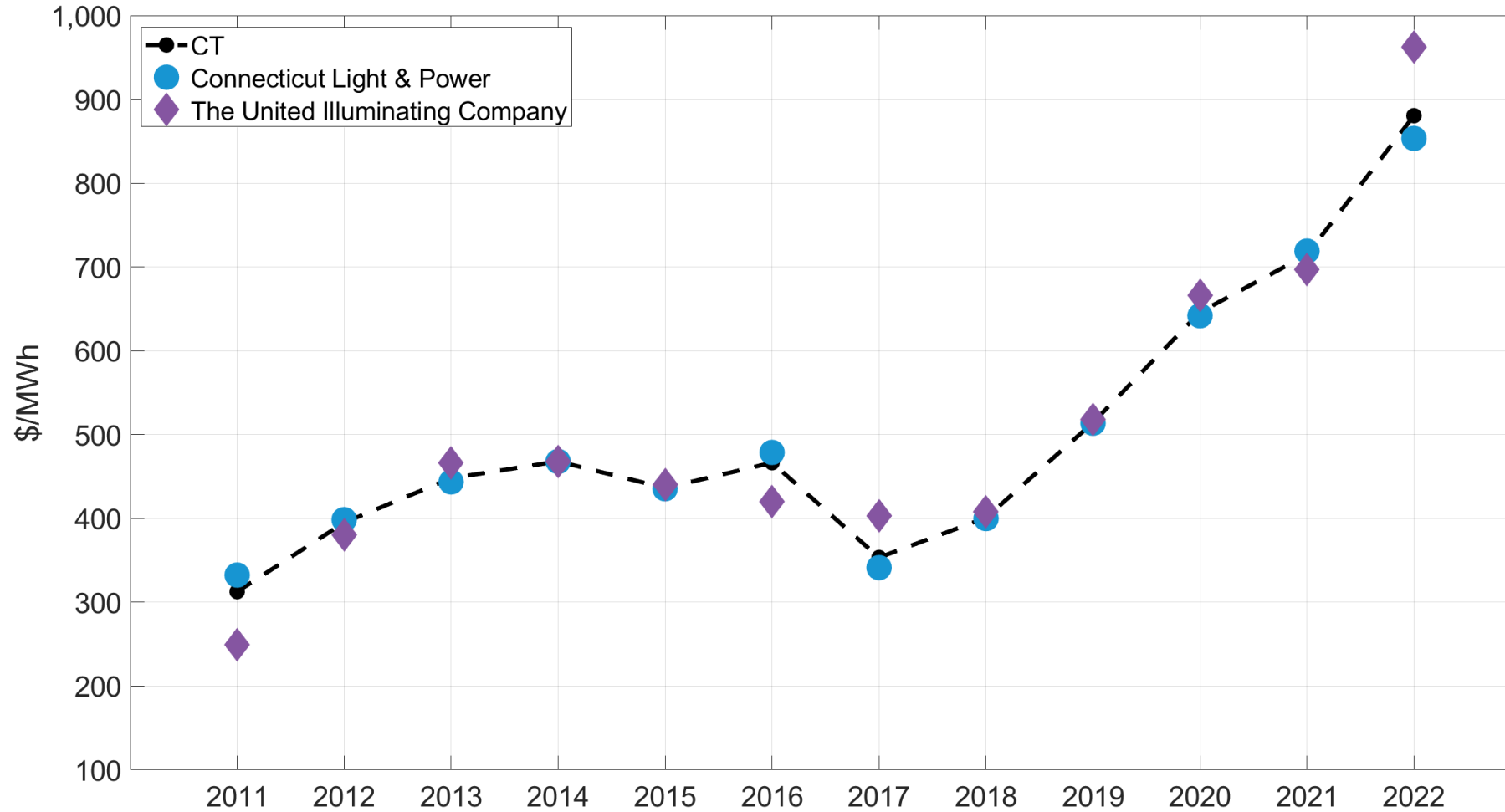
Annual Energy Production Costs

New England



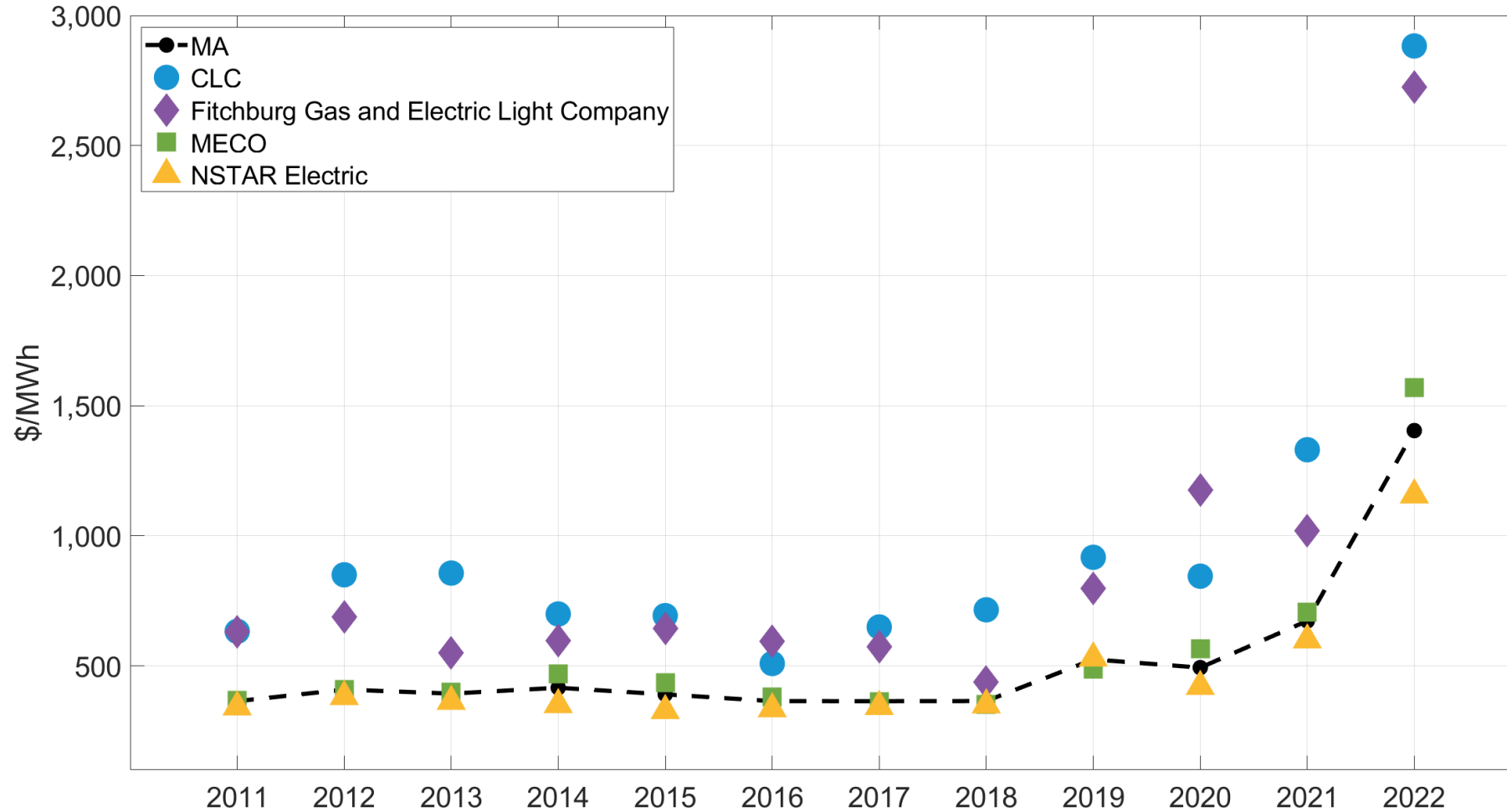
