



ISO New England Update

Consumer Liaison Group Meeting

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TODAY'S UPDATES

- ISO New England's preparations for Forward Capacity Auction #12
- Update on Integrating Markets and Public Policy (IMAPP)
- Update on ISO New England's Proposed 2018 Budget
- ISO New England's role in implementing Federal Energy Regulatory Commission (FERC) Order No. 1000
- Appendix: Historical wholesale electricity costs in New England



FORWARD CAPACITY AUCTION #12

June 1, 2021 – May 31, 2022 Capacity Commitment Period



Forward Capacity Market Overview

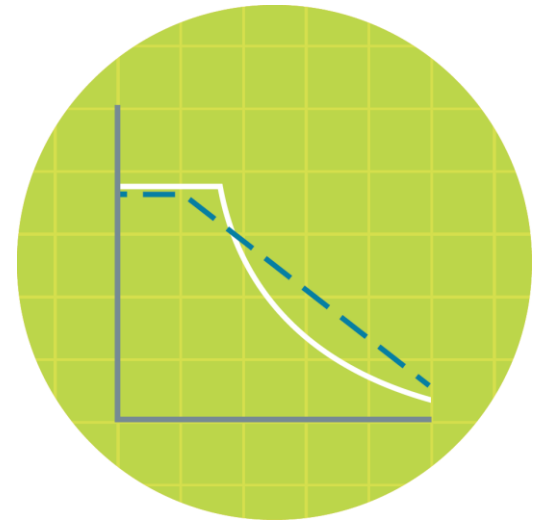


- Procures resources to meet New England's forecasted capacity needs three years in the future
- Selects a portfolio of **supply** and **demand** resources through a competitive Forward Capacity Auction (FCA) process
 - Resources must be pre-qualified to participate in the auction
 - Resources must participate and clear in the auction to be paid for capacity during the capacity commitment period
- Allows **new capacity resources** to compete in the market and set the price for capacity in the region
- Provides a long-term commitment to new capacity resources to encourage **investment**



Planning Is Well Underway for FCA #12

- Planning for FCA #12 began soon after FCA #11 concluded
- Retirement de-list bids for FCA #12 were due to the ISO by **March 24, 2017**
 - Retirement de-list bids for roughly **500 MW** of capacity were submitted (mostly in the Connecticut load zone)
- Show of Interest window for new resources: **April 14 – April 28, 2017**
- Qualification review window for new resources: **April 28 – September 29, 2017**

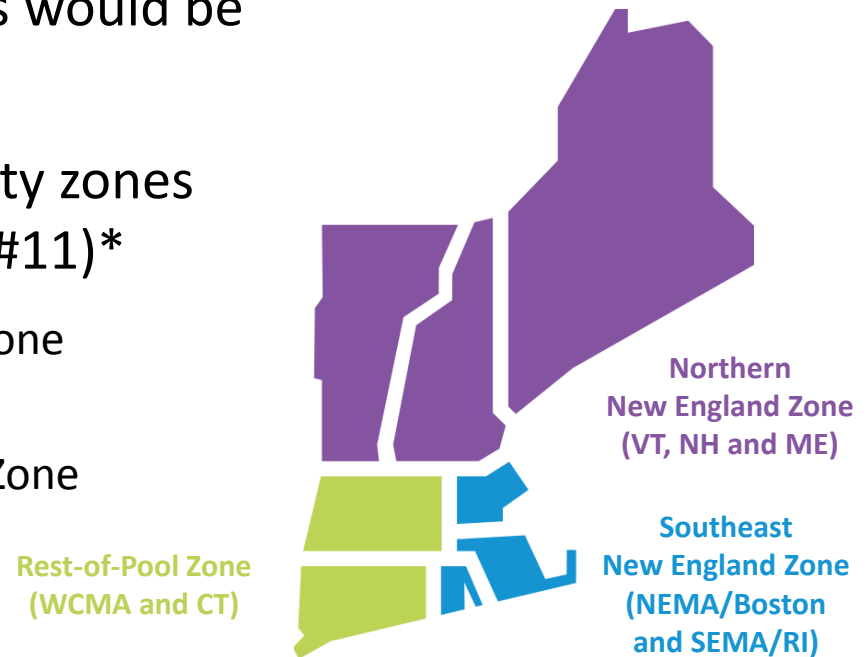


Note: Resource owners that submit retirement de-list bids seek to permanently remove their capacity resources from the region's wholesale electricity markets.



