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# Memorandum

TO: ENERGY EFFICIENCY FORECAST WORKING GROUP  
FROM: SPENCER FIELDS AND PAUL PETERSON  
DATE: MARCH 6, 2018  
RE: COMMENTS ON 2018 DRAFT ENERGY EFFICIENCY FORECAST

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## Comments on ISO-NE's 2018 EE forecast

Synapse appreciates the opportunity to submit comments on ISO-NE's 2018 Draft Energy Efficiency Forecast. We are encouraged by the adjustments to the forecast that the ISO has made in recent years, both independently and in recognition of comments to the EEFWG. We support ISO's decision to take a proactive approach to address future years in which lighting measure savings claimed through state efficiency programs are likely to diminish, even though actual energy reductions from lighting changes may continue to increase.

There are, however, still ways in which this year's forecast can be improved. To that end, we support the comments submitted by the Sustainable FERC Project, Acadia Center, Conservation Law Foundation, Natural Resources Defense Council, Sierra Club, and Vermont Energy Investment Corporation. In addition to those comments, Synapse is providing some additional analysis of the energy efficiency forecast over time that may be useful to the ISO as it continues to refine its forecasting approach.<sup>1</sup>

## Comparison of previous ISO EE forecasts and historical efficiency in the region

ISO-NE has included passive demand response capacity and energy in annual 10-year forecasts since the 2010 iteration of the CELT report. In the first two years of doing so, however, the ISO only included three years' worth of incrementally added energy efficiency capacity, consistent with efficiency being added in the Forward Capacity Auction. In order to plan for future years, the ISO calculated the cumulative efficiency capacity added over those three years, and held that average annual level of efficiency capacity constant for the remaining seven years of the ten year CELT forecast. This created a large error margin in the last years of the annual forecasts. For example, in 2019 and 2020, the last two years of the 2010 and 2011 CELTs, respectively, the ISO under forecasted actual energy efficiency capacity in the region by over 1,500 megawatts. This error margin means that in 2010 and 2011 the ISO would have

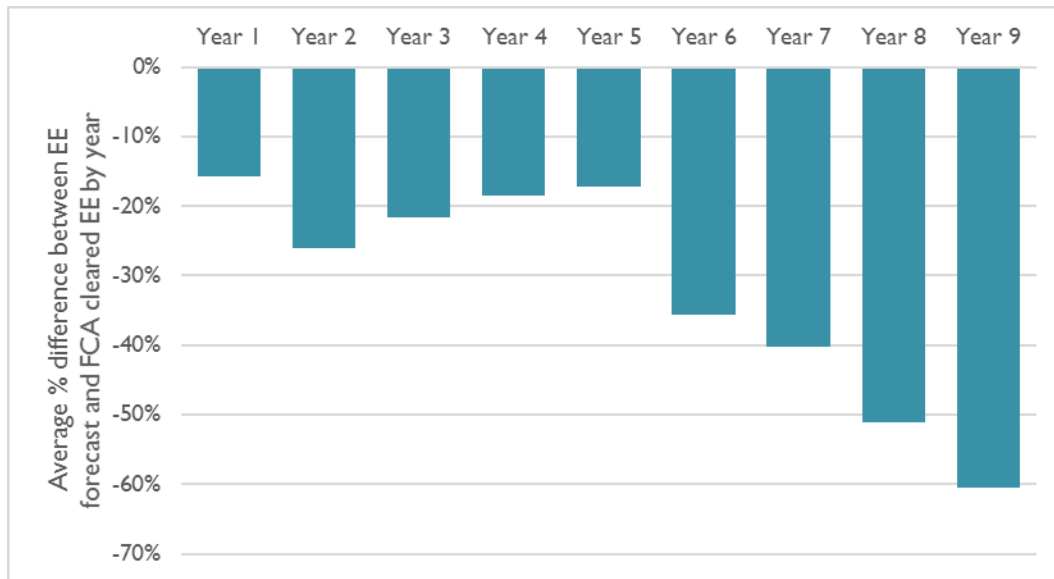
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<sup>1</sup> Support for the analysis in this memo was provided by New Hampshire Office of Consumer Advocate, Maine Office of the Public Advocate, and Vermont Energy Investment Corporation. Due to time constraints, they have not had an opportunity to review these comments before submitting them to the ISO.

erroneously predicted a need for 1,500 megawatts of additional new capacity in the region for ten years in the future.

Beginning in 2012, the ISO abandoned its three-year average approach and began to forecast incremental efficiency additions beyond the first three years. Nonetheless, the error margin in the forecast persists, ranging from about 20% in the first three years to over 50% in years 8 and 9. The figure below shows the difference between the EE Forecast amounts and the FCA cleared megawatts from 2012 through 2021.