Annual Energy Production Costs

Connecticut



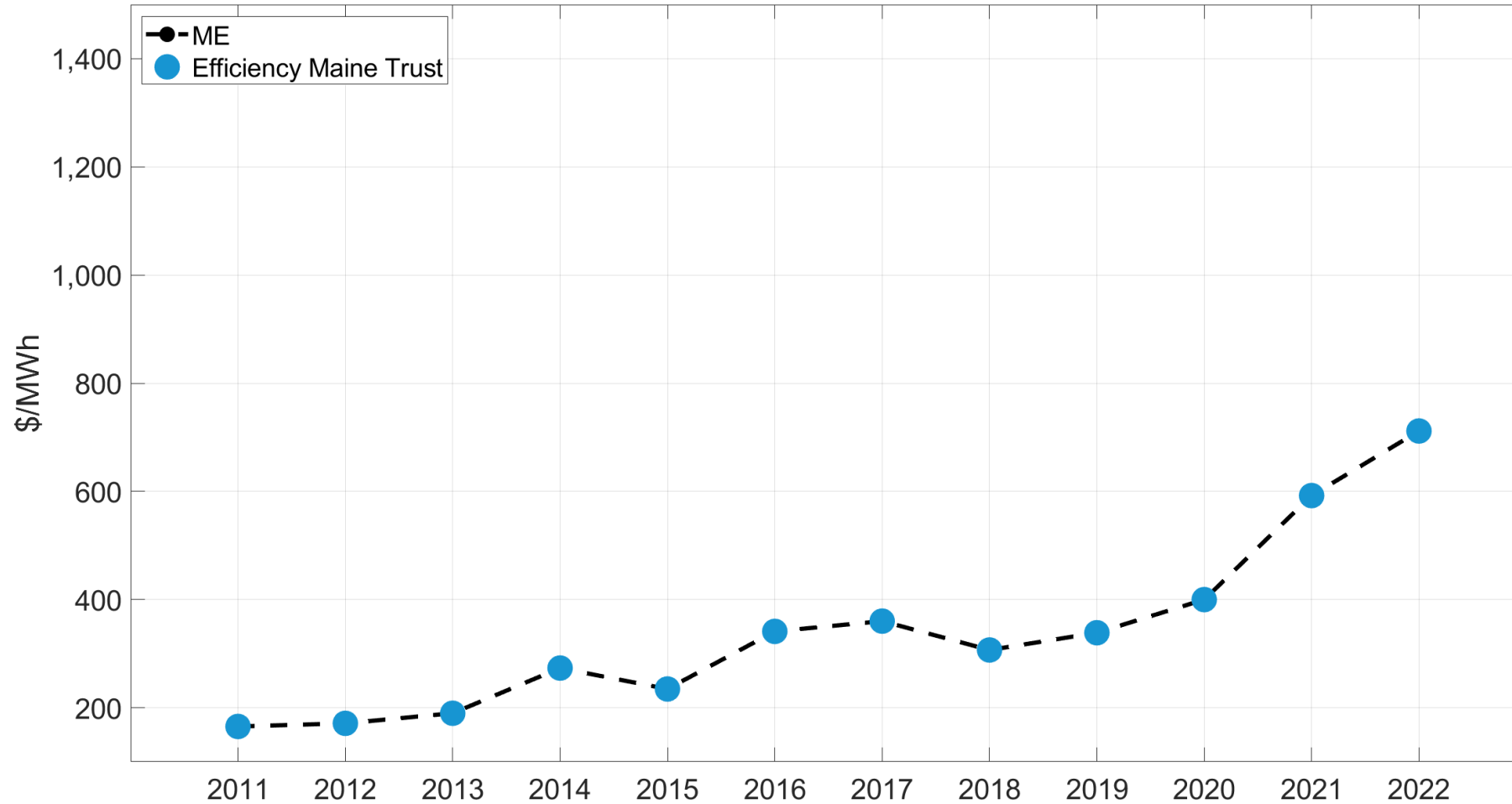
Annual Energy Production Costs

Massachusetts