Three Capacity Zones Will Be Modeled in FCA #12

- The Federal Energy Regulatory Commission requires that the ISO have a process for determining the appropriate **number** and **boundaries** of capacity zones over time as conditions change
- The ISO studied **constraints** on the transmission system to determine which capacity zones would be modeled in FCA #12
- The ISO will model **three** capacity zones in FCA #12 (same zones as FCA #11)*
 - Northern New England Capacity Zone
 - Export-Constrained
 - Southeast New England Capacity Zone
 - Import-Constrained
 - Rest-of-Pool Capacity Zone



* Subject to stakeholder vote and FERC filing in November

ISO New England's Auction-Related Determinations and Calculations Must Be Filed with FERC for Review

- In **September**, the NEPOOL Reliability Committee will vote on the ISO's zonal determinations and projected capacity need for the region, as well as other auction-related values
- In **October**, the NEPOOL Participants Committee will vote on the ISO's determinations and calculations
- In **November**, the ISO will submit a pre-FCA information filing with FERC for review
- FCA #12 is scheduled to take place in **February 2018** to procure the resources needed during the June 1, 2021 to May 31, 2022 capacity commitment period



INTEGRATING MARKETS AND PUBLIC POLICY



Integrating Markets and Public Policy (IMAPP)

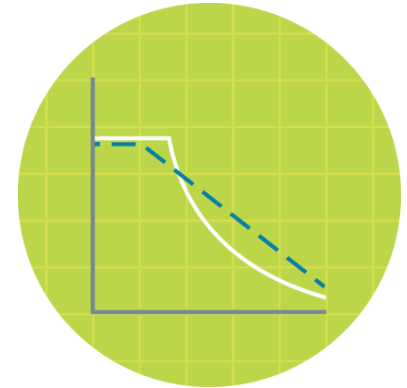
Discussions Continue Among Regional Stakeholders

- Last year, NEPOOL launched a formal stakeholder process to discuss potential market rule changes to **integrate** the region's wholesale electricity markets with the public policy goals of the New England states
- Through that process, ISO New England has offered a **conceptual approach** that could be implemented in the near term, involving enhancements to the Forward Capacity Market
 - The proposal is called *Competitive Auctions with Sponsored Policy Resources* or “CASPR”



Summary of ISO New England's Design Approach

- The ISO's capacity market design approach:
 - **Accommodates** sponsored policy resources into the Forward Capacity Market over time, and
 - **Preserves** competitively based capacity pricing for other resources
- It builds upon—but does not replace—the capacity market framework in New England
- The ISO is currently seeking feedback from stakeholders and discussing design details with the NEPOOL Markets Committee
 - The ISO plans to file tariff revisions in late 2017/early 2018, in time for FCA #13, which will be run in February 2019



Note: Additional materials can be found on the ISO's [Wholesale Markets and State Public Policy Initiative](#) website and NEPOOL's [Integrating Markets and Public Policy](#) website.



ISO'S PROPOSED 2018 BUDGET



ISO New England Has Developed Its Proposed Operating and Capital Budgets for 2018



- ISO New England is a **not-for-profit** corporation that collects revenue from wholesale electricity market participants to fund its operational expenses
- These revenues are collected under Section IV of the ISO Tariff, commonly known as the **Self-Funding Tariff**
- Each year, the ISO develops an operating budget and capital budget to fund the administrative services and capital projects it has planned for the **next calendar year**
- These administrative services include major ISO responsibilities, such as operating the bulk power system and administering the competitive wholesale electricity markets for the region



ISO New England Presented Its Proposed 2018 Budget to Consumer Representatives in August

- The **proposed capital budget** for 2018 is projected to be \$28 million, the same as the 2017 capital budget
- The **proposed operating budget** for 2018, before depreciation and true up, is projected to be \$164.6 million, which is \$5.7 million or 3.5% higher than the 2017 operating budget
- After depreciation and true up, the **Revenue Requirement** for 2018 is projected to be \$196.0 million, which is \$3.7 million or 1.9% higher than the 2017 Revenue Requirement
- If the ISO's projected Revenue Requirement for 2018 was fully passed through to end-use customers, their cost would average **\$1.03 per month** (based on average consumption)



ISO New England Plans to File Its Proposed 2018 Budget with FERC in October

- Under the formal budget review process, the New England states have the opportunity to submit **questions** and **comments** on the proposed budget following the August presentation
- In **September**, the ISO's Board of Directors will review the budget, along with stakeholder feedback and the states' comments
- In **October**, the ISO's Board of Directors will vote on the proposed budget
- The ISO plans to file the budget with **FERC** for review on or about October 17, requesting approval by January 1, 2018

