

2016 Energy-Efficiency Forecast 2020-2025



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Acronyms

- EE—Energy Efficiency
- EEFWG—Energy-Efficiency Forecast Working Group
- FCM—Forward Capacity Market
- PA—Program Administrator
- PAC—Participants Advisory Group
- RGGI—Regional Greenhouse Gas Initiative
- SBC—System Benefit Charge
- CSO—Capacity Supply Obligation (FCM)
- RSP—Regional System Plan
- CELT—10-year forecast of capacity, energy, loads and transmission



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Introduction

- This presentation contains the EE forecast for the 2020-2025 period
- The EE forecast includes the FCA 10 results
- The EE forecast estimates reductions in energy and demand from state-sponsored EE programs in the New England control area by region and state (CT, MA, ME, NH, RI, VT)
- Data used to create the forecast originates from state-sponsored EE Program Administrators and state regulatory agencies



Introduction, cont.

- The EE forecast is based on average production costs, peak-to-energy ratios and projected budgets of state-sponsored EE programs
- This forecast follows the same fundamental forecast process and methodology used in the four preceding forecast years starting in 2012
- Inputs to this draft forecast consist of:
 - EE forecast methodology developed by the ISO
 - EE program data provided by EE Program Administrators
 - Budget projections provided by NE regulators and Program Administrators
- The ISO New England's Energy-Efficiency Forecast Working Group EEFWG provided input during meetings held 8/3/2015, 12/17/2015, and 3/18/2016

Introduction, cont.

- The EE forecast is used in ISO studies looking beyond the FCM timeframe such as:
 - Long-term transmission planning studies
 - Economic planning studies
 - Other planning studies
- The EE forecast is incorporated into the CELT report and Regional System Plan
- The EE forecast is developed on an annual basis by the ISO



Introduction, cont.

- EE forecast will not impact:
 - ICR/Local Sourcing Requirement/Maximum Capacity Limit
 - FCM auctions
 - FCM related reliability studies (qualification, de-list, non-price retirement)
 - Any System Operations analysis across the four-year FCM window
- In the near term (0-3 years), EE is integrated into the planning processes as qualified capacity delivered by regulated utilities through the ISO-NE Forward Capacity Market and merchant EE providers



2016 ENERGY-EFFICIENCY FORECAST SUMMARY

Summary of 2016 Forecast

- The EE forecast results are largely unchanged from the 2015 forecast results due to offsetting increases and decreases in forecasted EE production
- Program performance changes from the 2015 forecast include:
 - Production cost increased in all states except RI where it remained about the same, resulting in a decrease in energy reductions from equivalent budget \$
 - Peak-to-Energy Ratios changed in multiple directions, decreasing in ME, NH, RI and VT, nearly unchanged in MA, and increased in CT
 - Average annual program dollars spent increased over the average annual programs dollars spent in the 2015 forecast
 - Budget spend rates improved in MA and RI

EE FORECAST ASSUMPTIONS

EE Forecast Model General Assumptions

- Annual EE budgets provided by the Commissions or representatives on their behalf were used in the model and held constant in years after the latest approved budget
- Realization Rate and Percent Spent variables were combined into a single Budget Spend Rate adjustment
- Production cost baselines were derived from a three-year average of recent performance
- The production cost escalation rate was set at 5% per year
- Inflation rate was set at 2.5% per year
- Peak-to-Energy Ratios were derived from a three-year average of recent performance and held constant through forecast period
- Current CELT/RSP energy forecast used in conjunction with SBCs to forecast SBC dollars

2016 Updated EE Forecast Model Implementation Assumptions

- 2015 CELT/RSP Energy Forecast
- 2015 CELT FCM CSOs and FCA10 Clearing Price for calculating budget \$
- Production Cost: Updated with PA 2012-2014 average
- Production Cost Escalation Rate: Remains 5% + 2.5% inflation
- Peak-to-Energy Ratio: Updated with PA 2012-2014 average
- State Budget Data: All states submitted updated budgets
- Budget Spend Rate deduction: ME - 10%, based on average spend rates observed in PA data and large increases in budget \$
- FCM revenue has no effect on overall budget in ME, VT, MA, and RI

Fundamentals of EE Forecast Model

$$1) \text{ MWh} = [(1\text{-BSR}) * \text{Budget } \$] / [\$/\text{MWh} * \text{PCINCR}]$$

where:

Budget \$ = an estimate of the dollars to be spent on EE (\$)
(System Benefit Charge + RGGI + FCM + Policy)

BSR = budget spend rate (%)

\$/MWh = production cost (\$/MWh)

PCINCR = production cost increases (%)

$$2) \text{ MW} = \text{MWh} * \text{PER}$$

where:

PER = peak-to-energy ratio (MW/MWh)



EE Forecast Model Budget Assumptions Regarding Forward Capacity Market

- FCM capacity clearing price was held constant at \$7.03/kW-month,[†] the latest FCA clearing price for Capacity Commitment Period 2019-20
- ISO assumed that all achieved EE capacity would be bid into and clear in future FCA's[‡]
- The forecast calculated Capacity Supply Obligation was used to determine FCM contribution to budget

[†] FCA clearing price used is for modeling purposes only and should not be considered an indication of future clearing prices.

[‡] The ISO assumption that all achieved EE capacity would be bid into and clear in future FCA's is only for modeling purposes and should not be considered an indication of any future FCA outcome.

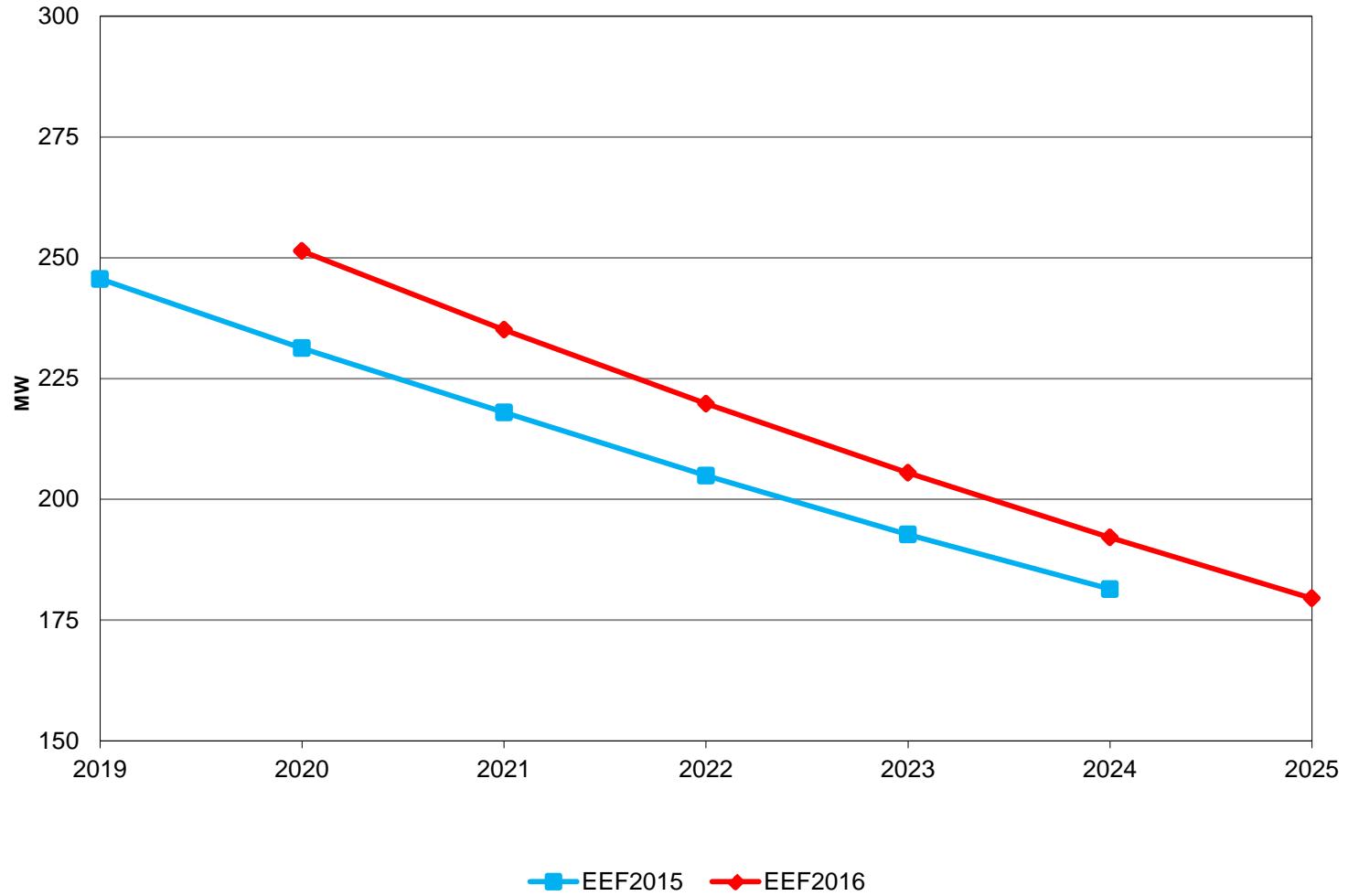


COMPARISON OF 2016 AND 2015 EE FORECAST ENERGY AND DEMAND PLOTS

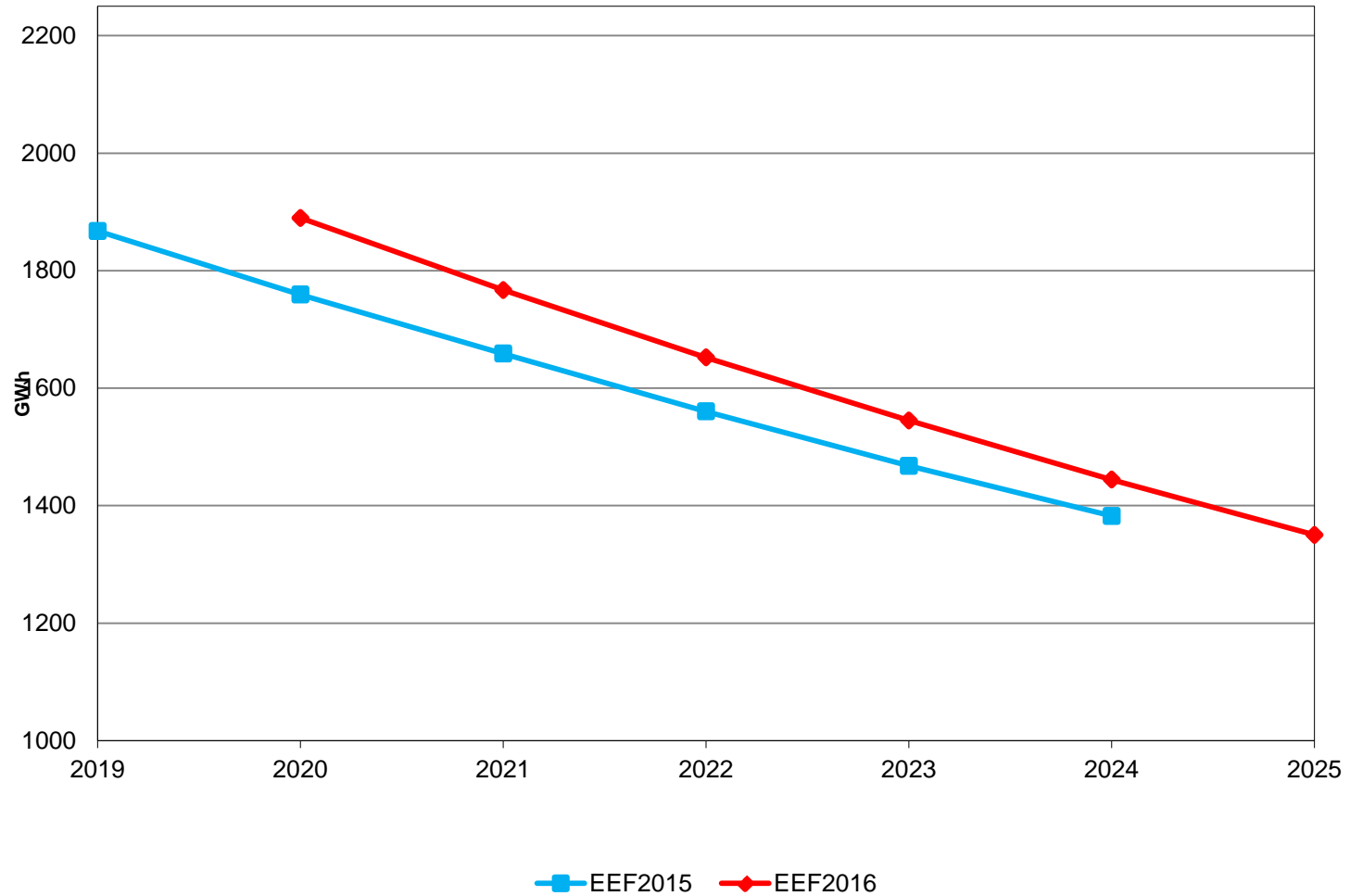
Comparison of EE Forecasts

	TOTAL	ME	NH	VT	CT	RI	MA
PA Average PRODUCTION COST (\$/MWh)							
2015 EE Forecast		162	370	334	377	403	392
2016 EE Forecast		174	398	375	439	400	410
PA Average PEAK-ENERGY RATIO (MW/GWh)							
2015 EE Forecast		0.1047	0.1506	0.1332	0.1212	0.1597	0.1346
2016 EE Forecast		0.1025	0.1458	0.1265	0.1294	0.1475	0.1364
Total EE Dollars (1000s)							
2015 EE Forecast							
Total 2019-2024	6,158,150	222,876	224,534	365,433	1,471,892	485,754	3,387,662
Average	1,026,358	37,146	37,422	60,906	245,315	80,959	564,610
2016 EE Forecast							
Total 2020-2025	6,606,107	214,734	205,461	381,384	1,458,578	517,568	3,828,384
Average	1,101,018	35,789	34,244	63,564	243,096	86,261	638,064
ANNUAL EE ENERGY IMPACTS (GWh)							
2015 EE Forecast							
Total 2019-2024	9,696	791	349	628	2,246	696	4,986
Average	1,616	132	58	105	374	116	831
2016 EE Forecast							
Total 2020-2025	9,648	713	297	584	1,914	747	5,394
Average	1,608	119	49	97	319	125	899
SUMMER EE PEAK IMPACTS (MW)							
2015 EE Forecast							
Total 2019-2024	1,274	83	52	84	272	111	671
Average	212	14	9	14	45	19	112
2016 EE Forecast							
Total 2020-2025	1,284	73	43	74	247	110	736
Average	214	12	7	12	41	18	122