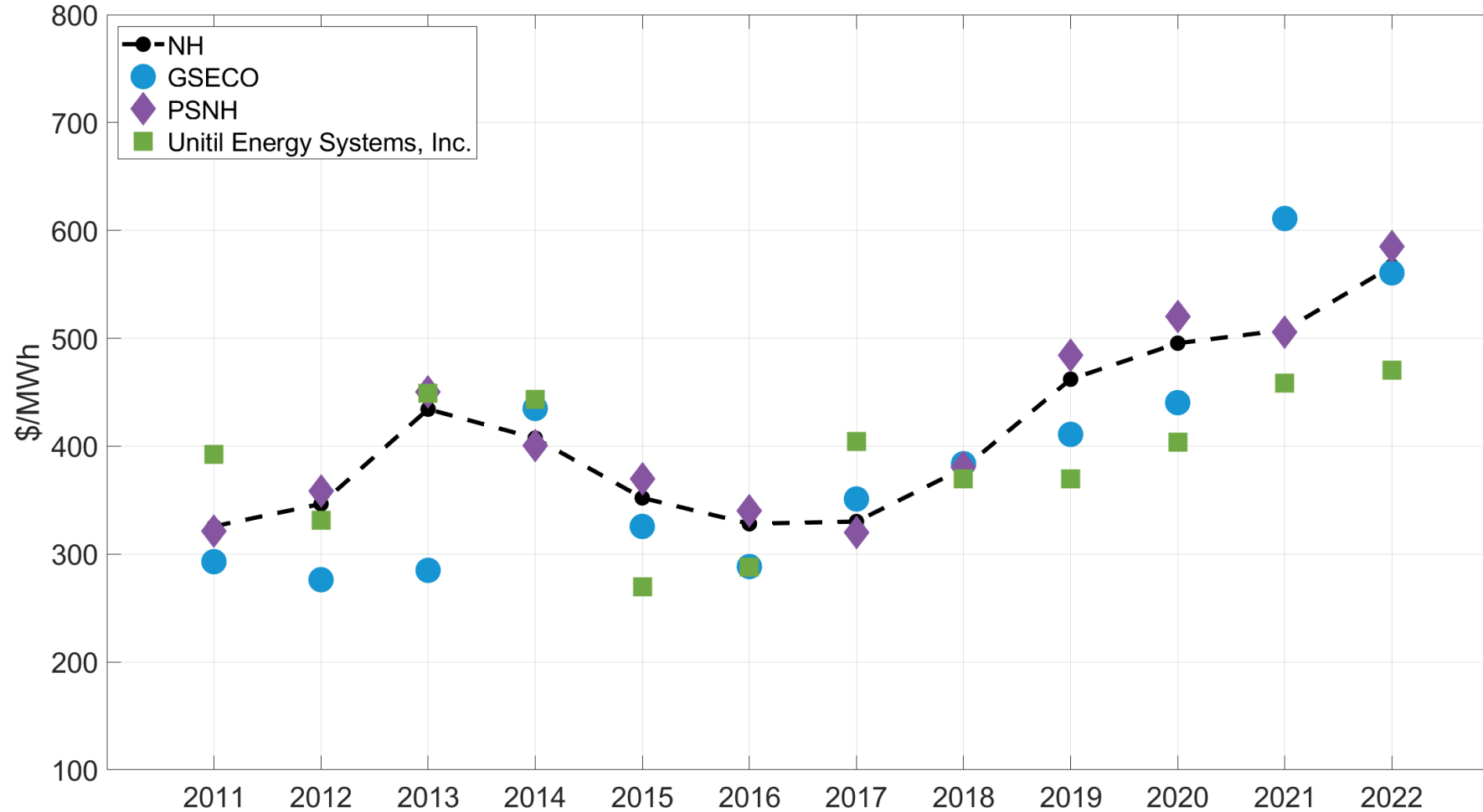
Annual Energy Production Costs

Maine



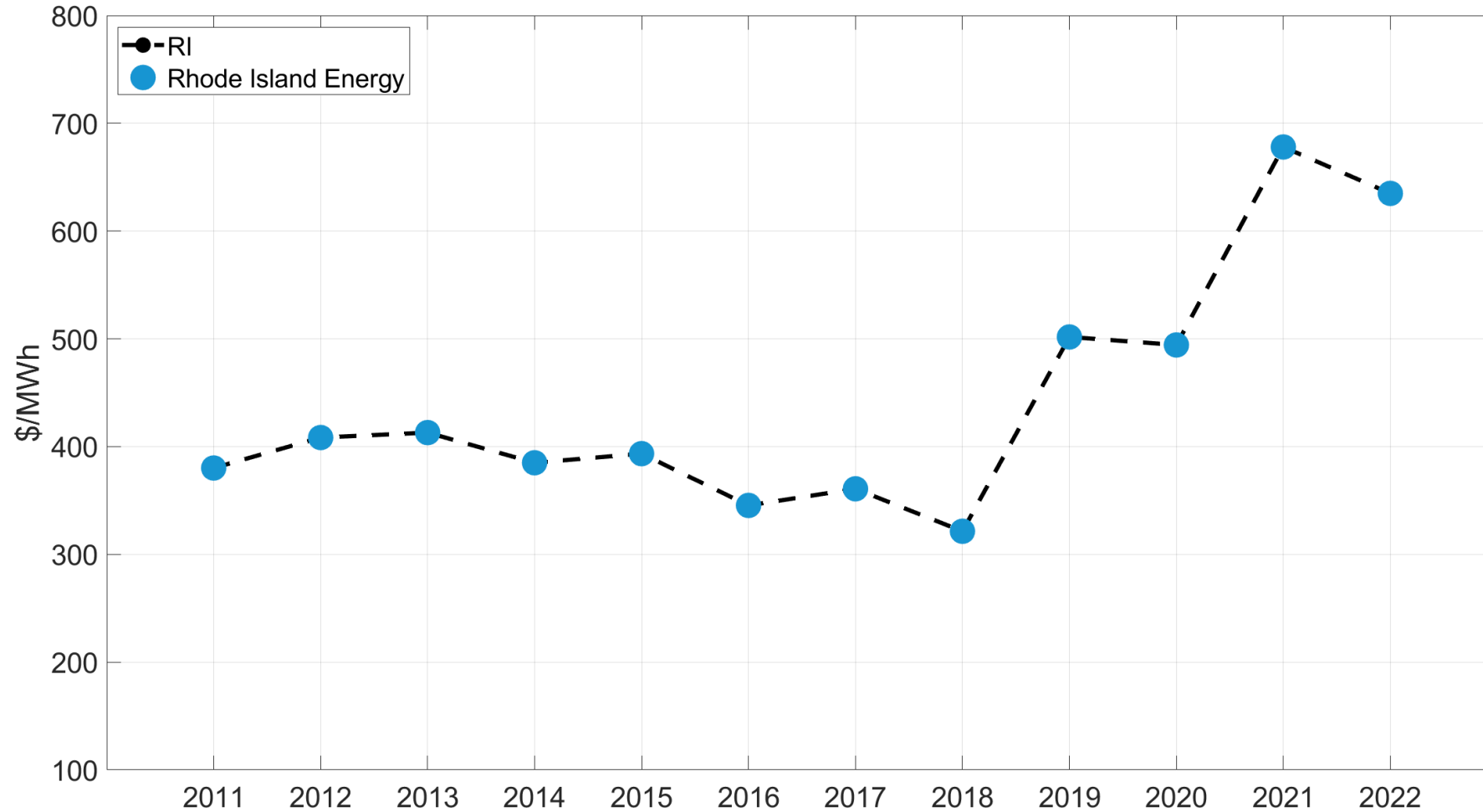