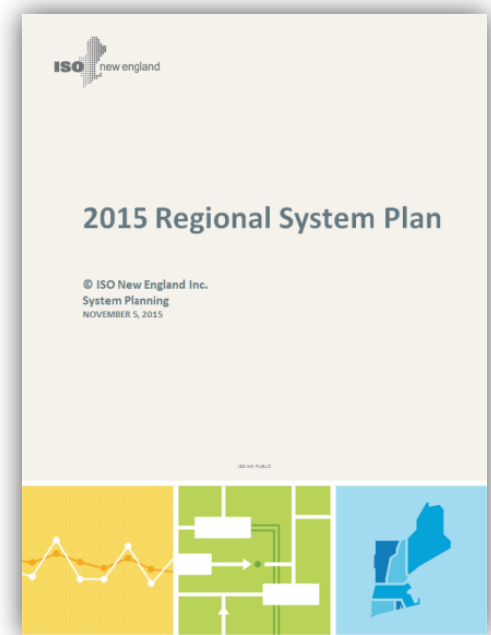


TRANSMISSION PLANNING



Overview of Transmission Planning

- As the **Regional Transmission Organization**, the ISO is required to identify transmission infrastructure solutions that are essential for maintaining power system reliability in New England
- Through an **open stakeholder process**, the ISO develops long-range plans to address future system needs over a ten-year planning horizon
 - Summarized in a **Regional System Plan (RSP)**
- In **May 2015**, the ISO implemented changes to the regional and interregional transmission planning process to comply with the directives of FERC Order 1000



Overview of FERC Order 1000

- The order establishes **new electric transmission planning** and **cost allocation requirements** for public utility transmission providers across the country
- The order's **objectives** include the following:
 - Introduce **competition** into the development of reliability-based transmission solutions by removing arrangements that protect the right of first refusal (ROFR) for incumbent transmission providers
 - Create a mechanism for transmission development to address **public policies** that drive transmission



Major Components of Transmission Planning

- The transmission planning study process begins by developing a **Study Scope** and identifying all key inputs for a Needs Assessment
- A **Needs Assessment** identifies transmission system needs to maintain the reliability of the facilities while promoting the operation of efficient wholesale electricity markets
 - Reliability Needs
 - Market Efficiency Needs
 - Public Policy Transmission Needs*
- If the Needs Assessment reveals violations of reliability standards or criteria during the study period, **potential solutions** must be developed to address the identified needs

