MAY 1, 2021 | HOLYOKE, MA



Final 2021 Energy Efficiency Forecast

INTRODUCTION



Acronyms

- ARA 3 Third Annual Reconfiguration Auction (FCM)
- BCR Benefit-Cost Ratio
- CSO Capacity Supply Obligation (FCM)
- C&I Commercial and Industrial
- CELT 10-year forecast of Capacity, Energy, Loads and Transmission

- EE Energy Efficiency
- EEFWG Energy Efficiency Forecast Working Group
- FCA Forward Capacity Auction (FCM)
- FCM Forward Capacity Market
- ICR Installed Capacity Requirement
- PA Program Administrator
- R&L Residential and Low Income
- RGGI Regional Greenhouse Gas Initiative
- SBC System Benefit Charge

Introduction

- This presentation contains the final EE forecast for the period 2021 through 2030
- The forecast estimates reductions in energy and demand from state-sponsored EE programs in the New England control area by state (CT, MA, ME, NH, RI, VT)
- The data used to create the forecast originates from state-sponsored EE program administrators (PAs) and state regulatory agencies
- The EE forecast is updated annually and is incorporated into the CELT report

Introduction

Impacts

- The EE forecast is used in ISO studies including:
 - Long-term transmission planning studies
 - Economic planning studies
- EE forecast will not impact:
 - ICR/Local Sourcing Requirement/Maximum Capacity Limit/Demand Curves
 - FCM auctions
 - FCM related reliability studies (qualification, de-list bid reliability reviews)

MODEL METHODOLOGY



Updated EE Forecast Methodology

Process Diagram

- The process below is followed separately for each sector (R&L and C&I) using sector specific inputs in each of the orange blocks
- Summer and winter peak savings are computed separately using season-specific coincidence factors



IMPACTS OF CHANGES TO PDR RECONSTITUTION IN THE LOAD FORECAST



Introduction

- Recent changes to the reconstitution methodology used for energy efficiency (EE) resources in the gross load forecast have significantly changed the accounting needed in the annual EE forecast
 - The majority of PDR resources are EE resources
 - An overview of the new reconstitution methodology can be found in a presentation given at the October 23, 2020 EEFWG meeting
- Reconstitution is now calibrated to the EE Capacity Supply Obligations (CSOs) from the most recently completed Forward Capacity Auction (FCA)
- As a result of the new methodology, the following are both reflected as load reductions in the gross load forecast:
 - 1. EE installations in excess of their CSO
 - 2. Cumulative EE expiring measures that no longer participate as supply in FCM up through the most recently held FCA

Accounting for Embedded Expiring Measures

- Improved accounting for EE measure expiration in the new reconstitution methodology results in a gross load forecast with a lower slope (i.e., less gross load growth over time)
 - This is due in part to expiring measures becoming embedded as load reductions in the gross load forecast
- As a result, the EE forecast should be a projection of EE net of the cumulative impacts of embedded expiring measures
 - These impacts are appropriately captured within the reconstitution trend line that serves as the first four years of the EE forecast
 - However, there is a need for addressing the gap in accounting for embedded expiring measures in the years beyond the most recent FCA's Capacity Commitment Period (CCP)
 - An overview of how expiring measures embedded in the load forecast will be accounted for in the EE forecast was provided at the <u>December 7, 2020 EEFWG</u> meeting
- Starting in the 2021 CELT, the EE forecast is now a projection of EE described as follows:
 - The trend line of market-facing EE reflected in the new reconstitution up through the most recent FCA's CCP
 - A forecast of market-facing EE that will further reduce load beyond the most recent FCA's CCP

Accounting for Embedded Expiring Measures

- The annual growth in embedded EE expiring measures is represented by seasonal slopes
 - Seasonal slopes shown in figures are based on CELT 2020 data
- The effects of embedded expiring measures accumulate each year beyond the most recent FCA's CCP
- Embedded expiring measures are subtracted out of the EE forecast as they are accounted for in the gross load forecast as load reductions



- The following slides provide 3 examples of the potential interplay between the EE forecast and embedded expiring measures
- The relative slopes of the EE forecast (before expiring measures are subtracted out) and the embedded expiring measures dictate the shape of the resulting EE forecast
- There are three possible scenarios:
 - EE forecast has a greater slope than the embedded expiring measures
 - EE forecast and the embedded expiring measures have the same slope
 - EE forecast has a lower slope than the embedded expiring measures
- In reality, the EE forecast can reflect any mixture of these scenarios



