

ISO New England Overview and Regional Update



*Vermont System Planning Committee
July 2019 Quarterly Meeting*

Molly Connors

EXTERNAL AFFAIRS REPRESENTATIVE



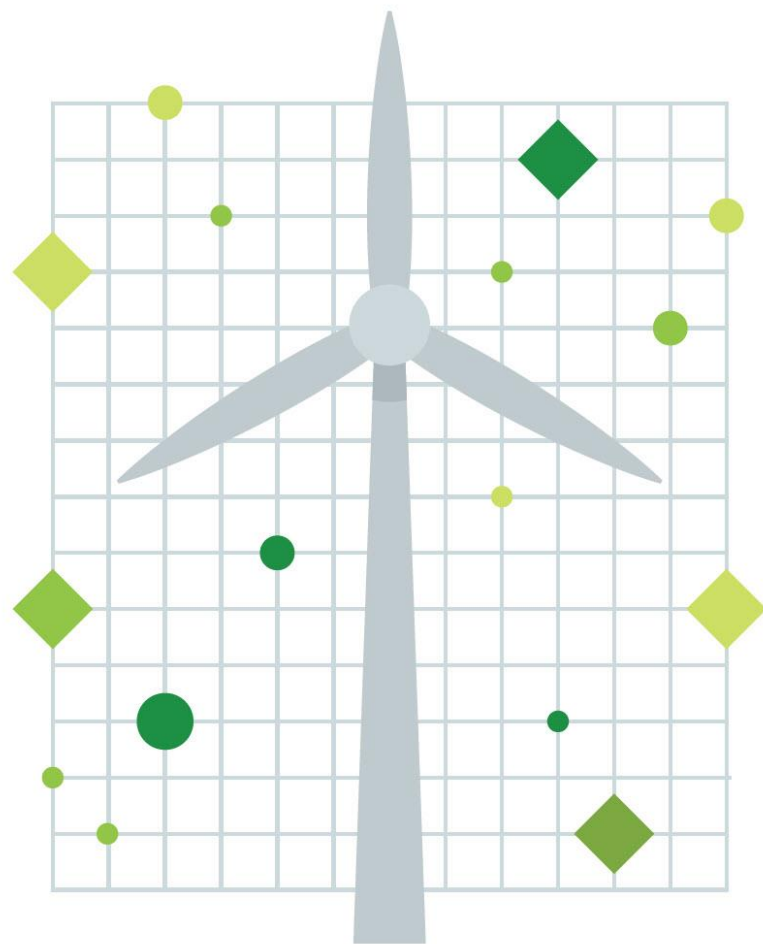
ISO-NE Reports and Activities

Available Now:

- [2019 Summer Outlook](#)
- [Registration Is open for Fall Classroom Training Courses](#)
 - WEM 101, WEM 201, and FCM 101

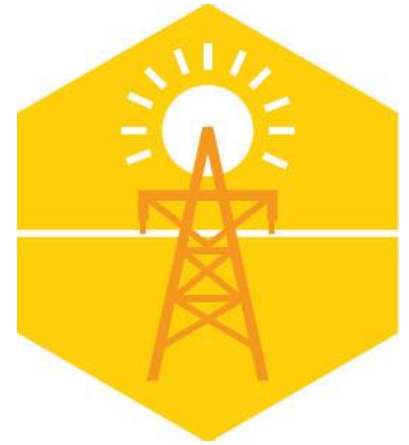
Coming Soon:

- [Consumer Liaison Group Quarterly Meetings](#)
 - September 5, in Maine
 - December 5, in Boston
- [2019 Regional System Plan Public Meeting](#)
 - September 12 in Boston