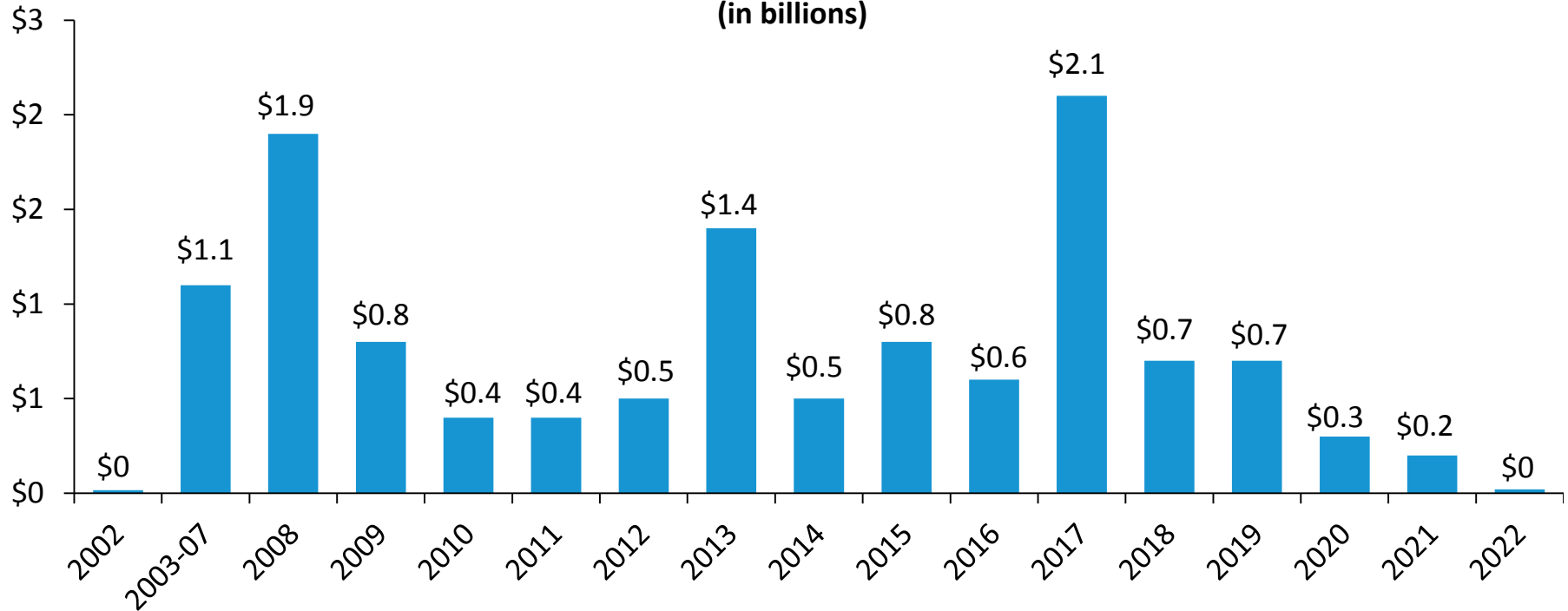


* Reflective of changes under FERC Order No. 1000



Region Has Made Major Investments in Transmission Infrastructure to Ensure a Reliable Electric Grid

Annual Investment in Transmission to Maintain Reliability
(in billions)



Cumulative Investment through June 2017

\$8.4 billion

Estimated Future Investment through 2022

\$4.0 billion

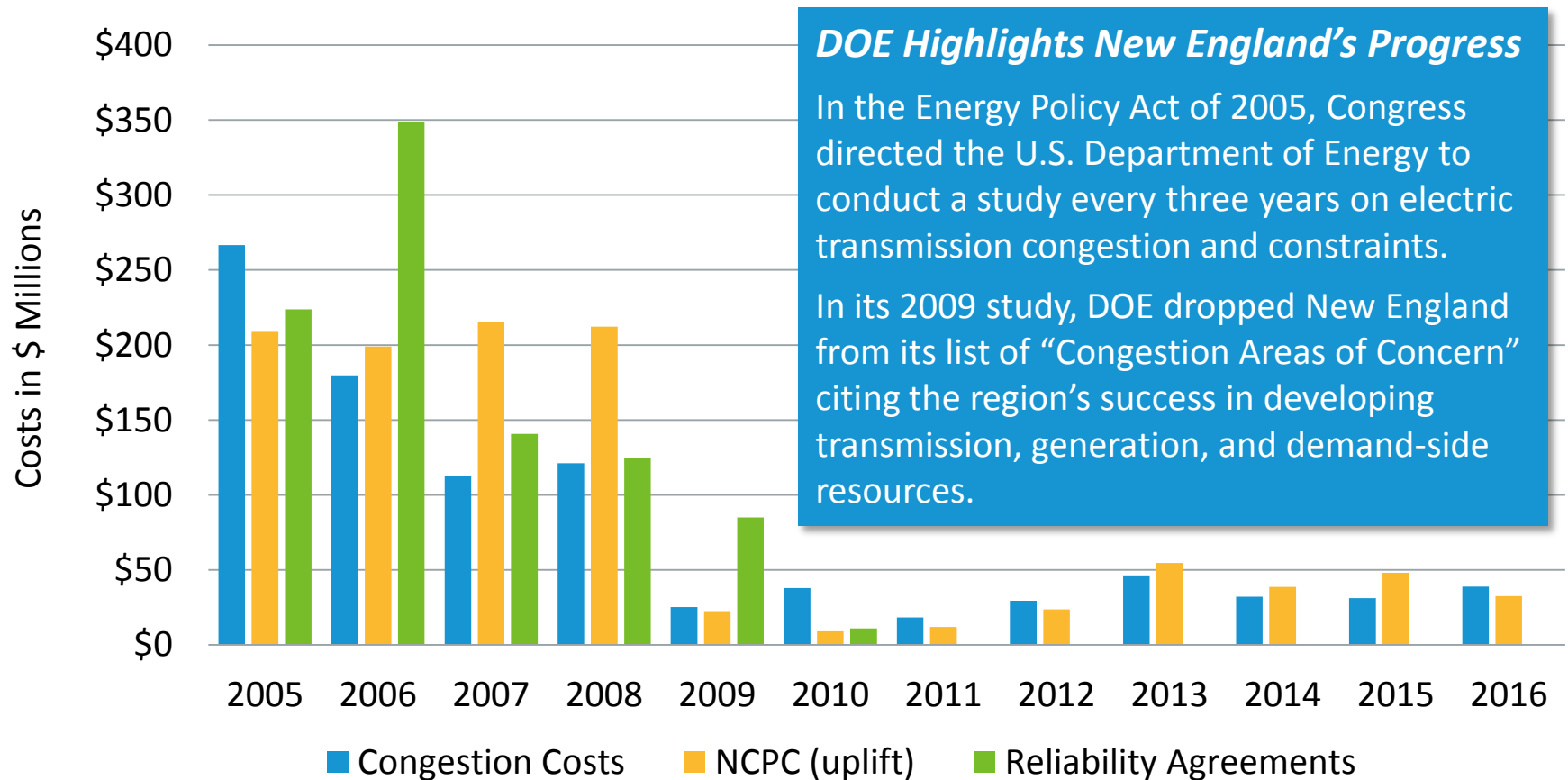
Source: ISO New England RSP Transmission Project Listing, June 2017
Estimated future investment includes projects under construction, planned and proposed.