Example: EE forecast has larger slope than embedded expiring measures

ISO-NE PUBLIC

Year	Cumulative EE Forecast (before subtracting embedded expiring measures) (MW)	Cumulative Embedded Expiring Measures (MW)	Cumulative EE Forecast (MW)
2021	110	0	110
2022	120	0	120
2023	130	0	130
2024	140	0	140
2025	150	3	147
2026	160	6	154
2027	170	9	161
2028	180	12	168
2029	190	15	175
2030	200	18	182



EE forecast grows faster than embedded expiring measures, resulting in an EE forecast that *increases*

Example: EE forecast and embedded expiring measures have the same slope

ISO-NE PUBLIC

Year	Cumulative EE Forecast (before subtracting embedded expiring measures) (MW)	Cumulative Embedded Expiring Measures (MW)	Cumulative EE Forecast (MW)
2021	110	0	110
2022	120	0	120
2023	130	0	130
2024	140	0	140
2025	150	10	140
2026	160	20	140
2027	170	30	140
2028	180	40	140
2029	190	50	140
2030	200	60	140



EE forecast grows at the same rate as the embedded expiring measures, resulting in an EE forecast that is *flat*

Example: EE forecast has smaller slope than embedded expiring measures

ISO-NE PUBLIC

Year	Cumulative EE Forecast (before subtracting embedded expiring measures) (MW)	Cumulative Embedded Expiring Measures (MW)	Cumulative EE Forecast (MW)
2021	110	0	110
2022	120	0	120
2023	130	0	130
2024	140	0	140
2025	150	20	130
2026	160	40	120
2027	170	60	110
2028	180	80	100
2029	190	100	90
2030	200	120	80



EE forecast grows slower than embedded expiring measures, resulting in an EE forecast that <u>decreases</u>

INPUT DATA AND ASSUMPTIONS

State End-Use Shares, Regional Coincidence Factors, and State Budgets



EE Forecast Input Data

- Historical end-use kWh/\$incentive
 - source: PA provided data (2013-2019)
- Historical incentives as a % of total program costs
 - source: PA provided data (2013-2019)
- Projected end-use shares
 - Source: PA provided data
- Summer and winter end-use coincidence factors
 - Source: PA provided BCR models
- Annual inflation adjustment of 2%
 - Source: Moody's Economics
- Annual graduated escalation of costs of 1.25%
 - Source: Original graduated rate introduced during the 2017 EE forecast

End-Use Share Projections

- End-use shares by state and sector were compiled based on data provided by the PAs within each state
 - End-use shares shown on the following slides are based on energy
- Reporting of shares and end-uses varied within and across states
 - Some PAs were able to provide 10 year projections, others only were able to provide 1-2 year projections
 - Some PAs within a given state had very different shares for the same end-uses
- The ISO aimed to directly use the shares as provided by the PAs within each state as much as possible
 - Where shares differed, shares from PAs within a state were averaged
 - When only one PA provided a 10 year projection, that projection guided the shares
- In order to standardize end-uses across all states and PA's, the following aggregations were applied
 - Residential "process" includes: process, custom, food service, motors/drives, pool pumps, and appliances

- Residential "HVAC" includes: HVAC and building envelope
- C&I "process" includes: process and food service

Residential & Low Income End-Use Shares

MA, CT, and RI

				Massa	chusett	S					
End-Use	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
HVAC	20%	50%	50%	43%	43%	43%	43%	43%	43%	43%	
Process	17%	39%	39%	39%	47%	47%	47%	47%	47%	47%	
Hot Water	3%	7%	7%	7%	9%	9%	9%	9%	9%	9%	
Lighting	60%	4%	4%	4%	0%	0%	0%	0%	0%	0%	
Refrigeration	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Connecticut											
End-Use	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
HVAC	19%	40%	55%	64%	64%	64%	64%	64%	64%	64%	
Process	6%	4%	5%	7%	7%	7%	7%	7%	7%	7%	
Hot Water	3%	9%	11%	12%	12%	12%	12%	12%	12%	12%	
Lighting	68%	35%	14%	0%	0%	0%	0%	0%	0%	0%	
Refrigeration	5%	12%	15%	17%	17%	17%	17%	17%	17%	17%	
				Rhode	e Island						
End-Use	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
HVAC	17%	35%	38%	38%	38%	38%	38%	38%	38%	38%	
Process	22%	43%	46%	46%	46%	46%	46%	46%	46%	46%	
Hot Water	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	
Lighting	54%	7%	0%	0%	0%	0%	0%	0%	0%	0%	
Refrigeration	7%	14%	15%	15%	15%	15%	15%	15%	15%	15%	