ISONE Energy Efficiency on Summer Peak (MW)



ISONE Energy Efficiency on Annual Energy (GWh)



EE PROGRAM DATA SUMMARY

PA Data Summary

	Budget \$1000s	Total Costs \$1000s	Achieved Annual Energy (MWh)	Dollars per MWh	Achieved Summer Peak (MW)	Achieved Winter Peak (MW)	Dollars per MW	% Energy Achieved	% Budget Spent	% Peak Achieved	Peak to Energy Ratio MW-S/ GWH	Peak to Energy Ratio MW-W/ GWH
NE												
2009	357,939	352,374	933,803	377	150	160.8	2,352,646	83	98	94	0.1604	0.1722
2010	524,416	500,979	1,371,179	365	192	238.4	2,616,574	103	96	95	0.1396	0.1738
2011	665,087	518,865	1,575,303	329	200	266.3	2,588,875	90	78	75	0.1272	0.1690
2012	745,761	648,848	1,723,357	377	221	289.5	2,930,057	98	87	86	0.1285	0.1680
2013	726,500	706,010	1,829,993	386	253	314.5	2,786,815	109	97	105	0.1384	0.1718
2014	857,984	862,384	2,063,665	418	275	337.4	3,139,835	114	101	100	0.1331	0.1635
Avg 2011-13	712,449	624,574	1,709,551	365	225	290.1	2,775,039	99	88	88	0.1317	0.1697
Avg 2012-14	776,749	739,081	1,872,338	395	250	313.8	2,958,516	107	95	97	0.1334	0.1676
CT												
2009	102,183	73,412	222,501	330	34	39.4	2,150,156	60	72	63	0.1534	0.1769
2010	143,544	144,938	405,043	358	50	85.4	2,907,363	113	101	105	0.1231	0.2108
2011	129,909	119,426	381,974	313	43	73.2	2,769,482	93	92	87	0.1129	0.1916
2012	120,177	121,826	308,428	395	40	58.0	3,032,727	131	101	124	0.1302	0.1881
2013	97,955	121,612	271,480	448	33	51.4	3,648,327	139	124	130	0.1228	0.1895
2014	174,992	176,459	377,073	468	50	68.1	3,507,072	104	101	106	0.1334	0.1807
Avg 2011-13	116,013	120,955	320,627	377	39	60.9	3,111,342	114	104	109	0.1212	0.1899
Avg 2012-14	131,041	139,966	318,994	439	41	59.2	3,391,209	120	107	118	0.1294	0.1856
ME												
2009	0	13,806	55,176	250	7	19.5	2,127,603	662	0	472	0.1176	0.3528
2010	0	16,846	74,180	227	8	25.8	2,198,392	101	0	102	0.1033	0.3476
2011	0	22,817	152,664	150	18	37.7	1,248,321	117	0	100	0.1197	0.2468
2012	0	23,713	143,532	165	13	15.1	1,904,493	101	0	114	0.0867	0.1055
2013	0	24,279	141,978	171	15	35.9	1,604,008	0	0	0	0.1066	0.2525
2014	26,976	21,972	115,847	190	14	24.1	1,621,753	0	82	0	0.1170	0.2077
Avg 2011-13	0	23,603	146,058	162	15	29.6	1,543,830	161	0	157	0.1047	0.2024
Avg 2012-14	8,992	23,321	133,785	174	14	25.0	1,700,802	283	259	376	0.1025	0.1870

PA Data Summary, cont.

	Budget \$1000s	Total Costs \$1000s	Achieved Annual Energy (MWh)	Dollars per MWh	Achieved Summer Peak (MW)	Achieved Winter Peak (MW)	Dollars per MW	% Energy Achieved	% Budget Spent	% Peak Achieved	Peak to Energy Ratio MW-S/ GWH	Peak to Energy Ratio MW-W/ GWH
MA												
2009	183,782	192,362	424,652	453	70	62.9	2,751,526	81	105	99	0.1646	0.1482
2010	294,315	253,087	619,638	408	91	82.0	2,769,183	99	86	90	0.1475	0.1323
2011	432,796	283,898	777,100	365	101	112.4	2,823,156	86	66	67	0.1294	0.1447
2012	508,988	400,607	980,105	409	125	164.8	3,198,061	88	79	75	0.1278	0.1682
2013	499,584	438,951	1,116,442	393	160	173.0	2,737,552	93	88	92	0.1436	0.1549
2014	511,262	517,796	1,217,191	425	166	187.2	3,114,427	108	101	103	0.1366	0.1538
Avg 2011-13	480,456	374,485	957,882	391	129	150.1	2,909,223	90	78	79	0.1344	0.1567
Avg 2012-14	506,611	452,451	1,104,580	410	151	175.0	3,003,878	96	89	90	0.1364	0.1584
NH												
2009	18,286	17,988	59,691	301	10	9.5	1,889,479	139	98	137	0.1595	0.1590
2010	21,866	21,763	73,710	295	12	12.0	1,759,992	121	100	117	0.1678	0.1627
2011	17,667	18,904	58,042	326	10	10.0	1,910,676	123	107	121	0.1705	0.1731
2012	19,673	18,703	53,973	347	8	8.9	2,376,082	106	95	101	0.1458	0.1650
2013	26,442	25,552	58,834	434	8	8.2	3,207,111	111	97	107	0.1354	0.1391
2014	26,298	25,826	63,384	408	10	10.2	2,622,124	124	98	76	0.1554	0.1605
Avg 2011-13	21,261	21,053	56,950	370	9	9.0	2,454,444	113	99	110	0.1506	0.1589
Avg 2012-14	24,138	23,360	58,730	398	9	9.1	2,728,172	114	97	91	0.1458	0.1548
RI												
2009	24,555	26,211	81,543	321	15	13.7	1,702,261	103	107	124	0.1888	0.1683
2010	30,366	27,581	81,275	339	13	11.9	2,163,690	107	91	78	0.1568	0.1463
2011	48,649	36,495	96,009	380	14	13.0	2,673,394	94	75	71	0.1422	0.1355
2012	61,246	48,870	119,666	408	20	19.4	2,504,012	93	80	82	0.1631	0.1621
2013	64,179	61,547	149,033	413	25	28.7	2,453,410	104	96	123	0.1683	0.1929
2014	73,766	74,537	193,613	385	24	30.3	3,161,411	107	101	62	0.1218	0.1566
Avg 2011-13	58,025	48,970	121,569	403	19	20.4	2,521,913	97	84	92	0.1597	0.1677
Avg 2012-14	66,397	61,651	154,104	400	23	26.2	2,712,726	102	93	83	0.1475	0.1697

PA Data Summary, cont.

	Budget \$1000s	Total Costs \$1000s	Achieved Annual Energy (MWh)	Dollars per MWh	Achieved Summer Peak (MW)	Achieved Winter Peak (MW)	Dollars per MW	% Energy Achieved	% Budget Spent	% Peak Achieved	Peak to Energy Ratio MW-S/ GWH	Peak to Energy Ratio MW-W/ GWH
VT												
2009	29,134	28,597	90,240	317	14	15.9	1,997,246	92	98	104	0.1587	0.1759
2010	34,326	36,764	117,334	313	17	21.3	2,107,775	88	107	93	0.1487	0.1819
2011	36,066	37,325	109,514	341	15	19.9	2,502,506	72	104	69	0.1362	0.1819
2012	35,678	35,130	117,653	299	16	23.2	2,172,426	119	99	109	0.1374	0.1971
2013	38,341	34,068	92,226	369	12	17.3	2,969,952	94	89	77	0.1244	0.1872
2014	44,690	45,795	96,557	474	11	17.5	4,121,184	113	103	74	0.1151	0.1810
Avg 2011-13	36,695	35,508	106,464	334	14	20.1	2,503,078	92	97	83	0.1332	0.1890
Avg 2012-14	39,570	38,331	102,145	375	13	19.3	2,967,261	108	97	87	0.1265	0.1891



EE FORECAST INPUT DATA

FCM and RGGI Dollars

RGGI Dollars(\$1000s)							
	ME	NH	VT	CT	RI	MA	ISO_NE
Applied to EE Annually	0	2,600	0	21,900	4,300	30,000	58,800
FCM MW							
	ME	NH	VT	CT	RI	MA	ISO_NE
2019	183	89	114	494	217	1,272	2,369
FCM Dollars (\$1000s, clearing price 7.03)							
	ME	NH	VT	CT	RI	MA	ISO_NE
2019	0	7,508	0	41,674	18,306	107,306	174,794
FCM Percent							
Applied to all years	ME	NH	VT	CT	RI	MA	ISO_NE
2019	.0	100.0	.0	100.0	100.0	100.0	.
FCM Dollars for EE (\$1000s)							
	ME	NH	VT	CT	RI	MA	ISO_NE
2020	0	7,508	0	41,674	18,306	107,306	174,794
2021	0	7,508	0	41,674	18,306	107,306	174,794
2022	0	7,508	0	41,674	18,306	107,306	174,794
2023	0	7,508	0	41,674	18,306	107,306	174,794
2024	0	7,508	0	41,674	18,306	107,306	174,794
2025	0	7,508	0	41,674	18,306	107,306	174,794

* Auction clearing price for Rest-of-Pool

Energy Forecast

2015 RSP Energy Forecast(GWh)							
	ME	NH	VT	CT	RI	MA	ISO_NE
2020	13,075	13,055	7,015	36,300	9,240	67,880	146,565
2021	13,165	13,185	7,060	36,600	9,295	68,615	147,920
2022	13,265	13,320	7,110	36,920	9,355	69,375	149,345
2023	13,370	13,460	7,160	37,250	9,425	70,150	150,815
2024	13,480	13,595	7,210	37,580	9,490	70,915	152,270
2025	13,591	13,731	7,260	37,913	9,555	71,688	153,738
2015 RSP Energy Forecast - FCM Passive Demand Resources(GWh)							
	ME	NH	VT	CT	RI	MA	ISO_NE
2020	11,854	12,468	6,157	33,892	8,076	60,848	133,295
2021	11,944	12,598	6,202	34,192	8,131	61,583	134,650
2022	12,044	12,733	6,252	34,512	8,191	62,343	136,075
2023	12,149	12,873	6,302	34,842	8,261	63,118	137,545
2024	12,259	13,008	6,352	35,172	8,326	63,883	139,000
2025	12,370	13,144	6,402	35,505	8,391	64,656	140,468
SBC Eligible	ME	NH	VT	CT	RI	MA	ISO_NE
	75.0	100.0	100.0	93.60	100.0	86.0	
SBC Eligible 2015 Energy Forecast - FCM Passive Demand Resources(GWh)							
	ME	NH	VT	CT	RI	MA	ISO_NE
2020	8,891	12,468	6,157	31,723	8,076	52,329	119,644
2021	8,958	12,598	6,202	32,004	8,131	52,961	120,854
2022	9,033	12,733	6,252	32,303	8,191	53,615	122,127
2023	9,112	12,873	6,302	32,612	8,261	54,281	123,441
2024	9,194	13,008	6,352	32,921	8,326	54,939	124,741
2025	9,278	13,144	6,402	33,233	8,391	55,604	126,051

Energy Sales (GWh) and System Benefit Charge (\$)

Sales(GWh)							
	ME	NH	VT	CT	RI	MA	ISO_NE
2020	8,387	11,762	5,808	29,927	7,619	49,367	112,871
2021	8,451	11,885	5,851	30,192	7,671	49,964	114,013
2022	8,522	12,012	5,898	30,475	7,727	50,580	115,214
2023	8,596	12,144	5,945	30,766	7,793	51,209	116,454
2024	8,674	12,272	5,992	31,058	7,855	51,830	117,680
2025	8,752	12,400	6,040	31,352	7,916	52,457	118,916
SBC Dollars (\$1000s)							
SBC Rate (\$/kwh)	ME	NH	VT	CT	RI	MA	ISO_NE
.	.0	.00180	.0	.0030	.00985	.00250	.
	ME	NH	VT	CT	RI*	MA	ISO_NE
2020	0	21,172	0	89,782	62,806	123,418	297,178
2021	0	21,393	0	90,577	62,352	124,909	299,230
2022	0	21,622	0	91,424	62,005	126,450	301,502
2023	0	21,860	0	92,298	61,808	128,022	303,989
2024	0	22,089	0	93,173	61,619	129,574	306,455
2025	0	22,320	0	94,055	61,480	131,142	308,996
Total	0	130,456	0	551,308	372,070	763,516	1,817,350

* Adjusted to reflect lower portion of budget coming from SBC due to higher FCM revenue

Impacts of New EE on Revenue Streams

Lost SBC Dollars (\$1000s)							
	ME	NH	VT	CT	RI	MA	ISO_NE
2020	0	201	0	2,227	3,064	5,348	10,840
2021	0	292	0	3,230	4,450	7,755	15,727
2022	0	377	0	4,167	5,747	9,999	20,290
2023	0	457	0	5,042	6,962	12,092	24,554
2024	0	532	0	5,859	8,100	14,044	28,535
2025	0	602	0	6,622	9,166	15,864	32,254
Total	0	2,461	0	27,149	37,488	65,102	132,201
New FCM Dollars (\$1000s)							
year	ME	NH	VT	CT	RI	MA	ISO_NE
2020	0	1,373	0	8,102	3,870	24,610	37,955
2021	0	1,995	0	11,753	5,620	35,683	55,052
2022	0	2,577	0	15,163	7,258	46,010	71,008
2023	0	3,124	0	18,346	8,793	55,640	85,903
2024	0	3,635	0	21,318	10,231	64,621	99,806
2025	0	4,115	0	24,094	11,577	72,997	112,782
Total	0	16,818	0	98,776	47,349	299,562	462,506