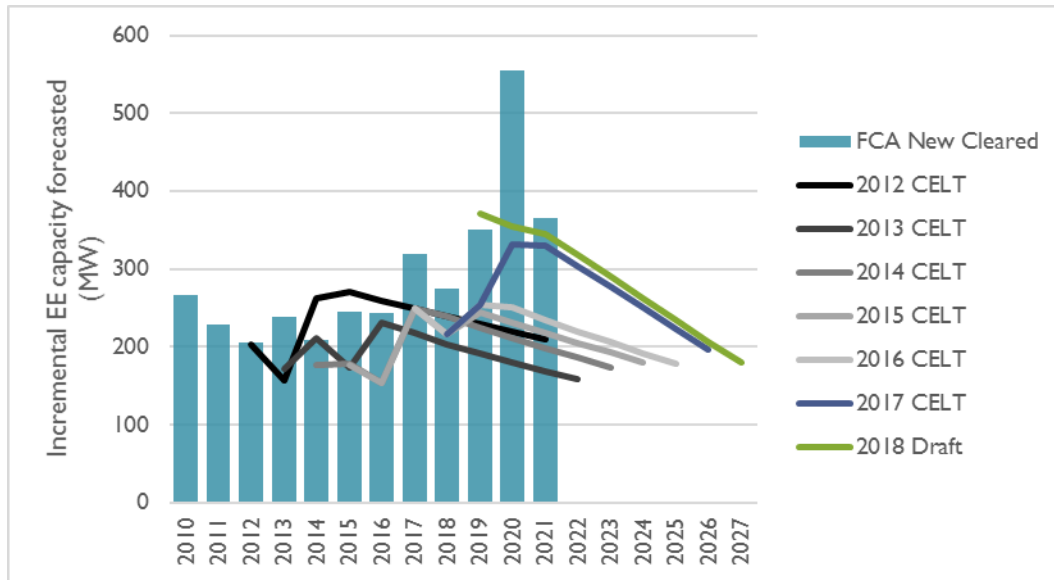
**Figure 1. Average percent difference between ISO incremental EE forecast and cleared new EE in the FCA, by year of forecast since 2012 EE forecast**



In every efficiency forecast created by the ISO, annual incremental efficiency capacity forecasted begins near the level that cleared in the most recent FCM before gradually declining year on year into the future, as seen in Figure 2. Despite all the data to the contrary, the ISO continues to discount the MW of EE savings that future state-programs will achieve. As indicated by the FCA new cleared bars in Figure 2, the trend for incremental EE cleared in the FCA has been positive and forecasted MW savings over time should not trend downward.<sup>2</sup>

<sup>2</sup> The data table that supports Figure 2 is included at the end of these comments.

**Figure 2. Incremental EE capacity forecasted by year, as compared to FCA cleared new EE capacity, MW**



*Note: in FCA 11, NSTAR cleared a 130 megawatt passive demand program and CL&P passed a 100 megawatt program. These cumulative 240 megawatts from two programs contribute to the FCA 11 new cleared capacity bar being much higher than the rest. If portions of those portfolios consist of non-efficiency programs, this would explain the jump in new efficiency cleared in FCA 11 as compared to other years of the FCA.*

As a result, since the first ISO EE forecast in 2012, the ISO’s forecast of incremental annual efficiency capacity added per year has been routinely lower than the level of new efficiency that cleared per year in the FCA.

This historical review supports the recurring theme expressed by numerous stakeholders that have provided comments to the EFWG over the last ten years: the ISO consistently under-forecasts the MW of energy efficiency resources that will be purchased as capacity resources in the annual FCA. Over a ten-year horizon this under-forecasting has significant implications for long-term resource and infrastructure needs. Even on a shorter horizon of four years, the under-forecasting may impact the FCA clearing process and decisions about resources needed for system reliability or local transmission constraints.

Table 1. Annual incremental energy efficiency forecast over time as compared to FCA new cleared energy efficiency

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
2010 CELT		2	212	289	0	0	0	0	0	0
2011 CELT			214	186	188	0	0	0	0	0
2012 CELT				204	158	262	270	259	249	239
2013 CELT					172	211	174	231	218	204
2014 CELT						177	178	154	250	239
2015 CELT							178	154	250	217
2016 CELT									250	217
2017 CELT										217
2018 Draft										
<b>FCA New Cleared</b>		<b>267</b>	<b>228</b>	<b>206</b>	<b>238</b>	<b>210</b>	<b>246</b>	<b>243</b>	<b>320</b>	<b>276</b>

	2019	2020	2021	2022	2023	2024	2025	2026	2027
2010 CELT	0								
2011 CELT	0	0							
2012 CELT	229	219	210						
2013 CELT	192	180	169	159					
2014 CELT	225	211	198	186	174				
2015 CELT	245	231	218	205	193	181			
2016 CELT	255	251	235	220	206	192	179		
2017 CELT	255	332	330	304	278	250	223	197	
2018 Draft	371	355	345	319	291	262	234	206	180
<b>FCA New Cleared</b>	<b>350</b>	<b>554</b>	<b>365</b>						