Residential & Low Income End-Use Shares

VT, NH, and ME

	Vermont											
End-Use	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030		
HVAC	16%	19%	19%	21%	22%	24%	26%	24%	25%	25%		
Process	34%	47%	54%	56%	57%	56%	54%	57%	57%	56%		
Hot Water	14%	3%	3%	3%	3%	3%	3%	4%	4%	4%		
Lighting	34%	30%	21%	19%	17%	15%	15%	13%	13%	13%		
Refrigeration	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%		
New Hampshire												
End-Use	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030		
HVAC	31%	52%	66%	71%	71%	71%	71%	71%	71%	71%		
Process	1%	2%	3%	3%	3%	3%	3%	3%	3%	3%		
Hot Water	6%	9%	13%	14%	14%	14%	14%	14%	14%	14%		
Lighting	56%	28%	7%	0%	0%	0%	0%	0%	0%	0%		
Refrigeration	5%	9%	11%	12%	12%	12%	12%	12%	12%	12%		
				Ma	aine							
End-Use	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030		
HVAC	1%	1%	1%	2%	2%	3%	3%	3%	3%	3%		
Process	2%	2%	4%	7%	9%	11%	11%	11%	11%	11%		
Hot Water	16%	16%	33%	51%	69%	86%	86%	86%	86%	86%		
Lighting	82%	82%	62%	41%	21%	0%	0%	0%	0%	0%		

Commercial & Industrial End-Use Shares

MA, CT, and RI

Massachusetts										
End-Use	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Compressed Air	2%	3%	4%	4%	5%	5%	5%	5%	5%	5%
Custom Measures	2%	5%	7%	9%	15%	15%	15%	15%	15%	15%
Hot Water	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
HVAC	12%	25%	32%	37%	32%	32%	32%	32%	32%	32%
Lighting	74%	46%	29%	17%	3%	3%	3%	3%	3%	3%
Motors/Drives	5%	10%	14%	16%	22%	22%	22%	22%	22%	22%
Process	2%	5%	6%	7%	9%	9%	9%	9%	9%	9%
Refrigeration	3%	6%	8%	9%	13%	13%	13%	13%	13%	13%
				Conn	ecticut					
End-Use	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
HVAC	4%	15%	18%	26%	31%	34%	36%	36%	36%	36%
Lighting	77%	54%	46%	27%	15%	10%	5%	5%	5%	5%
Motors/Drives	1%	2%	4%	8%	10%	10%	10%	10%	10%	10%
Process	15%	23%	25%	30%	34%	34%	37%	37%	37%	37%
Refrigeration	2%	6%	8%	8%	10%	12%	12%	12%	12%	12%
				Rhode	e Island					
End-Use	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Custom Measures	36%	73%	77%	86%	97%	97%	97%	97%	97%	97%
HVAC	4%	3%	2%	2%	2%	2%	2%	2%	2%	2%
Lighting	56%	24%	20%	11%	0%	0%	0%	0%	0%	0%
Motors/Drives	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Refrigeration	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Commercial & Industrial End-Use Shares

VT, NH, and ME

	Vermont												
End-Use	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030			
Hot Water	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
HVAC	16%	17%	18%	18%	19%	20%	20%	21%	22%	22%			
Lighting	47%	44%	40%	37%	34%	31%	29%	28%	26%	25%			
Motors/Drives	14%	15%	17%	18%	18%	18%	18%	17%	17%	18%			
Process	14%	14%	14%	13%	13%	14%	16%	15%	16%	17%			
Refrigeration	9%	10%	11%	14%	16%	17%	17%	18%	18%	18%			
New Hampshire													
End-Use	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030			
Custom Measures	6%	5%	4%	6%	7%	8%	8%	8%	8%	8%			
HVAC	16%	18%	20%	26%	31%	34%	36%	36%	36%	36%			
Lighting	60%	55%	49%	33%	20%	11%	6%	6%	6%	6%			
Motors/Drives	1%	1%	2%	2%	3%	3%	3%	3%	3%	3%			
Process	16%	20%	24%	32%	38%	42%	45%	45%	45%	45%			
Refrigeration	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%			
		-	-	Ma	aine	-	-	-	-	-			
End-Use	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030			
Compressed Air	5%	5%	8%	12%	16%	20%	24%	24%	24%	24%			
Custom Measures	2%	2%	3%	4%	6%	7%	9%	9%	9%	9%			
HVAC	24%	24%	30%	37%	43%	49%	56%	56%	56%	56%			
Lighting	70%	70%	58%	47%	35%	24%	12%	12%	12%	12%			