2019 SUMMER OUTLOOK

Summer Outlook Highlights



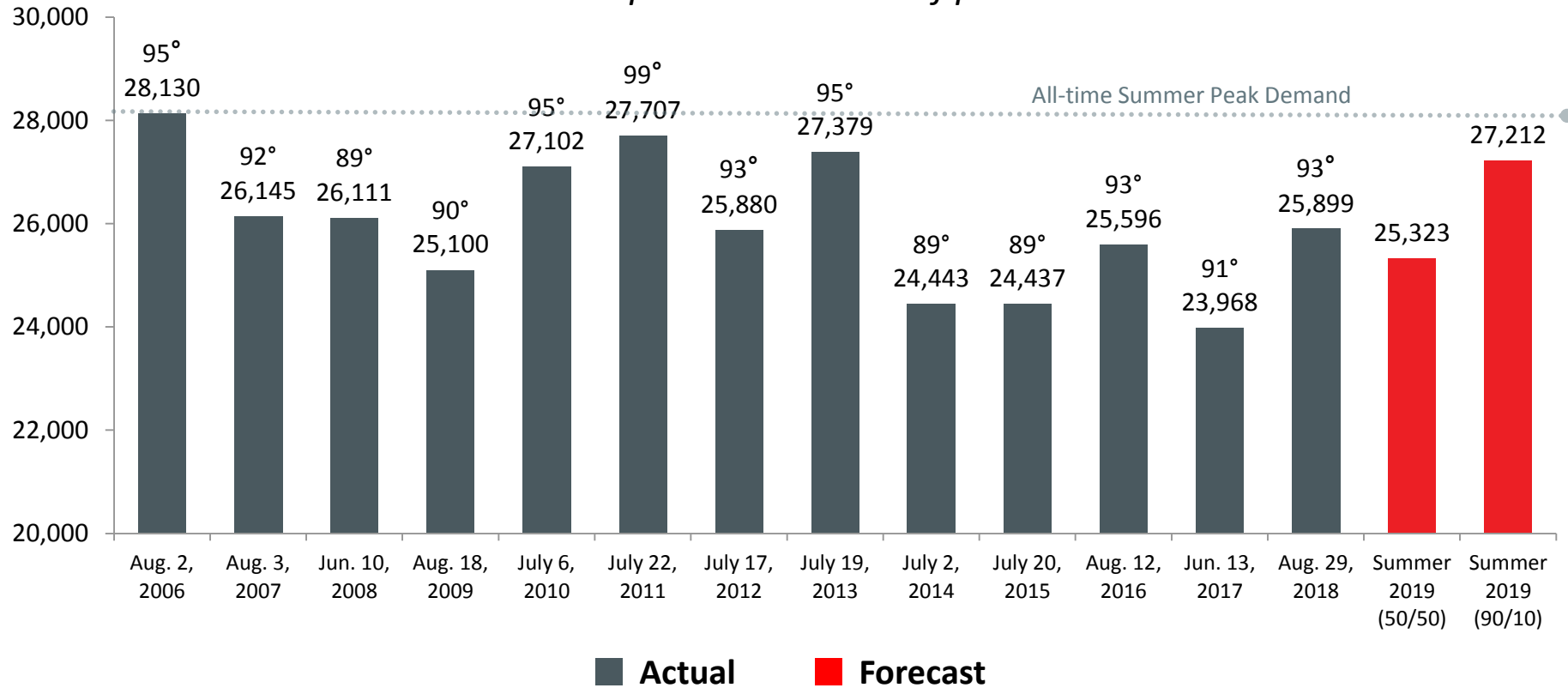
- New England is expected to have **sufficient resources** to meet peak consumer demand for electricity this summer under both typical and extreme weather conditions
- Typical summer weather peak demand forecast: **25,323 MW**
- Extreme summer weather peak demand forecast: **27,212 MW**
- Both forecasts take into account the demand-reducing effects of energy-efficiency measures (roughly **2,900 MW**) acquired through the Forward Capacity Market and behind-the-meter solar (roughly **700 MW**)
- ISO issued its Summer Outlook press release on May 15, 2019

Summer Outlook Press Release: <https://www.iso-ne.com/about/news-media/press-releases/>

Weather Drives Summer Peak Demand

Historical and Projected Peak Demand in New England

Annual System Peak (MW) *and temperature at time of peak*



Note: Summer 2019 50/50 and 90/10 forecasted peaks include the demand-reducing effects of energy-efficiency measures acquired through the Forward Capacity Market and behind-the-meter solar.