Annual Energy Production Costs

New Hampshire



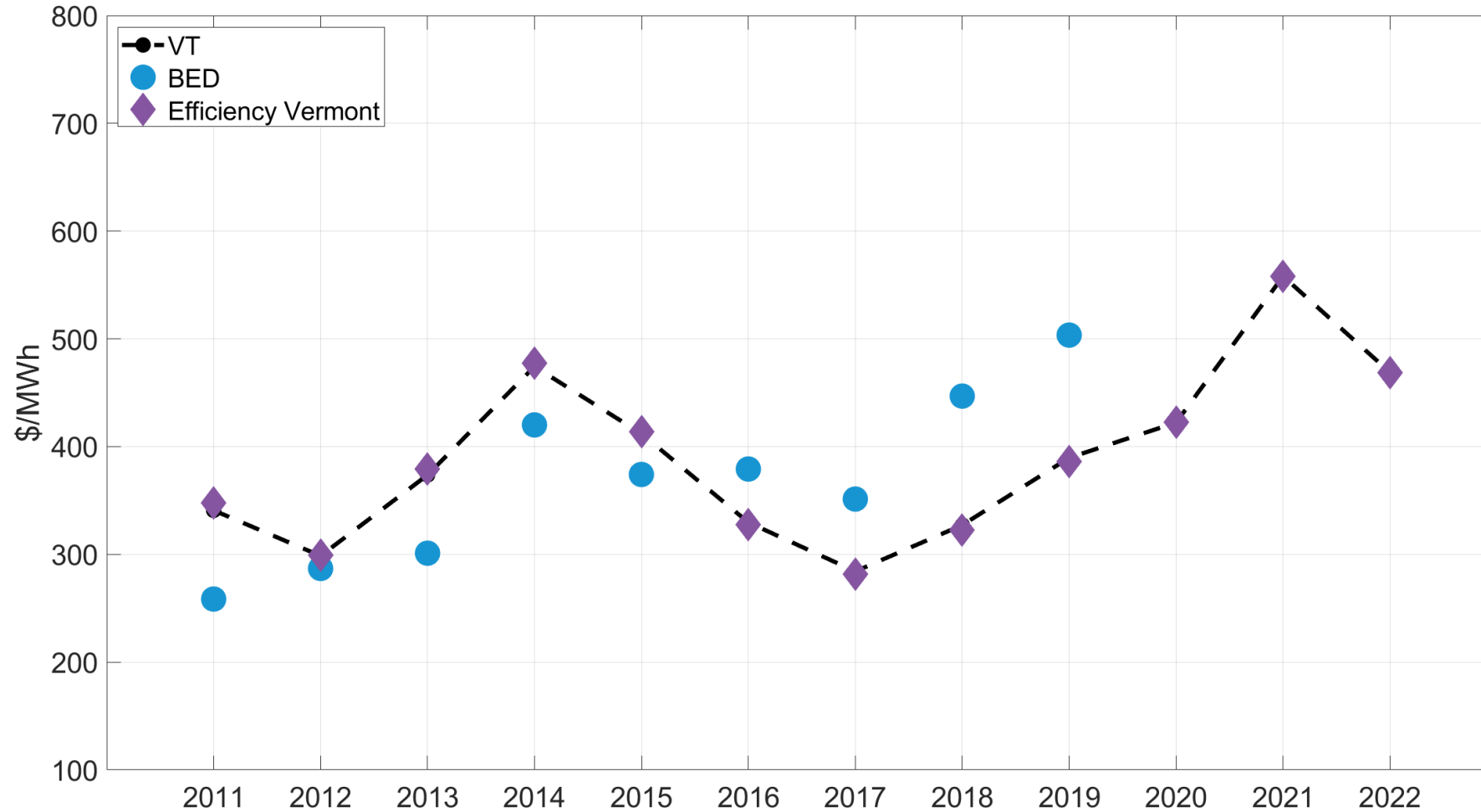
Annual Energy Production Costs

Rhode Island



Annual Energy Production Costs

Vermont



Note: As of the time of this presentation, BED has not submitted data for the 2022 EE forecast