End-Use Starting kWh/\$Incentive

Source: PA Supplied Data (2015-2019)

Residential & Low Income								
End-Use	kWh/\$Incentive							
HVAC	0.52							
Water Heating	2.32							
Lighting	3.80							
Refrigeration	2.47							
Process	2.02							

Comr	nercial & Industrial
End-Use	kWh/\$Incentive
HVAC	3.11
Water Heating	3.45
Lighting	3.95
Refrigeration	4.06
Process	3.33
Compressed Air	3.96
Motors/Drives	4.97
Custom	2.88

End-Use Coincidence Factors

Source: PA Supplied BCR Models (Current State Plans)

Residential & Low Income										
End-Use	Summer Coincidence Factor (MW/GWh)	Winter Coincidence Factor (MW/GWh)								
HVAC	0.559	0.464								
Water Heating	0.102	0.163								
Lighting	0.102	0.177								
Refrigeration	0.158	0.101								
Process	0.245	0.280								

Commercial & Industrial										
End-Use	Summer Coincidence Factor (MW/GWh)	Winter Coincidence Factor (MW/GWh)								
HVAC	0.504	0.338								
Water Heating	0.078	0.168								
Lighting	0.116	0.109								
Refrigeration	0.117	0.114								
Process	0.094	0.077								
Compressed Air	0.162	0.113								
Motors/Drives	0.133	0.125								
Custom	0.094	0.079								

State EE Budgets

Source: State EE Budget Administrators

Total R&L Budget Dollars (\$1000's)							Тс	otal C&I	Budget	Dollars	(\$1000	's)			
	NE	MA	СТ	ME	RI	VT	NH		NE	MA	СТ	ME	RI	VT	NH
2021	570,904	345,925	84,895	24,471	56,871	23,116	35,626	2021	623,237	355,456	122,630	27,608	59,915	26,068	31,560
2022	568,760	345,925	82,520	25,700	55,888	23,101	35,626	2022	617,022	355,456	117,799	19,419	66,738	26,050	31,560
2023	569,661	345,925	77,275	25,700	61,985	23,150	35,626	2023	606,542	355,456	107,232	19,419	66,769	26,106	31,560
2024	575,243	345,925	81,155	25,700	61,985	24,852	35,626	2024	614,035	355,456	112,807	19,419	66,769	28,024	31,560
2025	575,440	345,925	80,785	25,700	61,985	25,419	35,626	2025	614,775	355,456	112,907	19,419	66,769	28,664	31,560
2026	574,996	345,925	79,872	25,700	61,985	25,888	35,626	2026	615,376	355,456	112,979	19,419	66,769	29,193	31,560
2027	572,320	345,925	78,488	25,700	61,985	24,596	35,626	2027	614,177	355,456	113,237	19,419	66,769	27,736	31,560
2028	572,694	345,925	78,274	25,700	61,985	25,184	35,626	2028	613,268	355,456	111,665	19,419	66,769	28,399	31,560
2029	571,911	345,925	77,013	25,700	61,985	25,662	35,626	2029	613,186	355,456	111,045	19,419	66,769	28,937	31,560
2030	572,240	345,925	77,013	25,700	61,985	25,991	35,626	2030	611,073	355,456	108,560	19,419	66,769	29,309	31,560

Total Budget Dollars (\$1000's)

	NE	MA	СТ	ME	RI	VT	NH
2021	1,194,141	701,381	207,525	52,079	116,786	49,184	67,186
2022	1,185,782	701,381	200,319	45,119	122,626	49,151	67,186
2023	1,176,203	701,381	184,507	45,119	128,754	49,256	67,186
2024	1,189,278	701,381	193,962	45,119	128,754	52,876	67,186
2025	1,190,215	701,381	193,692	45,119	128,754	54,083	67,186
2026	1,190,372	701,381	192,851	45,119	128,754	55,081	67,186
2027	1,186,497	701,381	191,725	45,119	128,754	52,332	67,186
2028	1,185,962	701,381	189,939	45,119	128,754	53 <i>,</i> 583	67,186
2029	1,185,097	701,381	188,058	45,119	128,754	54,599	67,186
2030	1,183,313	701,381	185,573	45,119	128,754	55,300	67,186