2018 ANNUAL MARKETS REPORT



Wholesale Electricity Markets Operated Competitively Last Year, According to *2018 Annual Markets Report*

- In May, ISO New England's **Internal Market Monitor** (IMM) issued the *2018 Annual Markets Report* (AMR)
- The AMR assesses the **state of competition** in the wholesale electricity markets administered by the ISO during the most recent operating year
- The IMM functions **independently** of ISO management and reports directly to the ISO Board of Directors



Note: The *2018 Annual Markets Report* is available at: <https://www.iso-ne.com/static-assets/documents/2019/05/2018-annual-markets-report.pdf>

Highlights from the *2018 Annual Markets Report*

Markets performed well and exhibited competitive outcomes in 2018

- The **total cost** of wholesale electricity in 2018 was **\$12.1 billion**, representing a 32% (or \$2.9 billion) increase over 2017
 - Largely due to higher energy and capacity market costs
- Energy market costs totaled **\$6.0 billion** in 2018, representing a 34% (or \$1.5 billion) increase over 2017, due largely to higher natural gas prices, particularly during the winter, and higher electricity demand during a hot and humid summer
 - Natural gas prices averaged **\$4.95/MMBtu** in 2018, up by \$1.23/MMBtu on 2017 prices (representing a 33% increase)
- Capacity market costs totaled **\$3.6 billion** in 2018, representing a 61% (or \$1.4 billion) increase over 2017, due to higher clearing prices in the eighth and ninth auctions
 - More than 3,000 MW of capacity submitted **retirement requests** in advance of the eighth auction



ENERGY SECURITY IMPROVEMENTS



RECAP: ISO New England Is Pursuing Short- and Long-Term Solutions to Address Energy Security

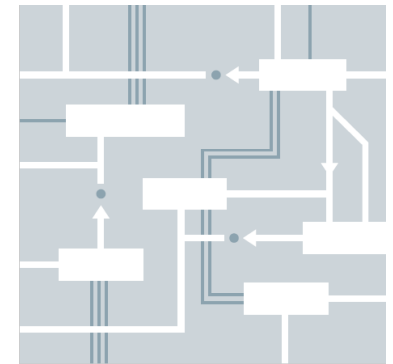
- **Short-term:** In December 2018, the Federal Energy Regulatory Commission (FERC) accepted the ISO's proposed tariff changes to **retain** resources seeking retirement on the basis of a fuel-security reliability need (in place for FCA #13, 14 and 15)
 - The ISO has identified a fuel-security reliability need for **Mystic 8 and Mystic 9** for the capacity commitment periods associated with FCA #13 *and* FCA #14
- To address the impacts of **retaining resources** for fuel security, the ISO proposed an **interim inventoried energy program** to provide similar compensation to similarly situated resources (in place for FCA #14 and 15)
 - Proposal filed with FERC in March; additional information filed in June
 - The matter is still pending
 - The ISO estimates **direct program costs** in the range of \$112 million to \$158 million per year (roughly 0.1 cents/kWh)



ISO New England's Long-Term Market-Based Solution to Improve Energy Security Is Under Development

Market-based solution optimizes use of limited energy over extended periods

- The ISO issued a detailed **discussion paper** on the proposed design in April
- The ISO launched a formal **quantitative and qualitative analysis** this spring, with completion expected this fall
- The ISO will file a **formal proposal** with FERC for review by October 15, 2019
 - This is a multi-year implementation effort with a targeted **implementation schedule** of 2024-2025, which aligns with the capacity commitment period for FCA #15



COMPETITIVE RFP FOR TRANSMISSION



ISO New England Plans to Issue First Competitive RFP for Transmission Solutions in December 2019

Pursuant to FERC Order 1000

- The announced retirement of **Mystic Station** in Boston prompted the initiation of a transmission reliability assessment
- The initial **Needs Assessment** for Boston has been completed
 - While some time-sensitive needs have been identified, solutions are expected to be able to be identified quickly
 - Non-time-sensitive needs (driven by the retirement of Mystic 8 and 9) are expected to remain when the Needs Assessment is updated in the fall
- To develop solutions to the non-time-sensitive needs, the ISO plans to issue its **first** RFP for competitively developed regulated transmission by the end of the year
- Once the updated Needs Assessment is complete, the RFP can be issued **in December**



FOR MORE INFORMATION...