Policy Dollars and Total Budgets

Policy Dollars (\$1000s)*							
	ME	NH	VT	CT	RI	MA	ISO_NE
2020	39,765	0	58,887	75,700	0	358,078	532,430
2021	39,765	0	60,794	75,700	0	347,921	524,180
2022	39,765	0	62,613	75,700	0	338,297	516,375
2023	39,765	0	64,510	75,700	0	329,187	509,162
2024	39,765	0	66,346	75,700	0	320,607	502,418
2025	39,765	0	68,234	75,700	0	312,483	496,182
Total	238,590	0	381,384	454,200	0	2,006,573	3,080,747
Total Budget Dollars (\$1000s)							
	ME	NH	VT	CT	RI	MA	ISO_NE
2020	35,789	32,452	58,887	234,931	86,218	638,064	1,086,341
2021	35,789	33,204	60,794	238,373	86,128	638,064	1,092,352
2022	35,789	33,930	62,613	241,693	86,123	638,064	1,098,212
2023	35,789	34,634	64,510	244,876	86,246	638,064	1,104,118
2024	35,789	35,300	66,346	247,905	86,356	638,064	1,109,760
2025	35,789	35,941	68,234	250,800	86,497	638,064	1,115,324
Total	214,734	205,461	381,384	1,458,578	517,568	3,828,384	6,606,107

* Policy Dollars are funds not from SBC, RGGI and FCM revenues. Policy Dollars are present in states that set the SBC rate based on budget alone (VT and ME) and states that have a surcharge to cover the balance of the total budget (MA and CT). MA is adjusted to reflect lower portion of budget coming from SBC due to higher FCM revenue

Production Costs and Peak-to-Energy Ratio

Production Cost Multiplier (includes inflation)						
	ME	NH	VT	CT	RI	MA
2015	1.075	1.075	1.075	1.075	1.075	1.075
2016	1.075	1.075	1.075	1.075	1.075	1.075
2017	1.075	1.075	1.075	1.075	1.075	1.075
2018	1.075	1.075	1.075	1.075	1.075	1.075
2019	1.075	1.075	1.075	1.075	1.075	1.075
2020	1.075	1.075	1.075	1.075	1.075	1.075
2021	1.075	1.075	1.075	1.075	1.075	1.075
2022	1.075	1.075	1.075	1.075	1.075	1.075
2023	1.075	1.075	1.075	1.075	1.075	1.075
2024	1.075	1.075	1.075	1.075	1.075	1.075
2025	1.075	1.075	1.075	1.075	1.075	1.075
Production Cost (\$/MWh)						
	ME	NH	VT	CT	RI	MA
2015	187	428	403	472	430	441
2016	201	460	433	507	462	474
2017	216	494	466	545	497	509
2018	232	532	501	586	534	548
2019	250	571	538	630	574	589
2020	269	614	579	678	617	633
2021	289	660	622	728	664	680
2022	310	710	669	783	713	731
2023	334	763	719	842	767	786
2024	359	820	773	905	824	845
2025	386	882	831	973	886	908
Peak-to-Energy Ratio (MW/GWh)						
	ME	NH	VT	CT	RI	MA
	0.1025	0.1458	0.1265	0.1294	0.1475	0.1364

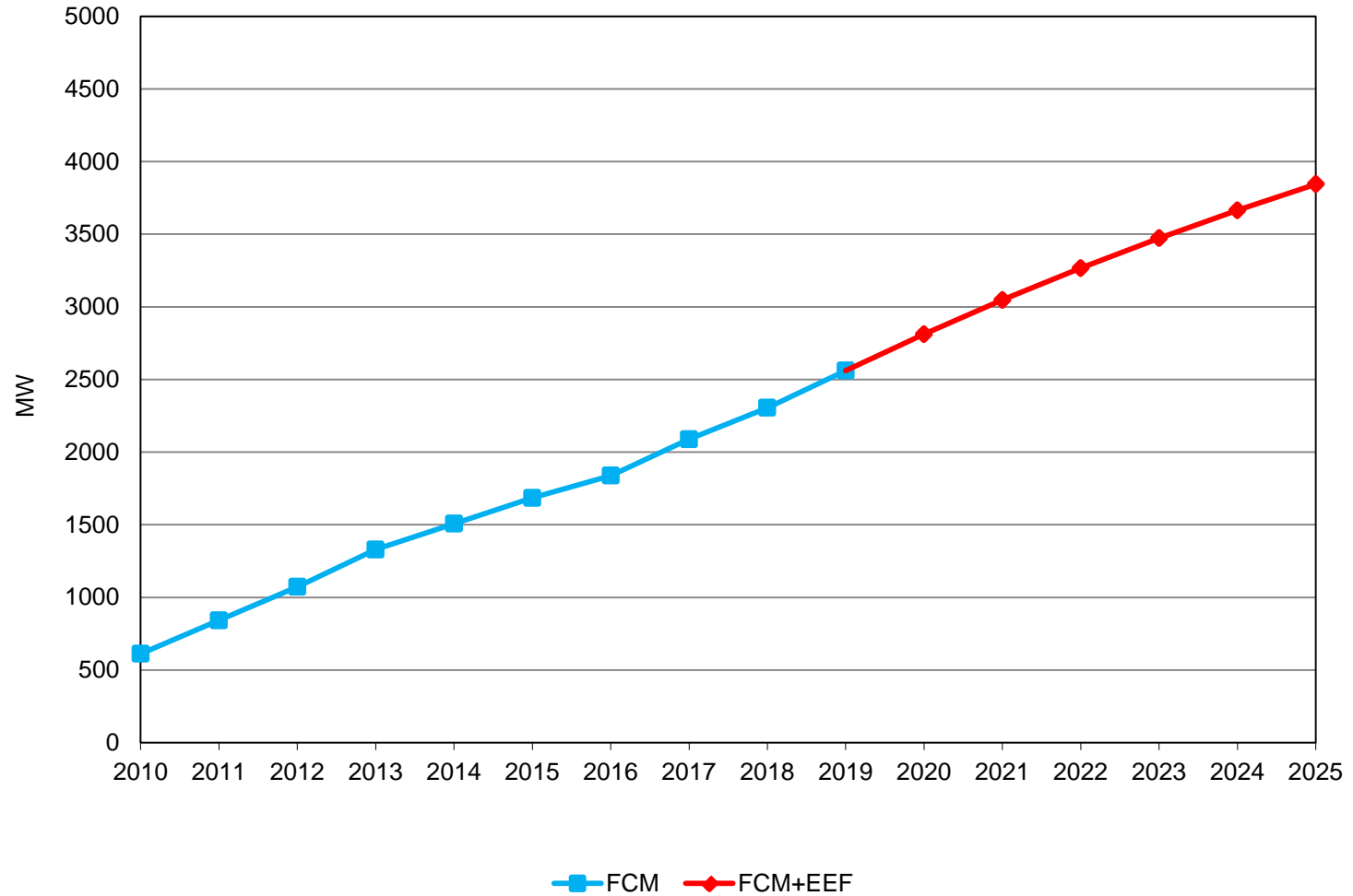
EE FORECAST RESULTS TABLE

Energy and Summer Peak EE Forecast Data

GWh Savings							
	ME	NH	VT	CT	RI	MA	ISO_NE
2020	141	56	108	368	148	1,069	1,890
2021	131	53	104	347	138	994	1,767
2022	122	51	99	327	128	925	1,652
2023	114	48	95	308	119	860	1,545
2024	106	46	91	290	111	800	1,444
2025	98	43	87	273	103	745	1,350
Total 2020-2025	713	297	584	1,914	747	5,394	9,646
Average	119	49	97	319	125	899	1,608
MW Savings							
	ME	NH	VT	CT	RI	MA	ISO_NE
2020	14	8	14	48	22	146	251
2021	13	8	13	45	20	136	235
2022	13	7	13	42	19	126	220
2023	12	7	12	40	18	117	206
2024	11	7	12	38	16	109	192
2025	10	6	11	35	15	102	180
Total 2020-2025	73	43	74	248	110	735	1,283
Average	12	7	12	41	18	123	214

EE FORECAST DEMAND PLOTS

ISONE Energy Efficiency on Summer Peak (MW)



DRAFT STATE FORECASTS

Explanation of State Forecast Graphs

The following slides show for each state:

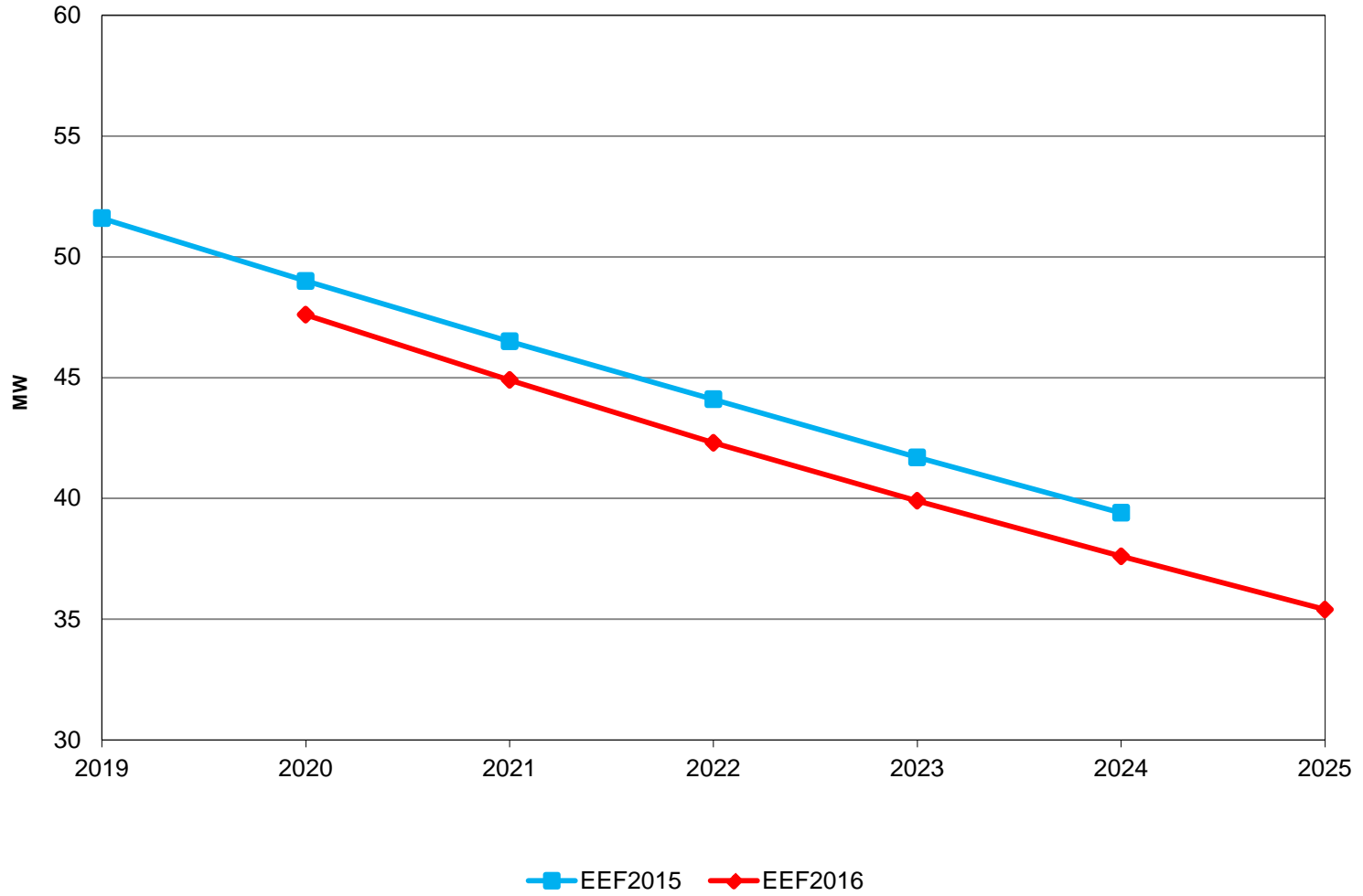
- The assumptions used in the forecast model
- A graphic comparison between the 2015 EE forecast and the 2016 forecast of the forecasted capacity reductions in Megawatts
- A graphic comparison between the 2015 EE forecast and the 2016 EE forecast of the forecasted energy reductions in Megawatt hours
- A graphic representation of the EE capacity reductions qualified in the Forward Capacity Market (2010-2019) and the extended 2016 EE forecast