State EE Production Costs

Source: End-use shares applied to end-use production costs

R&L Production Costs (\$/MWh)							C&I Production Costs (\$/MWh)						
	MA	СТ	ME	RI	VT	NH		MA	СТ	ME	RI	VT	NH
2021	893	832	419	840	890	1,123	2021	362	364	375	400	364	384
2022	1,736	1,413	438	1,411	1,003	1,688	2022	393	395	392	469	380	404
2023	1,836	1,895	530	1,572	1,107	2,155	2023	424	420	423	501	402	430
2024	1,965	2,291	638	1,682	1,230	2,458	2024	461	460	462	550	429	475
2025	1,979	2,480	768	1,821	1,372	6,221	2025	498	505	510	614	465	527
2026	2,167	2,715	925	1,994	1,564	2,914	2026	454	557	570	672	511	588
2027	2,400	3,007	1,025	2,208	1,808	3,227	2027	604	623	644	744	567	656
2028	2,688	3,368	1,148	2,473	1,945	3,614	2028	676	697	721	834	638	735
2029	3,044	3,814	1,300	2,801	2,238	4,093	2029	766	790	816	944	724	832
2030	3,485	4,367	1,488	3,207	2,584	4,686	2030	877	904	935	1,081	831	953

Weighted Production Costs (\$/MWh)											
	MA	СТ	ME	RI	VT	NH					
2021	512	473	394	621	504	496					
2022	635	562	417	858	537	514					
2023	683	623	479	933	574	530					
2024	741	691	548	1,013	618	58					
2025	789	756	631	1,117	675	650					
2026	864	830	729	1,223	748	724					
2027	957	92	817	1,354	837	808					
2028	1,072	1,036	915	1,517	932	905					
2029	1,214	1,170	1,036	1,718	1,061	1,025					
20230	1,390	1,348	1,186	1,967	1,220	1,174					

FINAL 2021 EE FORECAST

Annual Energy, Summer Peak, and Winter Peak Savings



Final 2021 EE Forecast (Before Netting Embedded Expiring Measures)

Annual Energy, Summer Peak, and Winter Peak Savings

Annual Energy Savings (GWh)														
	NE CT MA ME NH RI V													
2021	1,090	237	578	77	47	106	44							
2022	1,090	237	578	77	47	106	44							
2023	1,090	237	578	77	47	106	44							
2024	1,090	237	578	77	47	106	44							
2025	1,672	256	889	72	73	143	80							
2026	1,519	232	811	62	66	130	74							
2027	1,364	208	733	55	59	118	63							
2028	1,217	183	654	49	53	105	57							
2029	1,074	161	578	44	47	93	51							
2030	936	138	504	38	41	81	45							
Total (2021-2030)	12,142	2,126	6,481	628	528	1,094	546							
Average (2021-2030)	1,214	213	648	63	53	109	55							

Summer Peak Demand Savings (MW)									Winte	ter Peak Demand Savings (MW)						
	NE	СТ	MA	ME	NH	RI	VT			NE	СТ	MA	ME	NH	RI	VT
2021	178	41	94	12	8	17	7		2021	167	35	90	10	7	17	7
2022	178	41	94	12	8	17	7		2022	167	35	90	10	7	17	7
2023	178	41	94	12	8	17	7		2023	167	35	90	10	7	17	7
2024	178	41	94	12	8	17	7		2024	167	35	90	10	7	17	7
2025	412	65	236	15	19	23	17		2025	330	50	190	14	15	20	15
2026	381	62	215	14	18	21	16		2026	303	47	173	13	14	18	14
2027	345	56	195	14	17	19	14		2027	274	42	156	12	13	17	12
2028	308	50	174	12	15	17	13		2028	245	37	140	10	11	15	11
2029	272	44	153	11	13	15	11		2029	216	33	123	9	10	13	10
2030	237	37	134	9	11	13	10		2030	188	28	108	8	9	11	9
Total (2021-2030)	2,667	478	1,483	123	124	176	109		Total (2021-2030)	2,224	377	1,250	106	101	162	99
Average (2021-2030)	267	48	148	12	12	18	11		Average (2021-2030)	222	38	125	11	10	16	10

Final 2021 EE Forecast (Net of embedded Expiring Measures)