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Log on to ISO Express

[ISO Express](#) provides real-time data on New England's wholesale electricity markets and power system operations

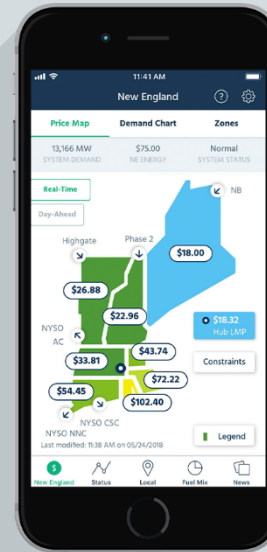


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[ISO to Go](#) is a free mobile application that puts real-time wholesale electricity pricing and power grid information in the palm of your hand



Questions

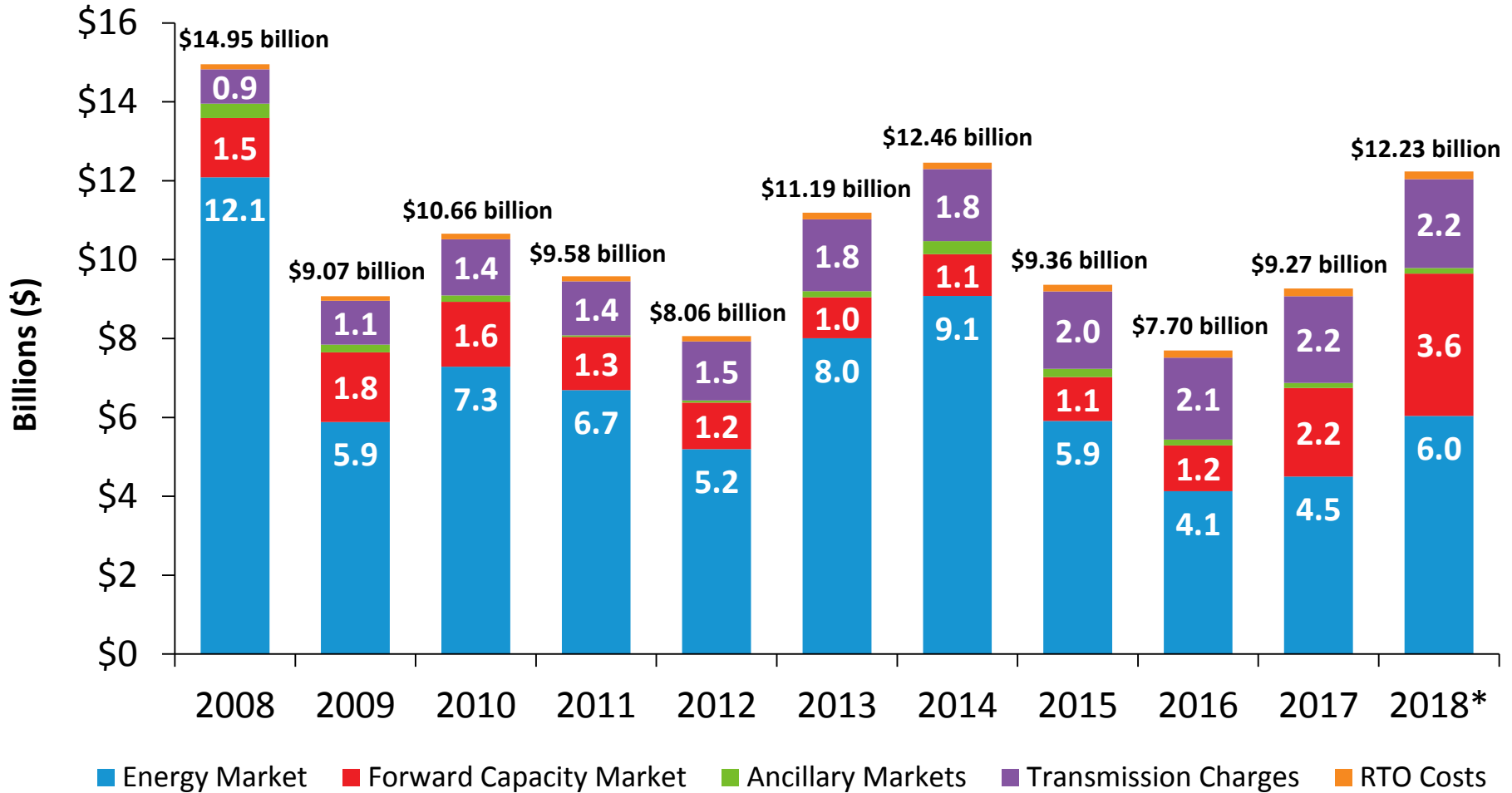


APPENDIX



New England Wholesale Electricity Costs

Annual wholesale electricity costs have ranged from \$7.7 billion to \$15 billion



Source: [2018 Report of the Consumer Liaison Group](#); * 2018 data is subject to adjustment

Note: Forward Capacity Market values shown are based on auctions held roughly three years prior to each calendar year.

New England Wholesale Electricity Costs^(a)

	2014		2015		2016		2017		2018	
	\$ Mil.	¢/kWh	\$ Mil.	¢/kWh	\$ Mil.	¢/kWh	\$ Mil.	¢/kWh	\$ Mil.	¢/kWh
Wholesale Market Costs										
Energy (LMPs) ^(b)	\$9,079	6.9	\$5,910	4.5	\$4,130	3.2	\$4,498	3.5	\$6,041	4.7
Ancillaries ^(c)	\$331	0.3	\$210	0.2	\$146	0.1	\$132	0.1	\$143	0.1
Capacity ^(d)	\$1,056	0.8	\$1,110	0.8	\$1,160	0.9	\$2,245	1.8	\$3,606	2.8
Subtotal	\$10,466	8.0	\$7,229	5.5	\$5,437	4.2	\$6,875	5.4	\$9,789	7.6
Transmission charges^(e)	\$1,828	1.4	\$1,964	1.5	\$2,081	1.6	\$2,199	1.7	\$2,249	1.7
RTO costs^(f)	\$165	0.1	\$165	0.1	\$180	0.1	\$193	0.2	\$195	0.2
Total	\$12,459	9.5	\$9,358	7.1	\$7,698	5.9	\$9,267	7.3	\$12,233	9.4