State-Level Assumptions - Connecticut

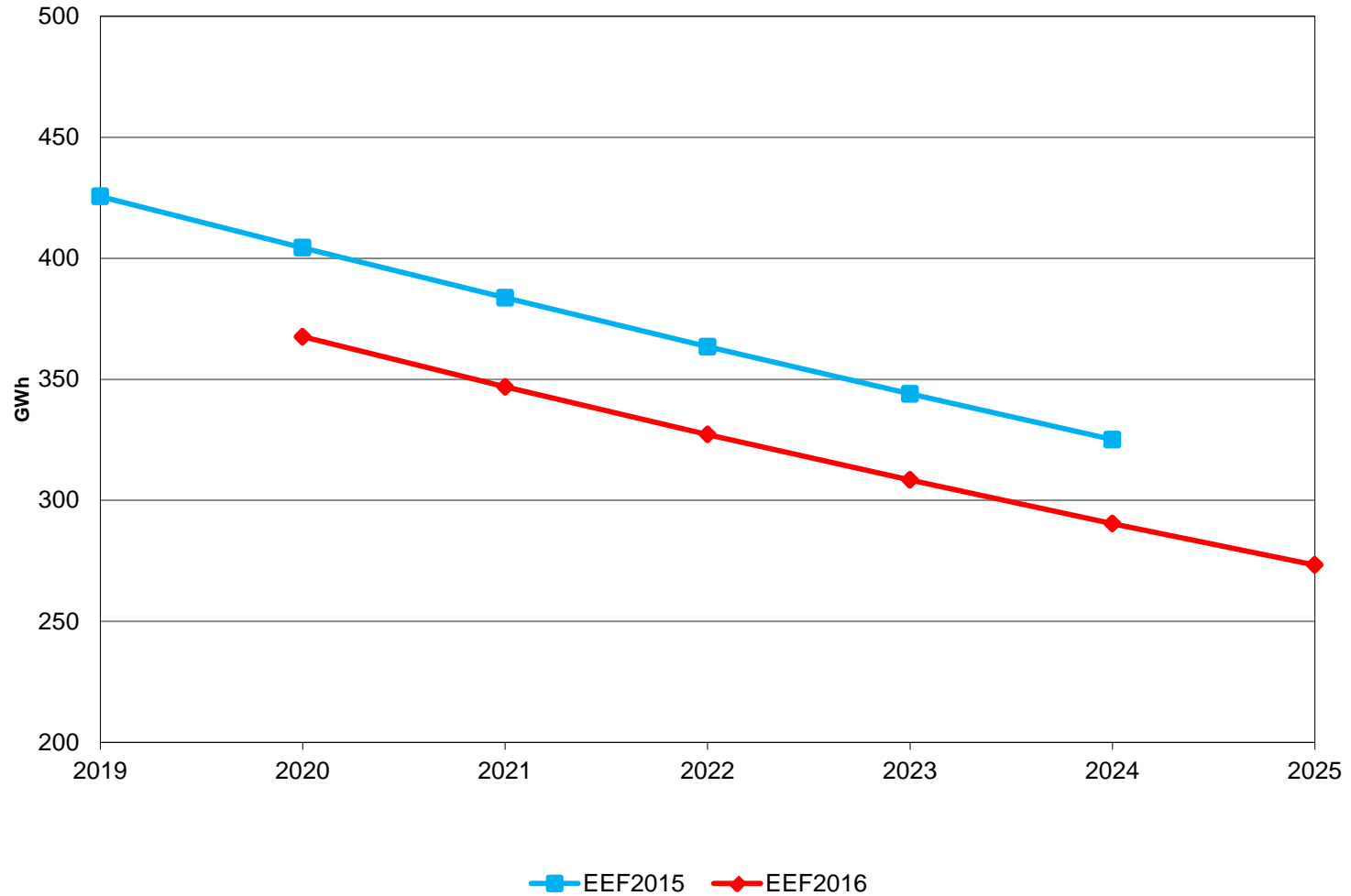
- Budget: Based on Commission approved 2015 budget
- Budget Spend Rate: not applicable
- Production Cost: Based on average of 2012-2014 PA data
- Production Cost Escalation Rate: 5% + 2.5% inflation
- Peak to Energy Ratio: Based on average of 2012 -2014 PA data



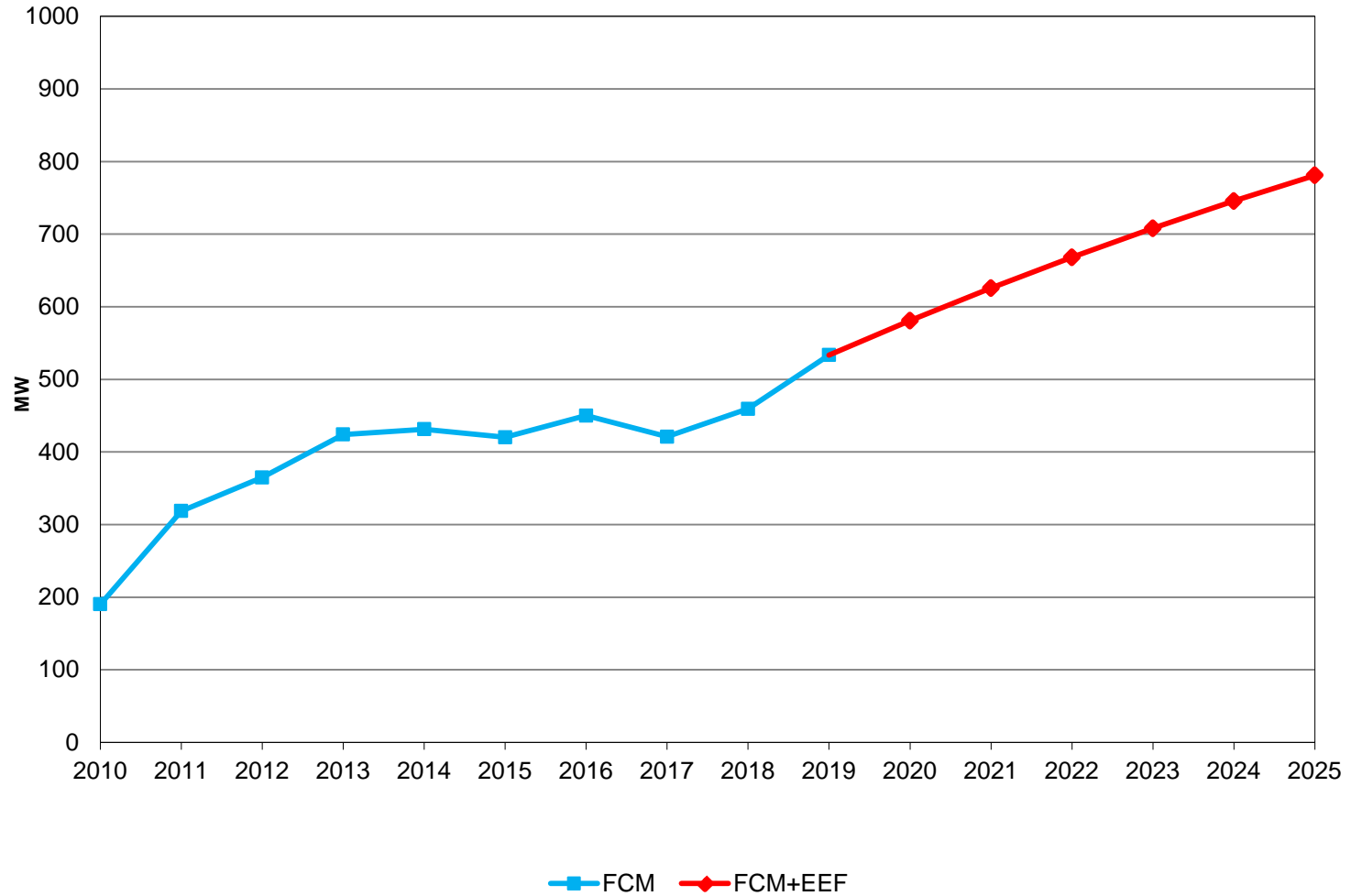
CT Energy Efficiency on Summer Peak (MW)



CT Energy Efficiency on Annual Energy (GWh)



CT Energy Efficiency on Summer Peak (MW)

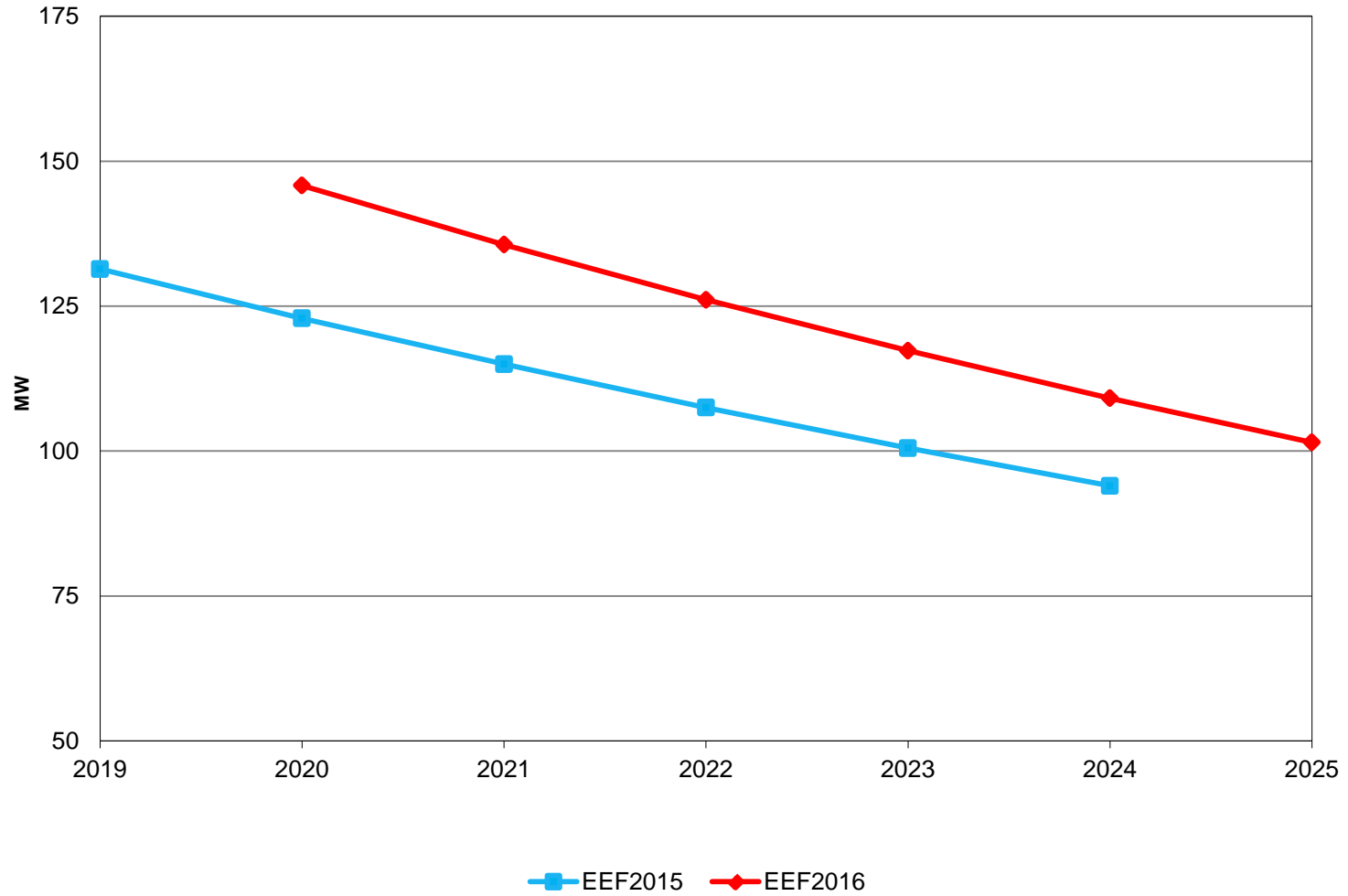


State-Level Assumptions - Massachusetts

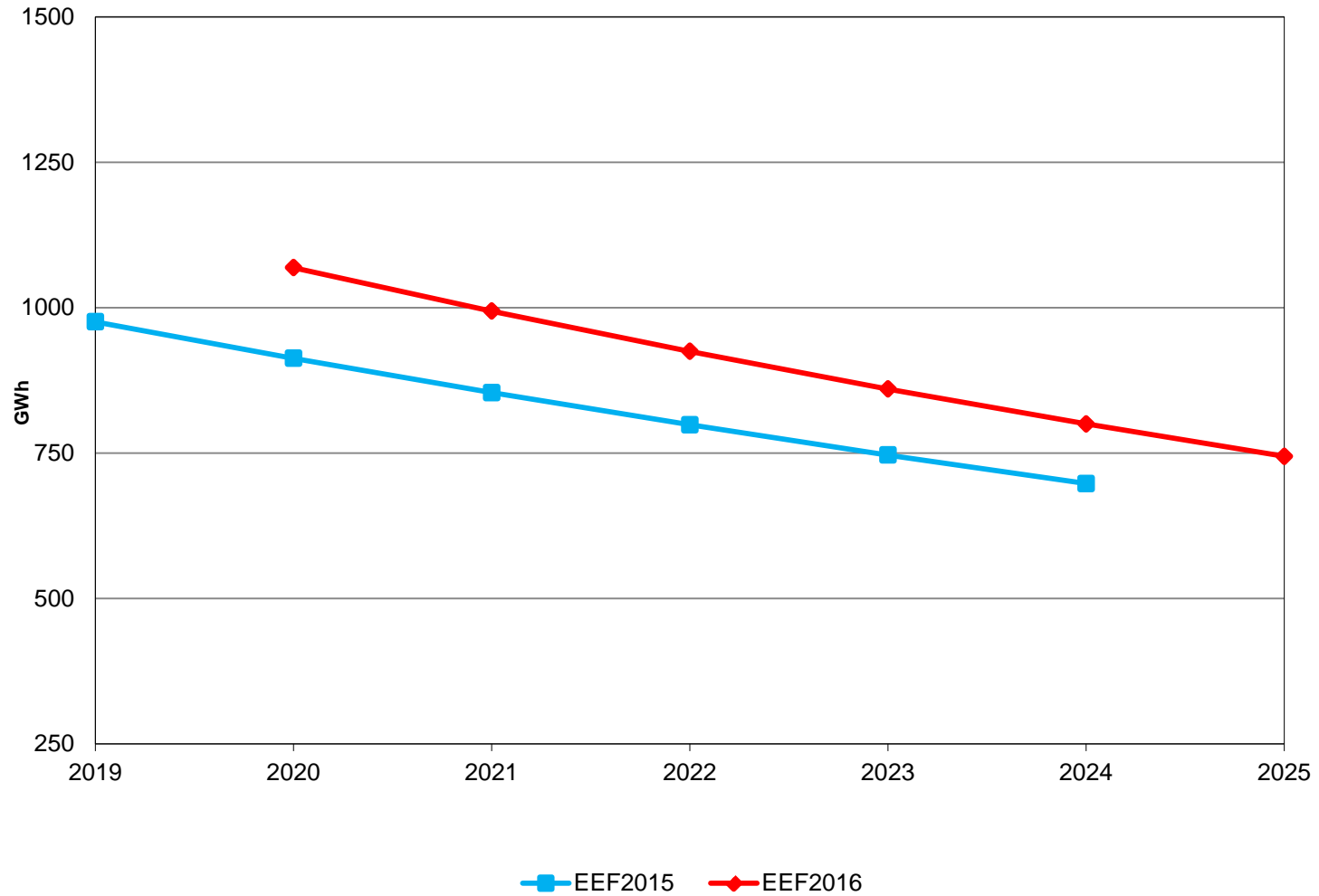
- Budget: Based on Commission approved 2016-2018 budget
- Budget Spend Rate: not applicable
- Production Cost: Based on average of 2012 -2014 PA data
- Production Cost Escalation Rate: 5% + 2.5% inflation
- Peak to Energy Ratio: Based on average of 2012-2014 PA data