Annual Energy, Summer Peak, and Winter Peak Savings

						Annual	Energy	/ Sa	vings (G	Wh)													
						NE	C	Г	MA	ME	NH	RI	V	-									
			202	21		1,090	23	7	578	77	47	106	44										
			202	22		1,090	23	7	578	77	47	106	44										
2023				1,090	23	7	578	77	47	106	44												
2024			1,090	23	7	578	77	47	106	44													
2025				977	17	2	587	26	50	98	44												
2026				840	14	8	510	17	42	86	38												
2027			27		560	11	0	347	-3	29	60	18											
			202	28		427	86	5	268	-9	22	48	13										
		202	29		298	63	3	191	-15	16	35	7											
			203	30		172	40)	118	-20	10	24	1										
			otal (202	21-203	0)	7,634	1,56	57	4,333	304	357	775	297	7									
Average (2021-2030)					30)	763	15	7	433	30	36	78	30										
Summer Peak Demand Savings (MW)										V	Vinte	r Peak D	eman	d Savin	gs (MV	V)							
	NE	СТ	MA	ME	NH	RI	VT					NE	СТ	MA	ME	NH	RI	VT					
2021	178	41	94	12	8	17	7		20	21		167	35	90	10	7	17	7					
2022	178	41	94	12	8	17	7		20	22		167	35	90	10	7	17	7					
2023	178	41	94	12	8	17	7		20	23		167	35	90	10	7	17	7					
2024	178	41	94	12	8	17	7		20	24		167	35	90	10	7	17	7					
2025	260	41	174	7	15	14	9		20	25		212	49	128	4	9	11	10					
2026	230	37	153	6	14	12	8		20	26		187	46	111	3	8	9	9					
2027	197	32	133	5	12	10	6		20)27		160	42	95	2	7	8	7					
2028	164	25	112	4	10	8	5		20	28		133	37	78	1	6	6	6					
2020	101																						
2029	131	19	91	3	9	6	4		20	29		106	32	62	-1	4	4	5					
2029 2030	131 99	19 13	91 72	3 1	9 7	6 4	4		20 20)29)30		106 81	32 28	62 46	-1 -2	4 3	4 2	5 4					
2029 2030 Total (2021-2030)	131 99 1,793	19 13 331	91 72 1,111	3 1 74	9 7 99	6 4 122	4 2 62		20 20 Total (20)29)30)21-203	30)	106 81 1,547	32 28 374	62 46 880	-1 -2 47	4 3 65	4 2 108	5 4 69					

EE Forecast Comparison

Final 2020 EE Forecast Vs. Final 2021 EE Forecast

Total EE Dollars (1000s)	NE	MA	СТ	ME	RI	VT	NH
2020 EE Forecast							
Total (2020-2029)	11,894,174	7,026,225	2,017,522	470,208	1,098,138	589,056	693,025
Average (2020-2029)	1,189,417	702,623	201,752	47,021	109,814	58,906	69,303
2021 EE Forecast							
Total (2021-2030)	11,866,860	7,013,810	1,928,151	458,150	1,269,444	525,445	671,860
Average (2021-2030)	1,186,686	701,381	192,815	45,815	126,944	52,545	67,186
Energy Savings (GWh)	NE	MA	СТ	ME	RI	VT	NH
2020 EE Forecast							
Total (2020-2029)	14,760	8,706	2,597	727	1,208	747	775
Average (2020-2029)	1,476	871	260	72	121	75	78
2021 EE Forecast							
Total (2021-2030)	7,634	4,333	1,567	304	775	297	357
Average (2021-2030)	763	433	157	30	78	30	36
Summer Peak Savings (MW)	NE	MA	СТ	ME	RI	VT	NH
2020 EE Forecast							
Total (2020-2029)	2,778	1,602	523	158	209	153	133
Average (2020-2029)	278	160	52	16	21	15	13
2021 EE Forecast							
Total (2021-2030)	1,793	1,111	331	74	122	62	99
Average (2021-2030)	179	111	33	7	12	6	10
Winter Peak Savings (MW)	NE	MA	СТ	ME	RI	VT	NH
2020 EE Forecast							
Total (2020-2029)	2,507	1,461	465	136	206	136	103
Average (2020-2029)	251	146	47	14	21	14	10
2021 EE Forecast							
Total (2021-2030)	1,547	880	374	47	108	69	65
Average (2021-2030)	155	88	37	5	11	7	7

Energy Efficiency on Summer Peak

New England



Energy Efficiency on Summer Peak New England



← EEF 2020 ← FCM ARA 3 - • EEF 2021(before netting embededded expiring measures) - EEF 2021 - PDR Reconstitution

Energy Efficiency on Winter Peak

New England



ISO-NE PUBLIC

Energy Efficiency on Winter Peak *States*



Energy Efficiency on Annual Energy

New England



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Energy Efficiency on Annual Energy *States*