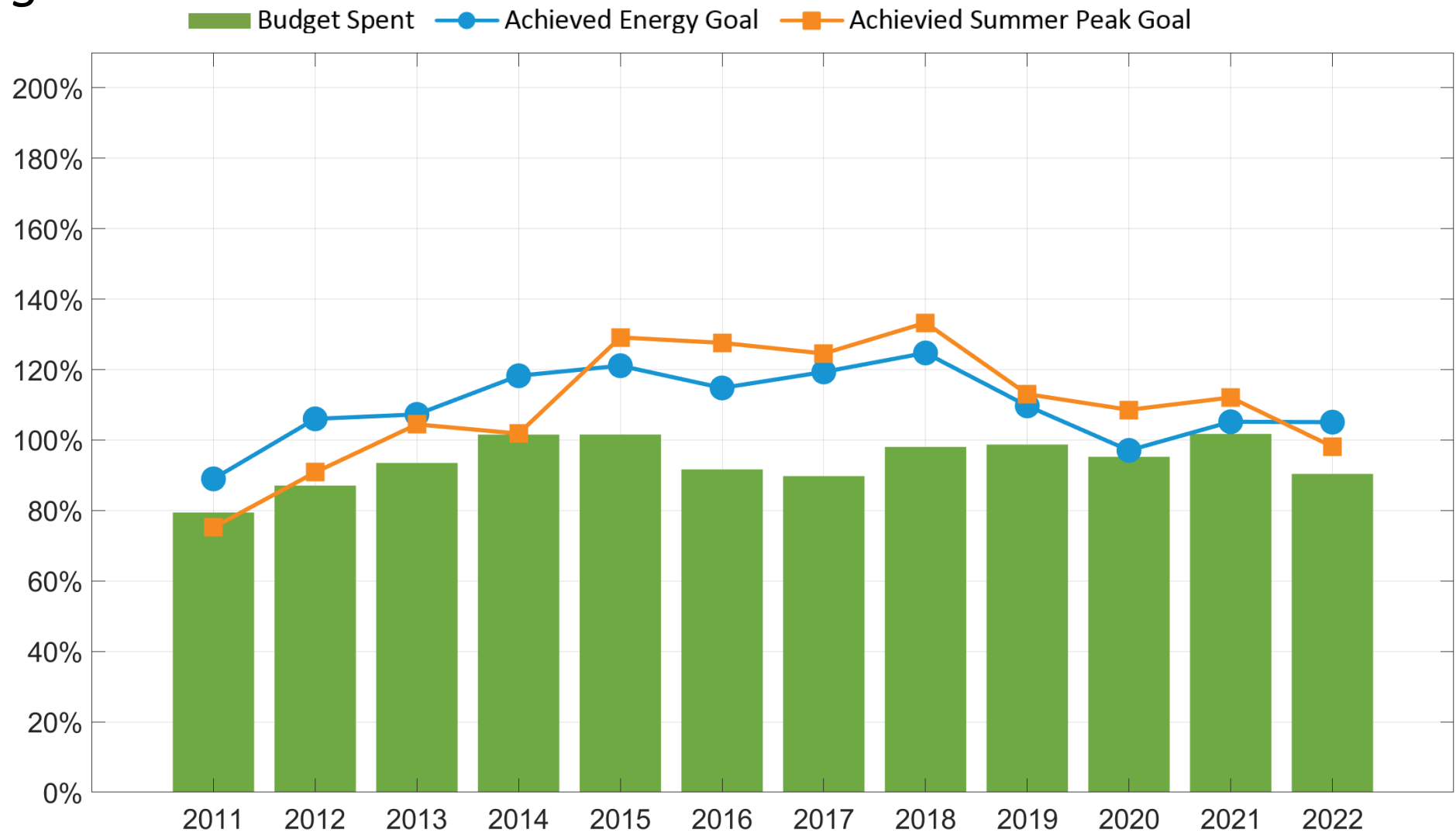


BUDGET DATA AND DG SURVEY



Budget Spent and Achieved Annual Goals

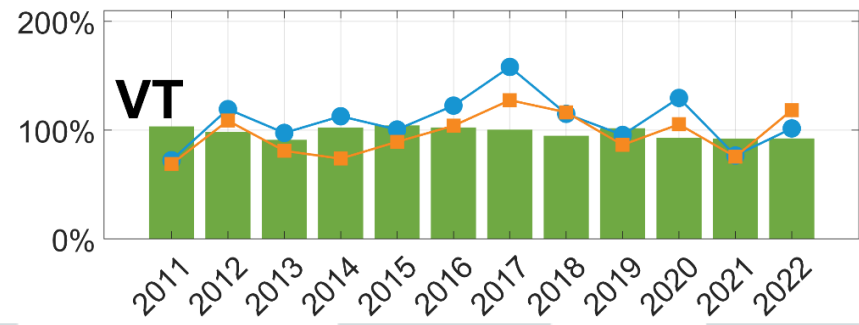
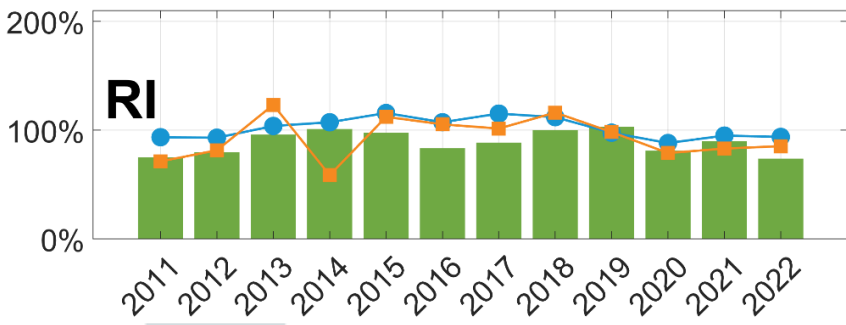
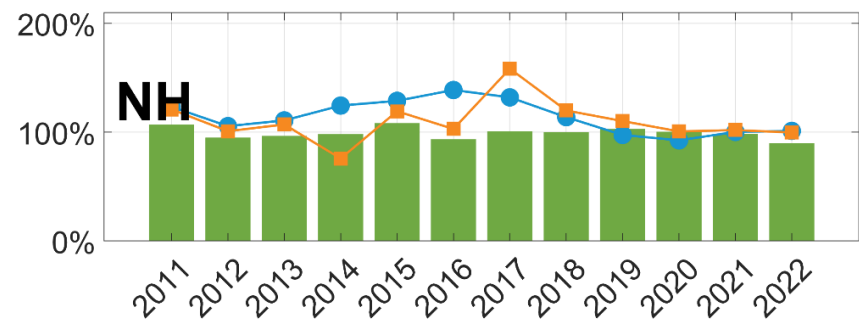
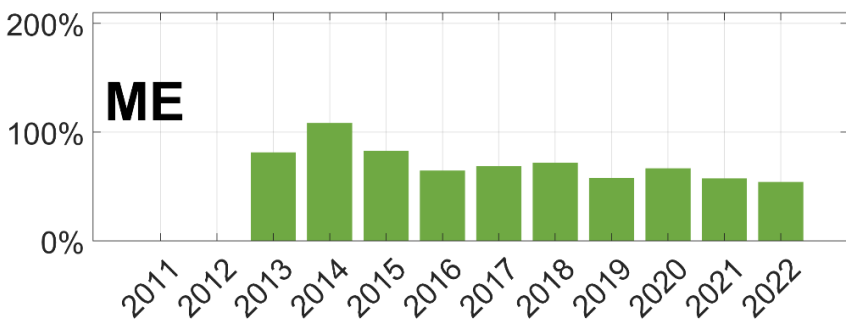
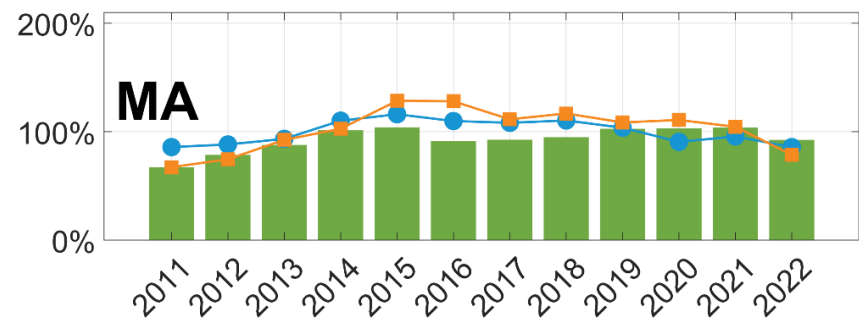
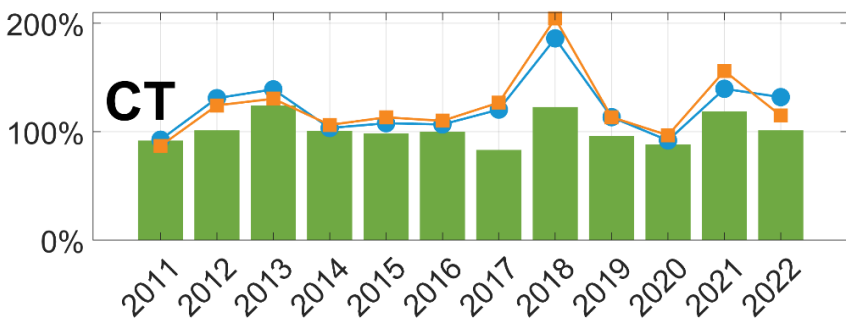
New England



Budget Spent and Achieved Annual Goals

States

Budget Spent Achieved Energy Goal Achieved Summer Peak Goal



State Budgets

- ME – Triennial Plans (2023-2025)
- CT – Ten Years (2024 - 2033)*
- VT – Ten years (2024 - 2033)
- MA – Last approved triennial plan (2022-2024)**
- RI – 2024
- NH – Triennial Plan (2024 – 2026)

* At the time of this presentation, CT budget numbers are draft

** At the time of this presentation, MA has not submitted budget data

Distributed Generation Survey

	DG Funded											DG Savings Claimed											Averages*	
Company	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 YTD	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 YTD	\$/MWh	MW/GWh
MECO	X	X	X	X	X	X	X	X		X		X	X	X	X	X	X	X	X		X		85	0.16
EMT	X	X	X	X	X	X	X	X	X		X	X	X		X	X	X	X	X	X		X	238	0.13
RIE	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X		X	X	X	X	172	0.13
NSTAR				X	X	X	X	X	X						X	X	X	X	X	X			79	0.16
CLC																								
BED																								
CL&P																								
UES																								
FGE																								
UI																								
Liberty																								
PSNH																								
VEIC																								

X - DG was either funded or savings were claimed

* - Does not include data from 2024 EE Forecast Data Collection

Questions