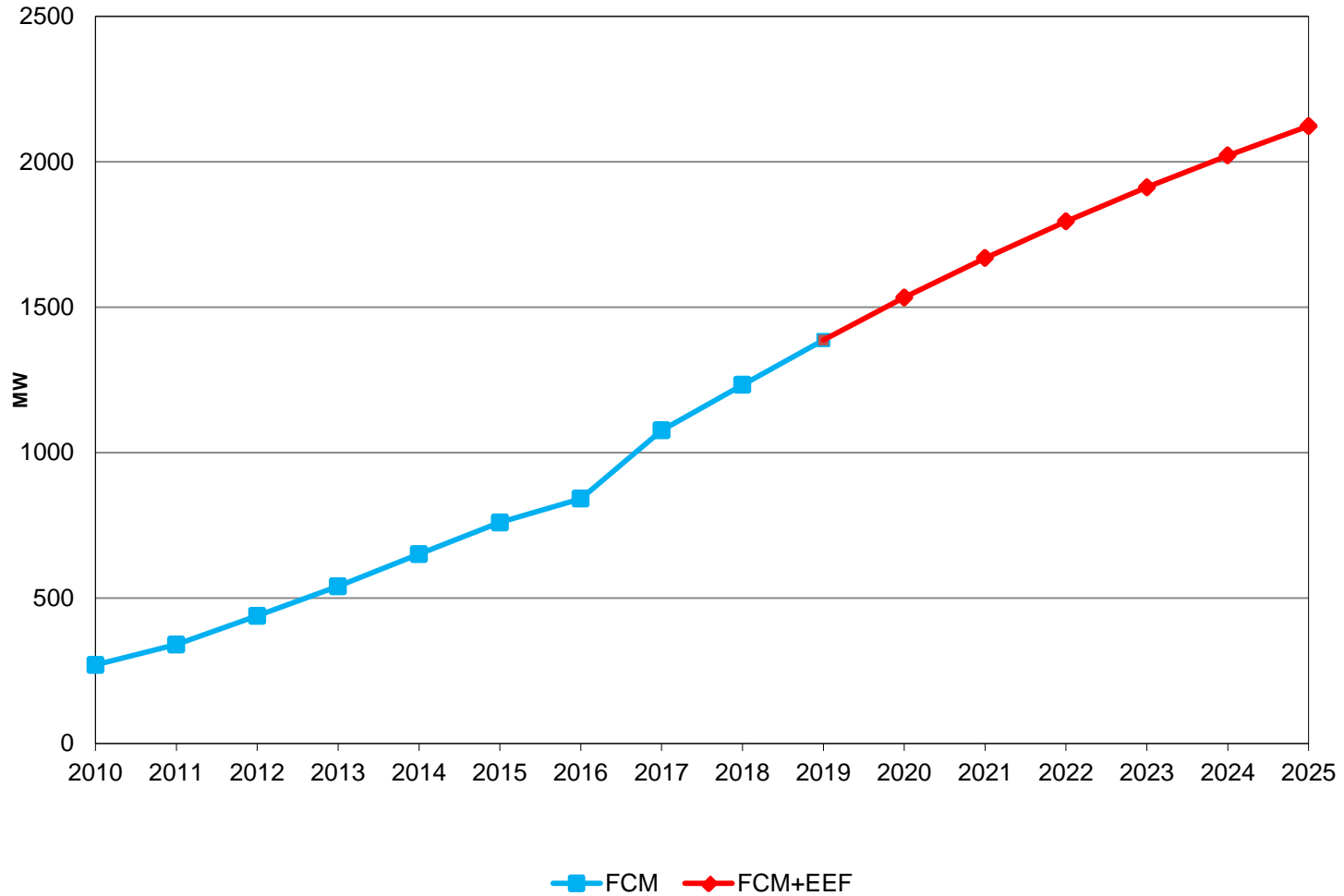
MA Energy Efficiency on Summer Peak (MW)



MA Energy Efficiency on Annual Energy (GWh)



MA Energy Efficiency on Summer Peak (MW)

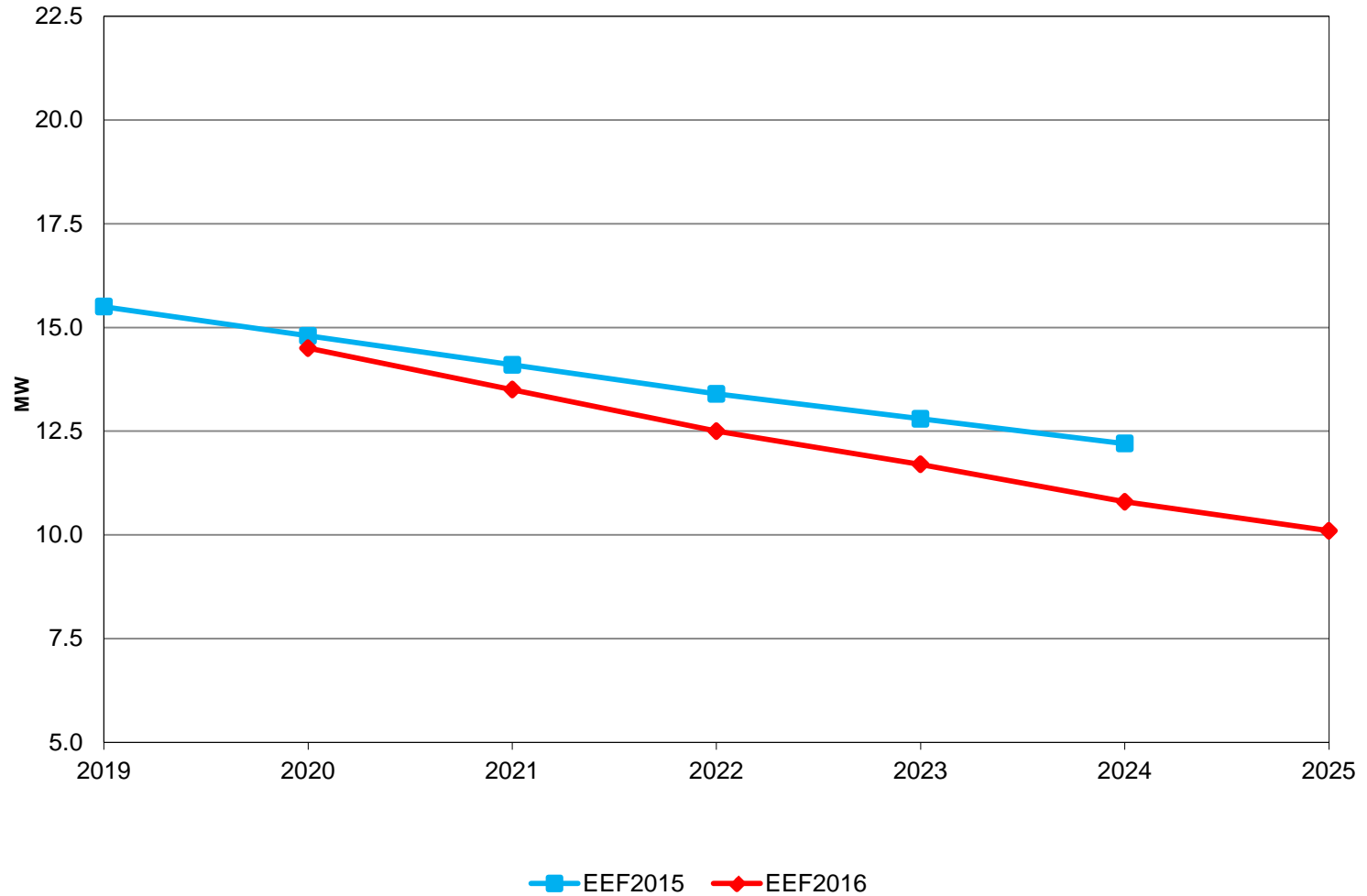


State Level Assumptions - Maine

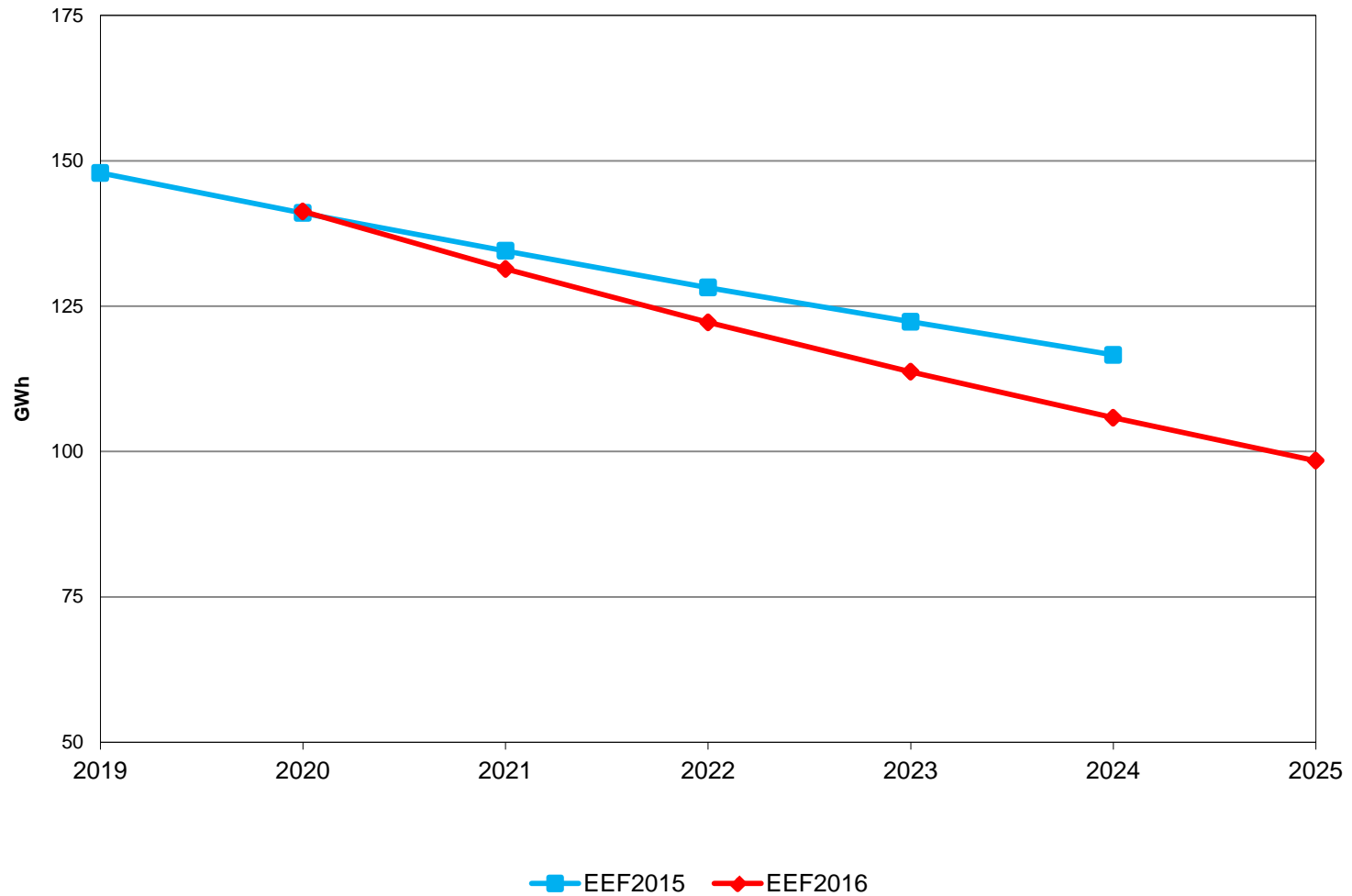
- Budget: Based on Commission approved 2017-2019 budget
- Budget Spend Rate: 10% (deduction)
- Production Cost: Based on average of 2012-2014 PA data
- Production Cost Escalation Rate: 5% + 2.5% inflation
- Peak to Energy Ratio: Based on average of 2012-2014 PA data