(a) Average annual costs are based on the 12 months beginning January 1 and ending December 31. Costs in millions = the dollar value of the costs to New England wholesale market load servers for ISO-administered services. Cents/kWh = the value derived by dividing the dollar value (indicated above) by the real-time load obligation. These values are presented for illustrative purposes only and do not reflect actual charge methodologies. *** The wholesale values for 2018 are subject to adjustment.**

(b) Energy values are derived from wholesale market pricing and represent the results of the Day-Ahead Energy Market plus deviations from the Day-Ahead Energy Market reflected in the Real-Time Energy Market.

(c) Ancillaries include first- and second-contingency Net Commitment-Period Compensation (NCPC), forward reserves, real-time reserves, regulation service, and a reduction for the Marginal Loss Revenue Fund.

(d) Capacity charges are those associated with the Forward Capacity Market (FCM).

(e) Transmission charges reflect the collection of transmission owners' revenue requirements and tariff-based reliability services, including black-start capability, voltage support, and FCM reliability. In 2018, the cost of payments made to these generators for reliability services under the ISO's tariff was \$37.0 million. Transmission charge totals for years 2010 forward reflect the refund of Schedule 1 TOUT charges to regional network load.

(f) RTO costs are the costs to run and operate ISO New England and are based on actual collections, as determined under Section IV of the *ISO New England Inc. Transmission, Markets, and Services Tariff*.