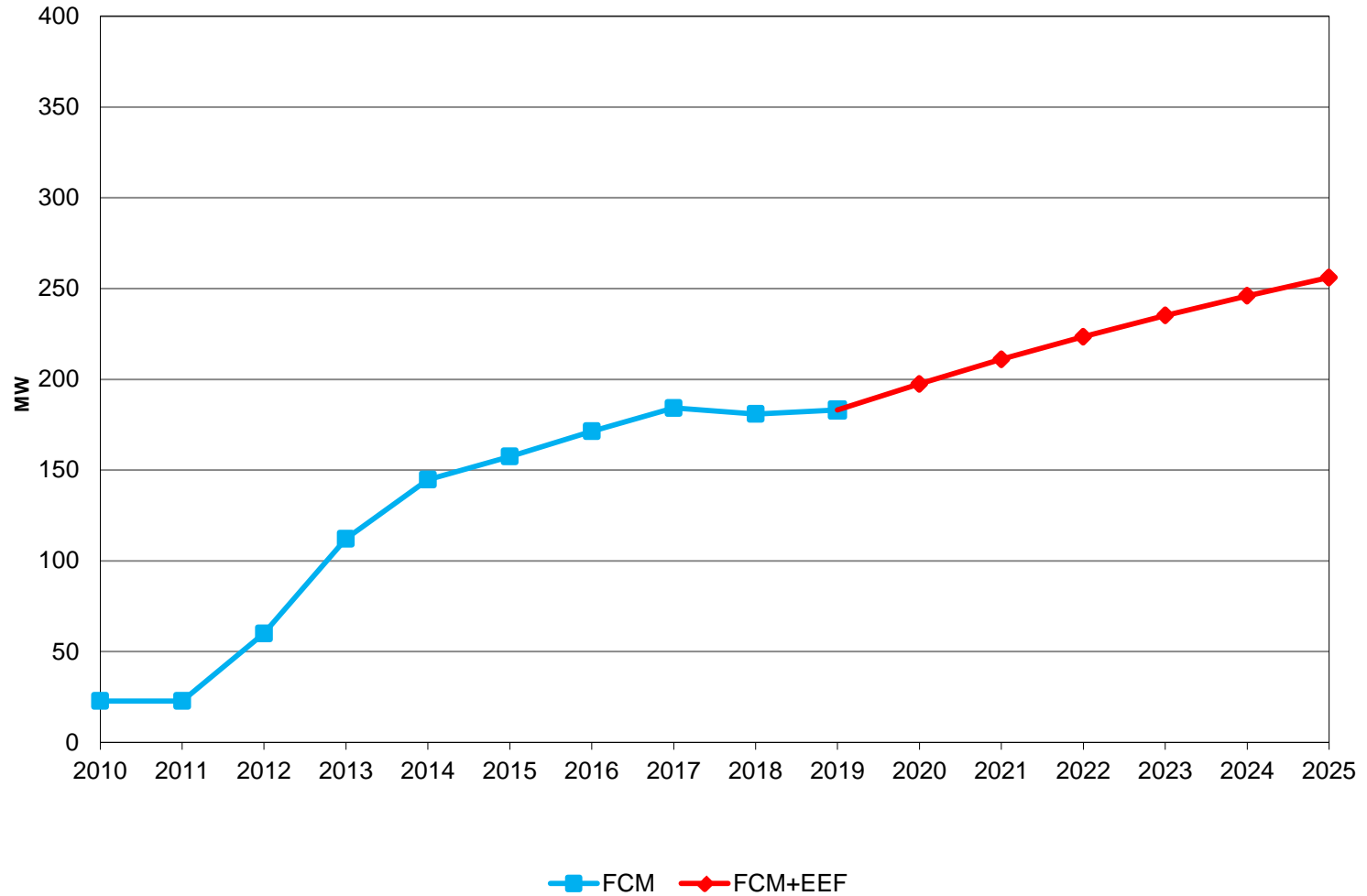
ME Energy Efficiency on Summer Peak (MW)



ME Energy Efficiency on Annual Energy (GWh)



ME Energy Efficiency on Summer Peak (MW)

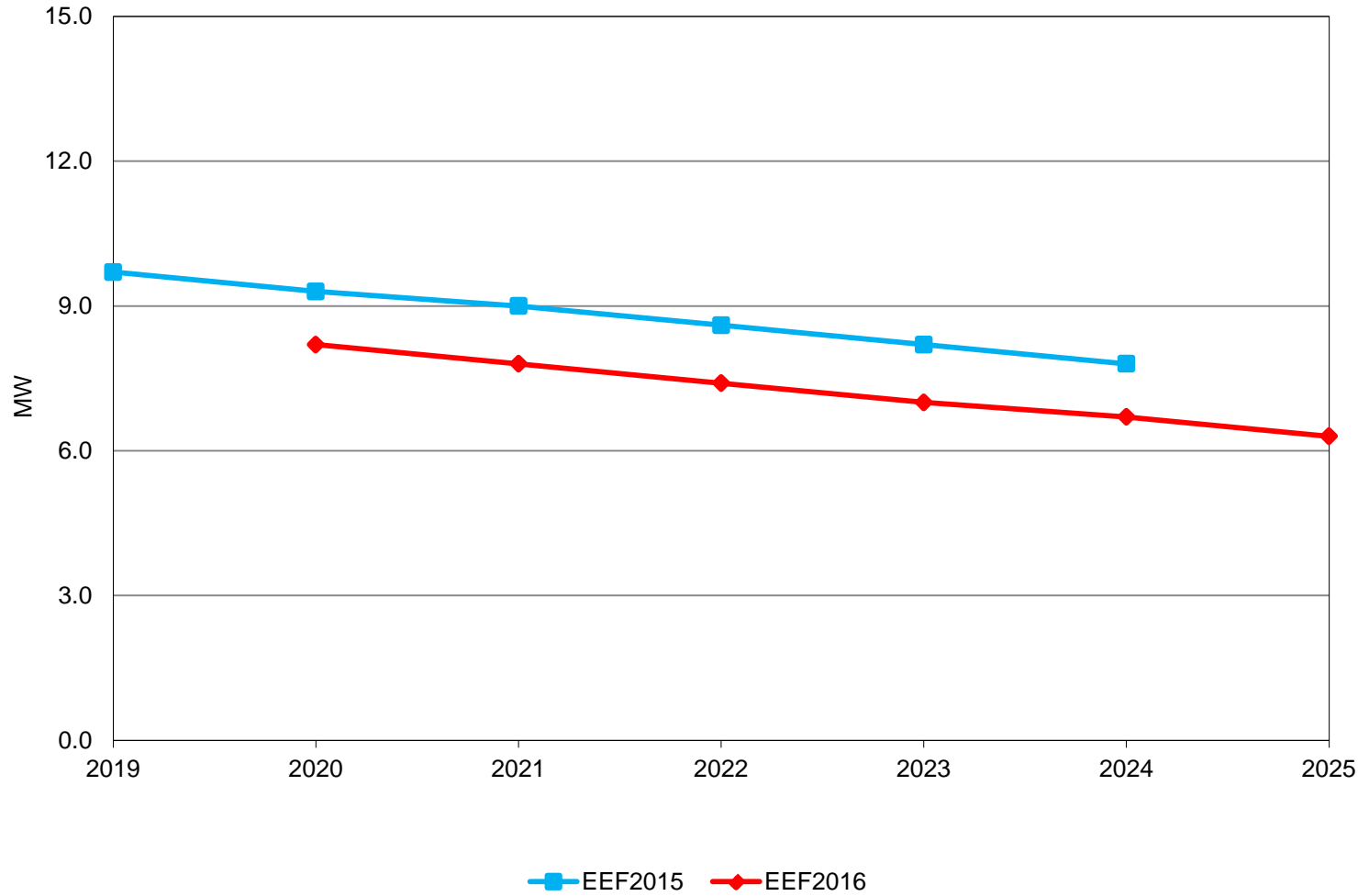


State-Level Assumptions - New Hampshire

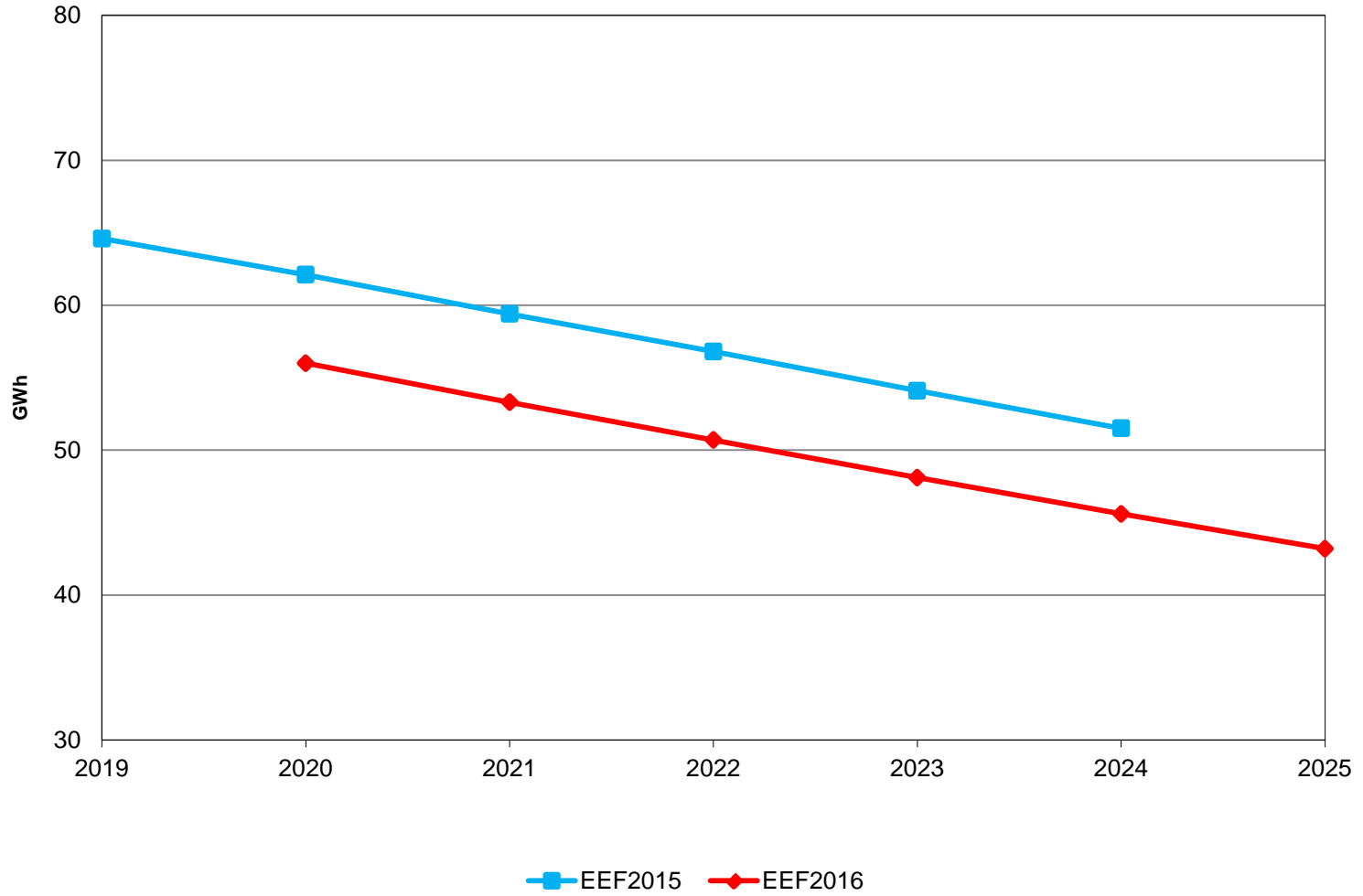
- Budget: Based on Commission approved 2016 budget
- Budget Spend Rate: not applicable
- Production Cost: Based on average of 2012-2014 PA data
- Production Cost Escalation Rate: 5% + 2.5% inflation
- Peak to Energy Ratio: Based on average of 2012-2014 PA data



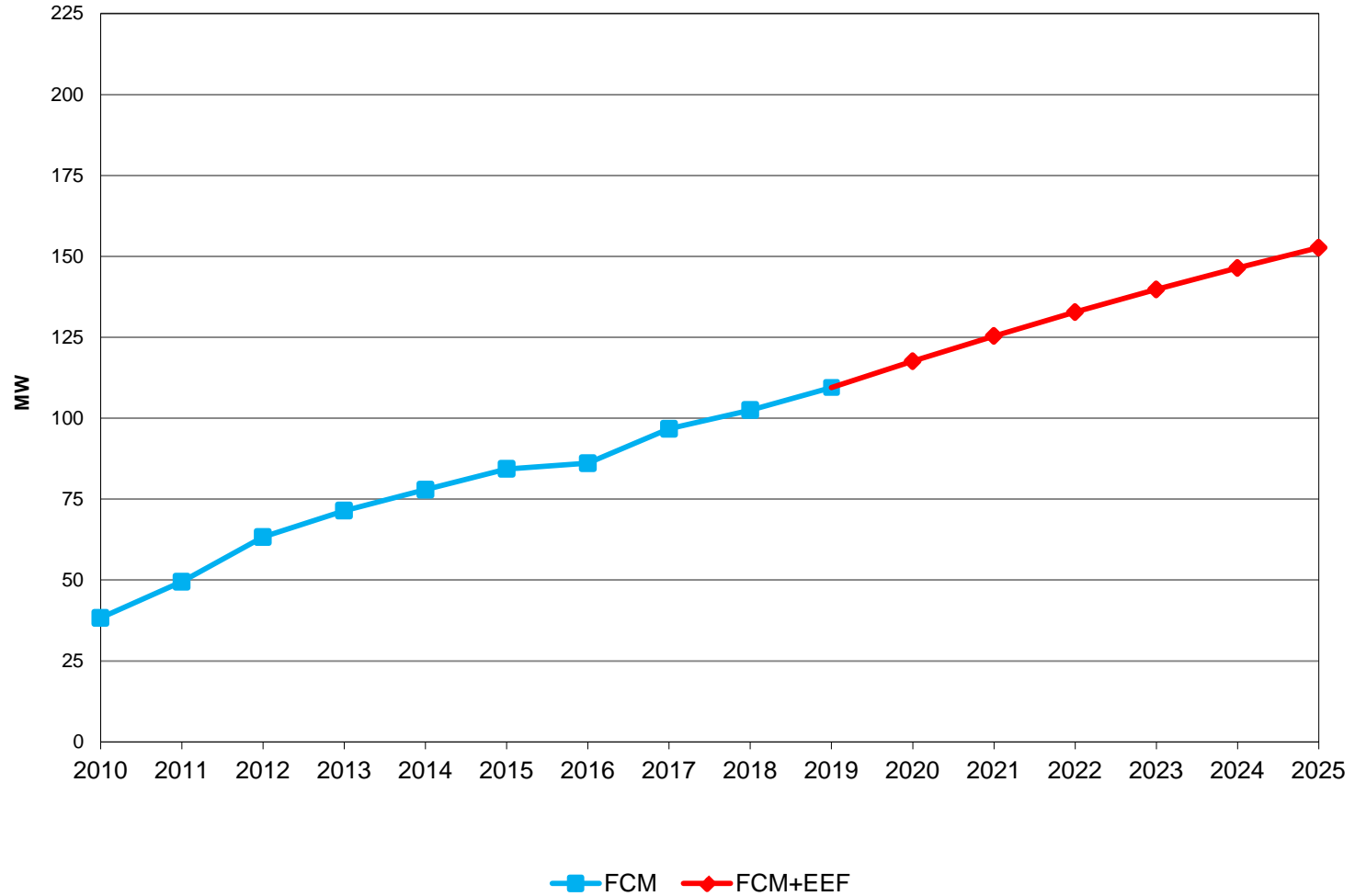
NH Energy Efficiency on Summer Peak (MW)



NH Energy Efficiency on Annual Energy (GWh)



NH Energy Efficiency on Summer Peak (MW)

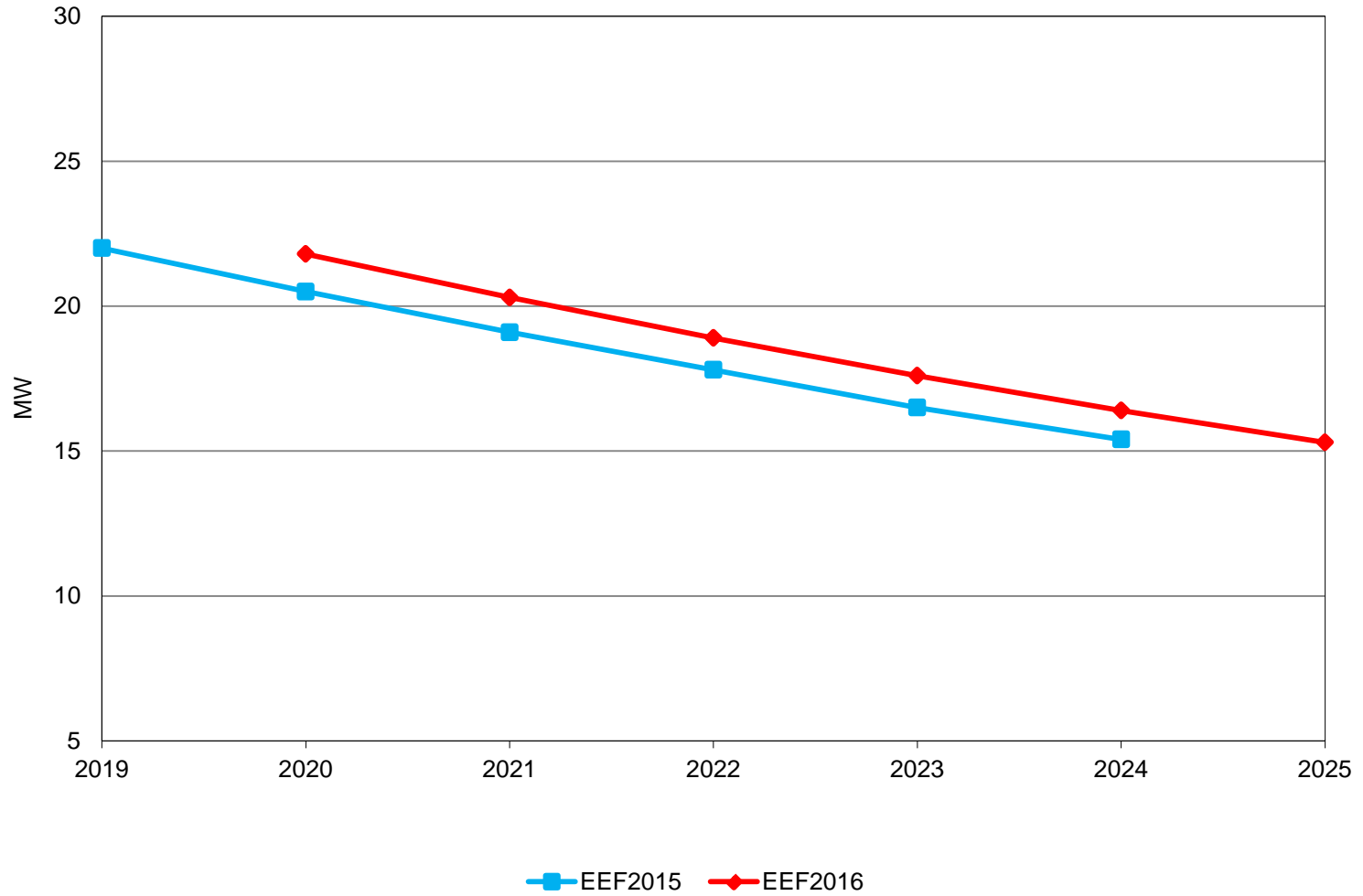


State-Level Assumptions - Rhode Island

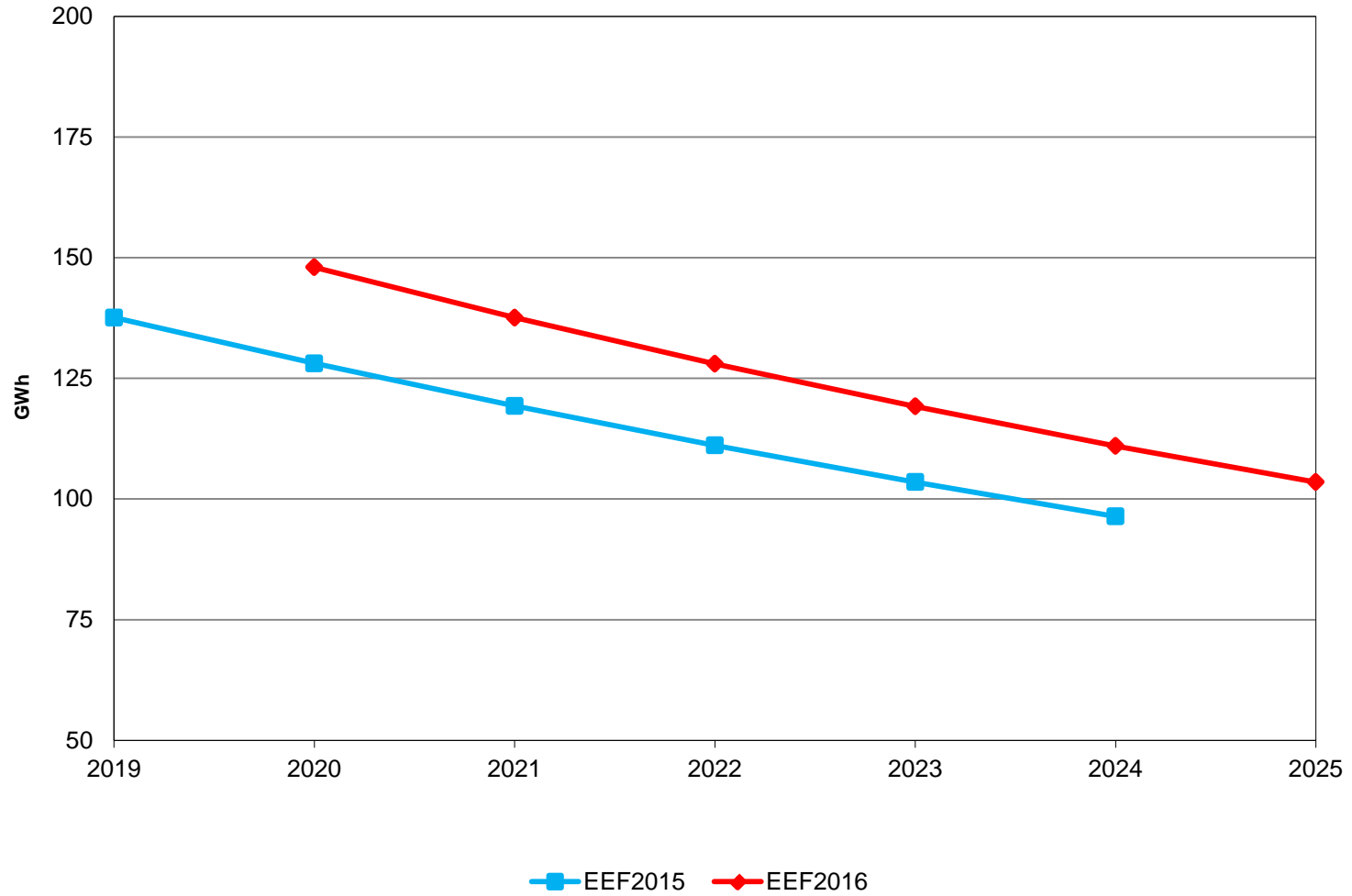
- Budget: Based on Commission approved 2015-2017 budget
- Budget Spend Rate: not applicable
- Production Cost: Based on average of 2012-2014 PA data
- Production Cost Escalation Rate: 5% + 2.5% inflation
- Peak to Energy Ratio: Based on average of 2012-2014 PA data



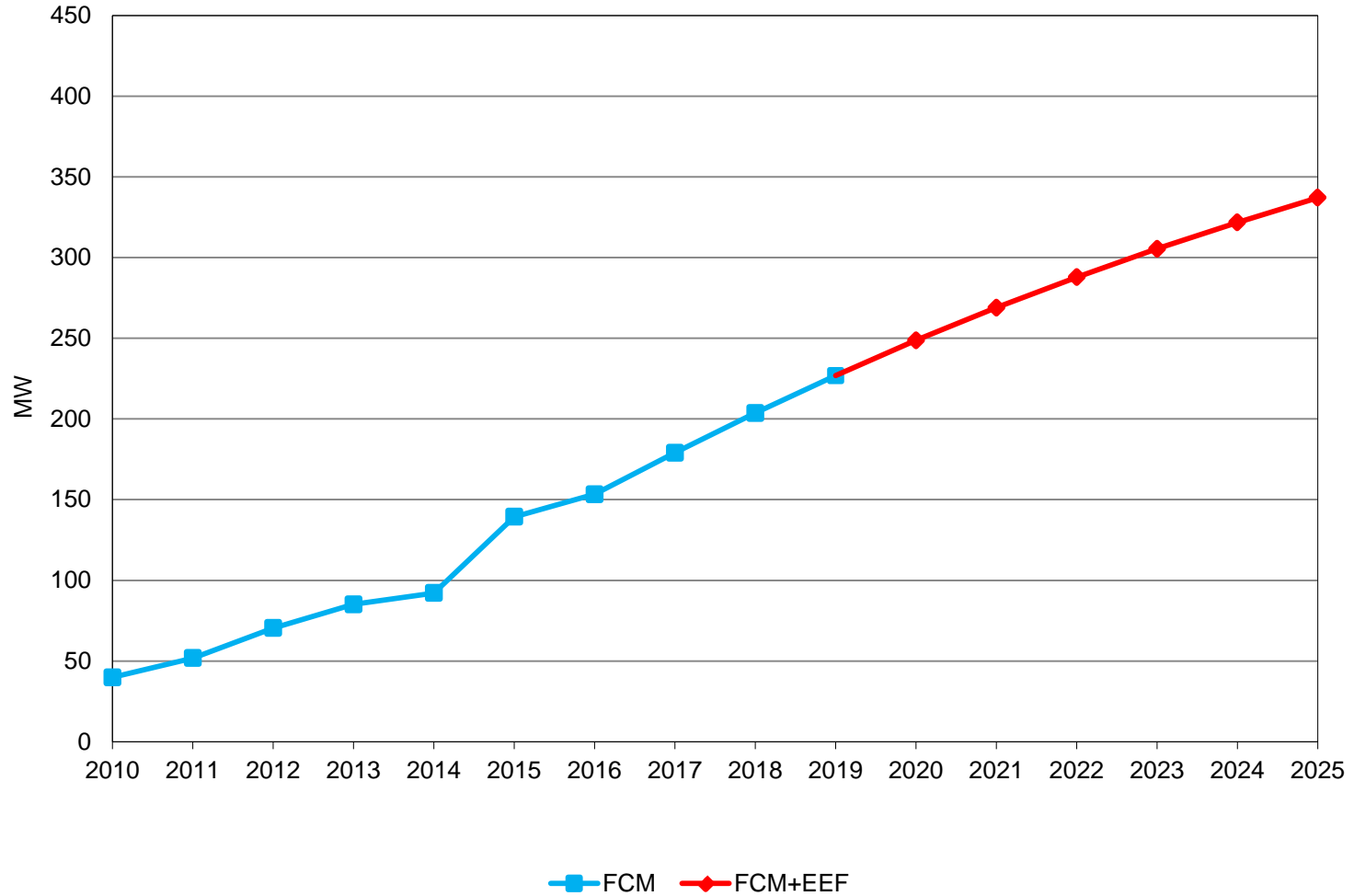
RI Energy Efficiency on Summer Peak (MW)



RI Energy Efficiency on Annual Energy (GWh)



RI Energy Efficiency on Summer Peak (MW)

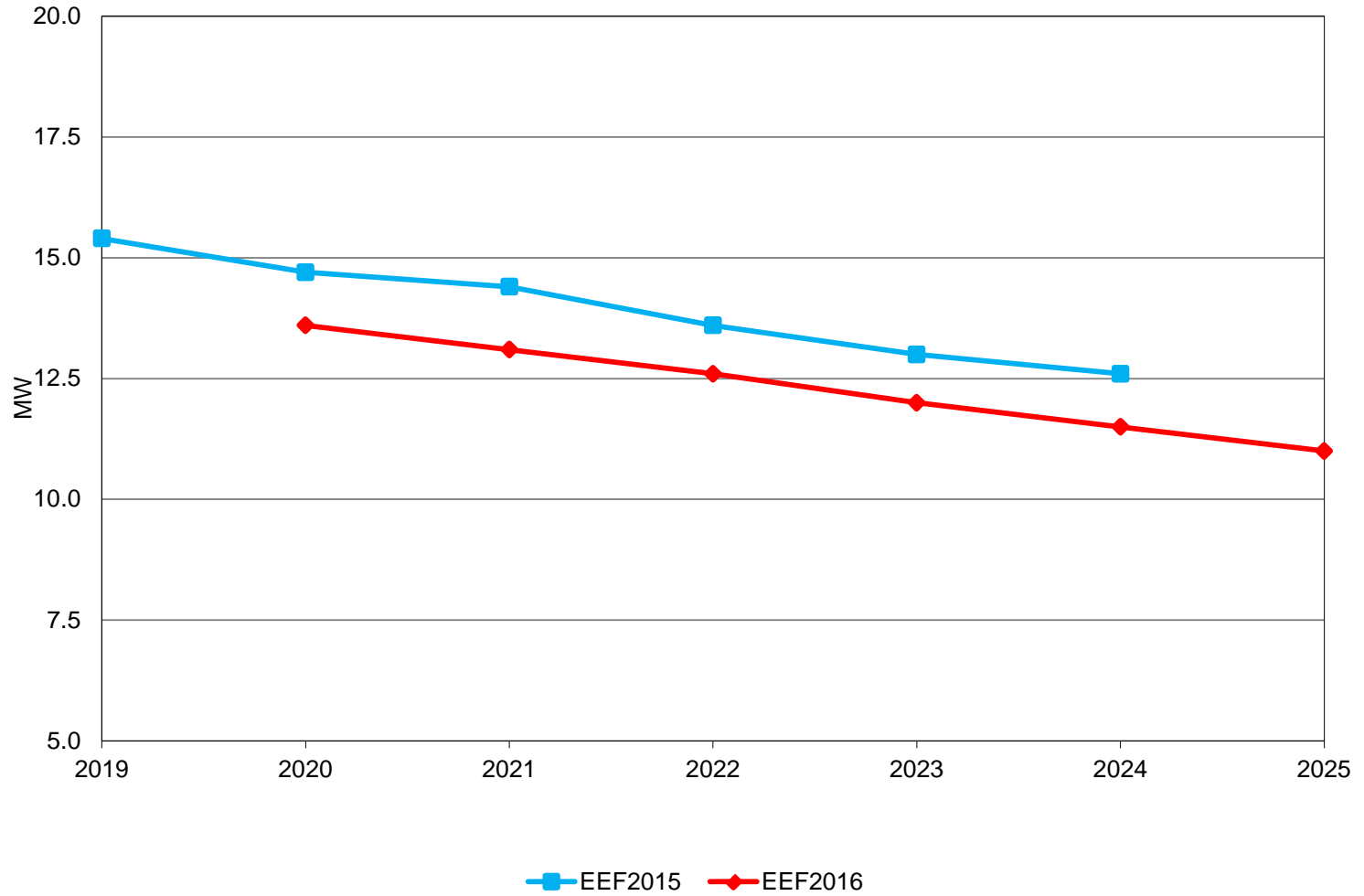


State-Level Assumptions - Vermont

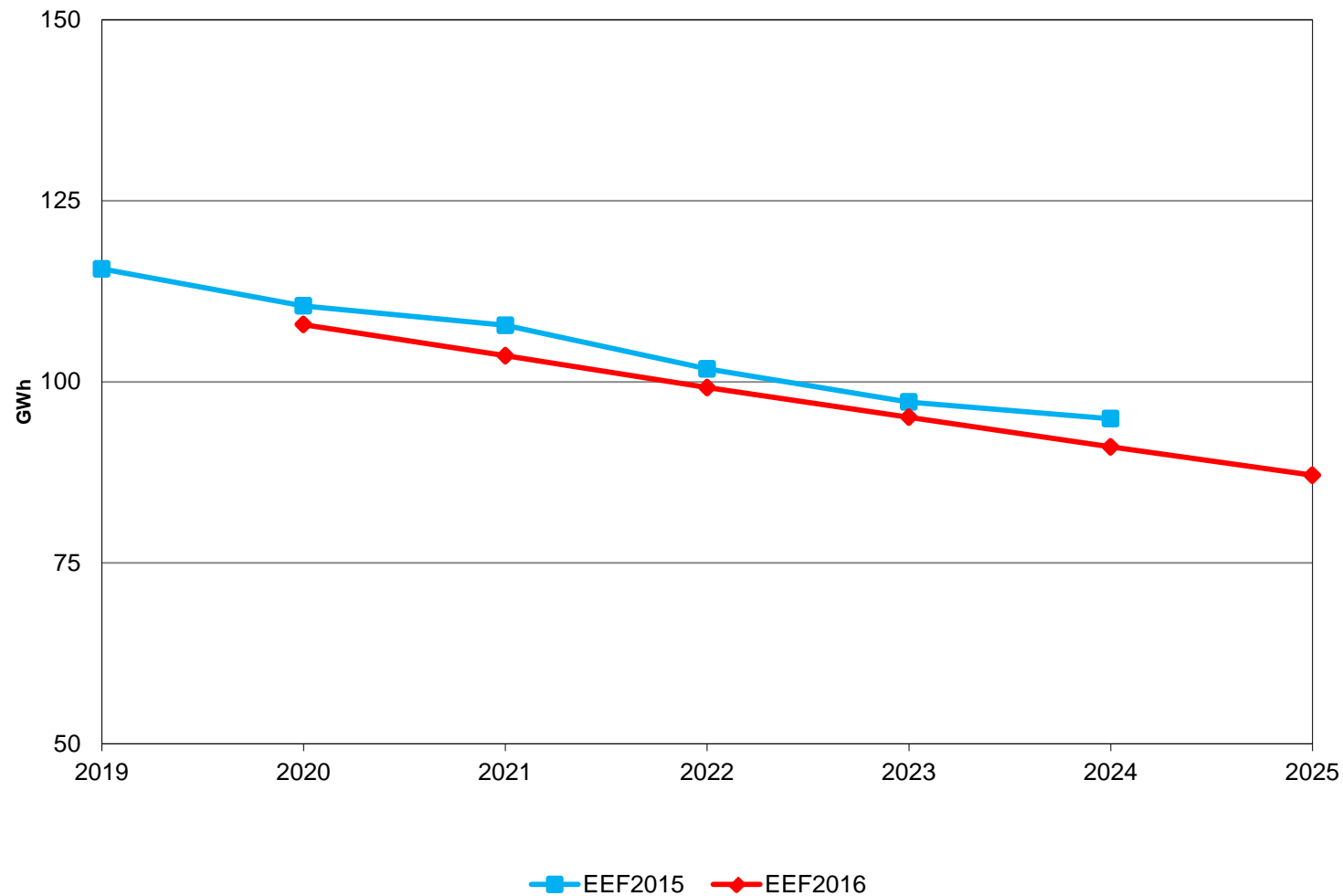
- Budget: Based on Commission approved 2015-2024 budget
- Budget Spend Rate: not applicable
- Production Cost: Based on average of 2012-2014 PA data
- Production Cost Escalation Rate: 5% + 2.5% inflation
- Peak to Energy Ratio: Based on average of 2012-2014 PA data



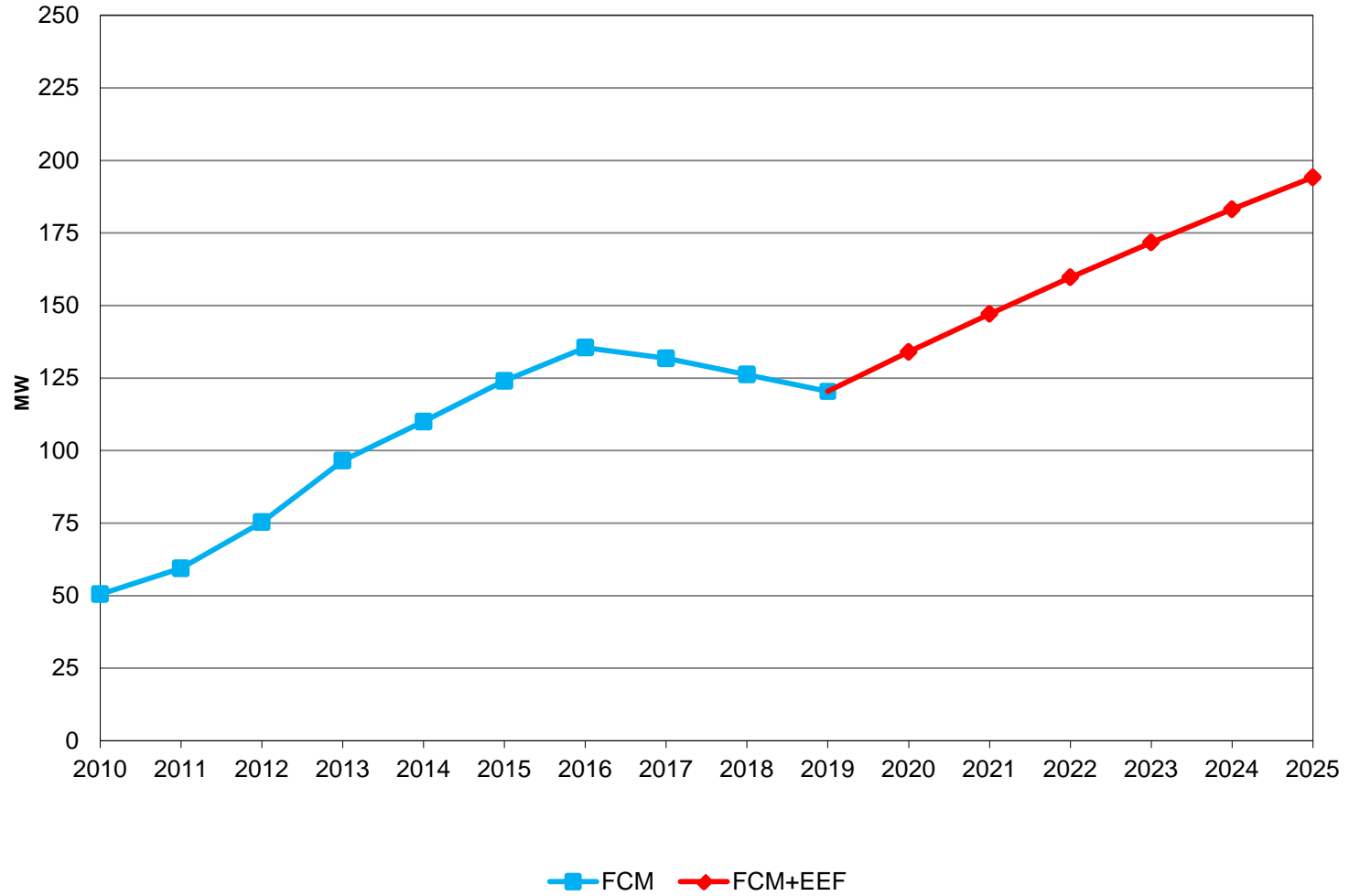
VT Energy Efficiency on Summer Peak (MW)



VT Energy Efficiency on Annual Energy (GWh)



VT Energy Efficiency on Summer Peak (MW)

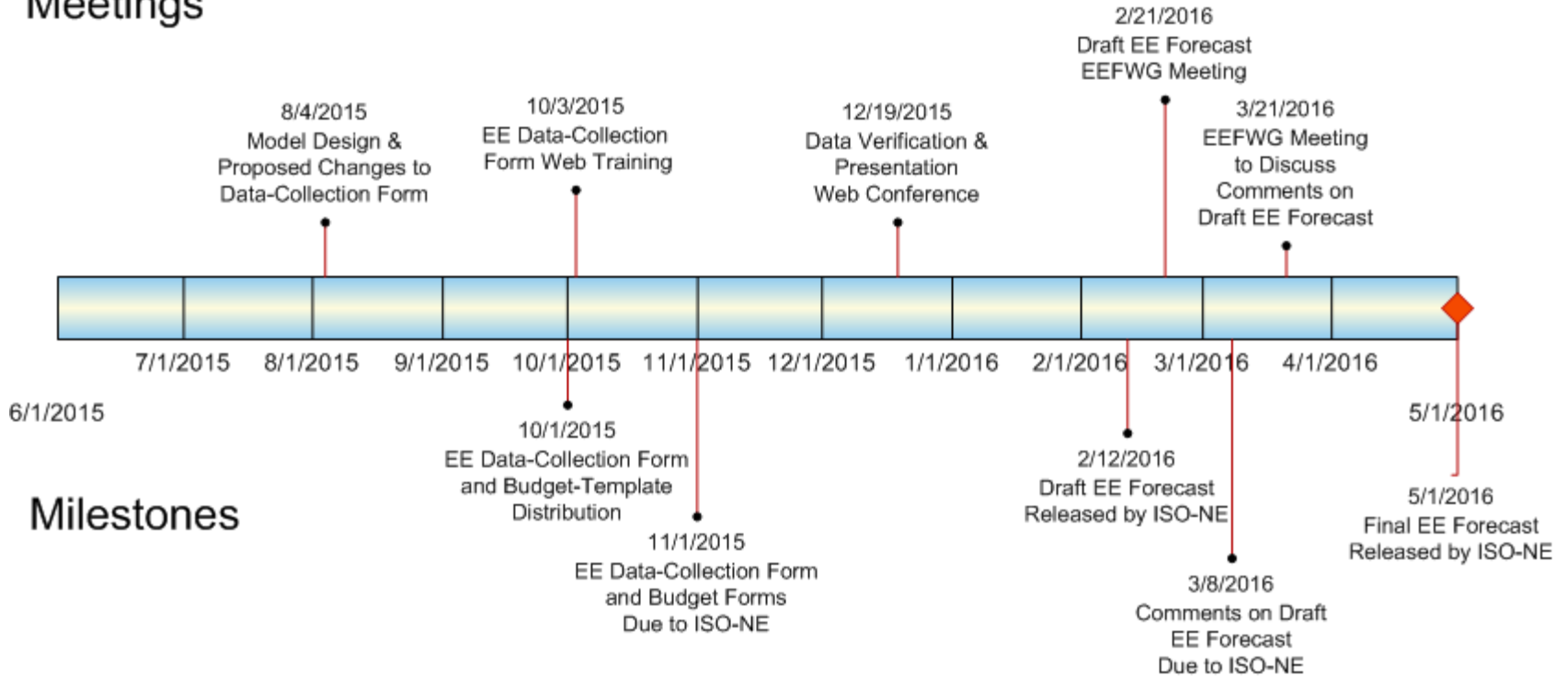


FORECAST SCHEDULE AND NEXT STEPS

2016 EE Forecast Schedule

Meetings

2016 EE Forecast Schedule



*Dates subject to modification

Additional 2016 EE Forecast Process

- Present an update to the Planning Advisory Committee –TBD
- EE Forecast will be incorporated into the CELT to be released in May 2016