Transmission Provides Benefits Beyond Reliability

- **Transmission congestion has been nearly eliminated**
- **The markets are increasingly competitive:** Easing transmission constraints into import-constrained areas has enabled the ISO to dispatch the most economic resources throughout the region to meet customer demands for electricity
- **Transmission has reduced or eliminated out-of-market costs:**
 - Reliability agreements with certain generators that were needed to provide transmission support in weak areas of the electric grid
 - These often were older, less-efficient generating resources
 - Uplift charges to run specific generators to meet local reliability needs
- **Transmission facilitates resource transformation:** Transmission upgrades have allowed older, less-efficient resources to retire, which helps the states achieve their environmental objectives

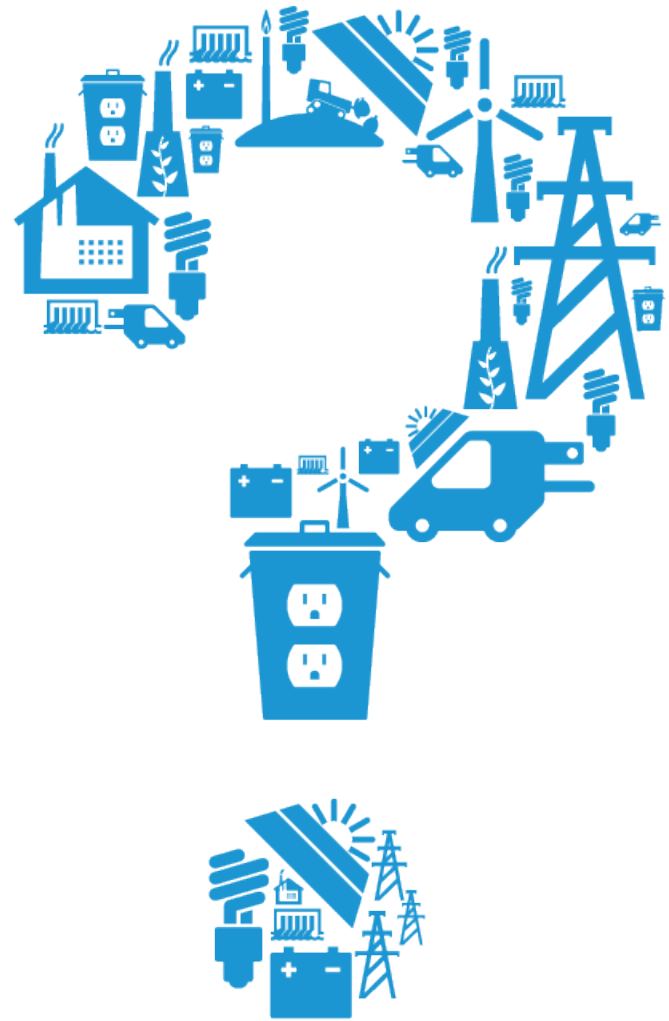


Transmission and Resource Developments Have Reduced Energy and Reliability Costs



Note: Congestion is a condition that arises on the transmission system when one or more restrictions prevents the economic dispatch of electric energy from serving load. Net Commitment-Period Compensation is a payment to an eligible resource that operated out of merit and did not fully recover its costs in the energy market. Reliability Agreements are special reliability contracts between the ISO and an approved generator whereby the generator continues to operate, even when it is not economical to do so, to ensure transmission system reliability. Sources: Regional System Plans, ISO-NE Annual Markets Reports

Questions

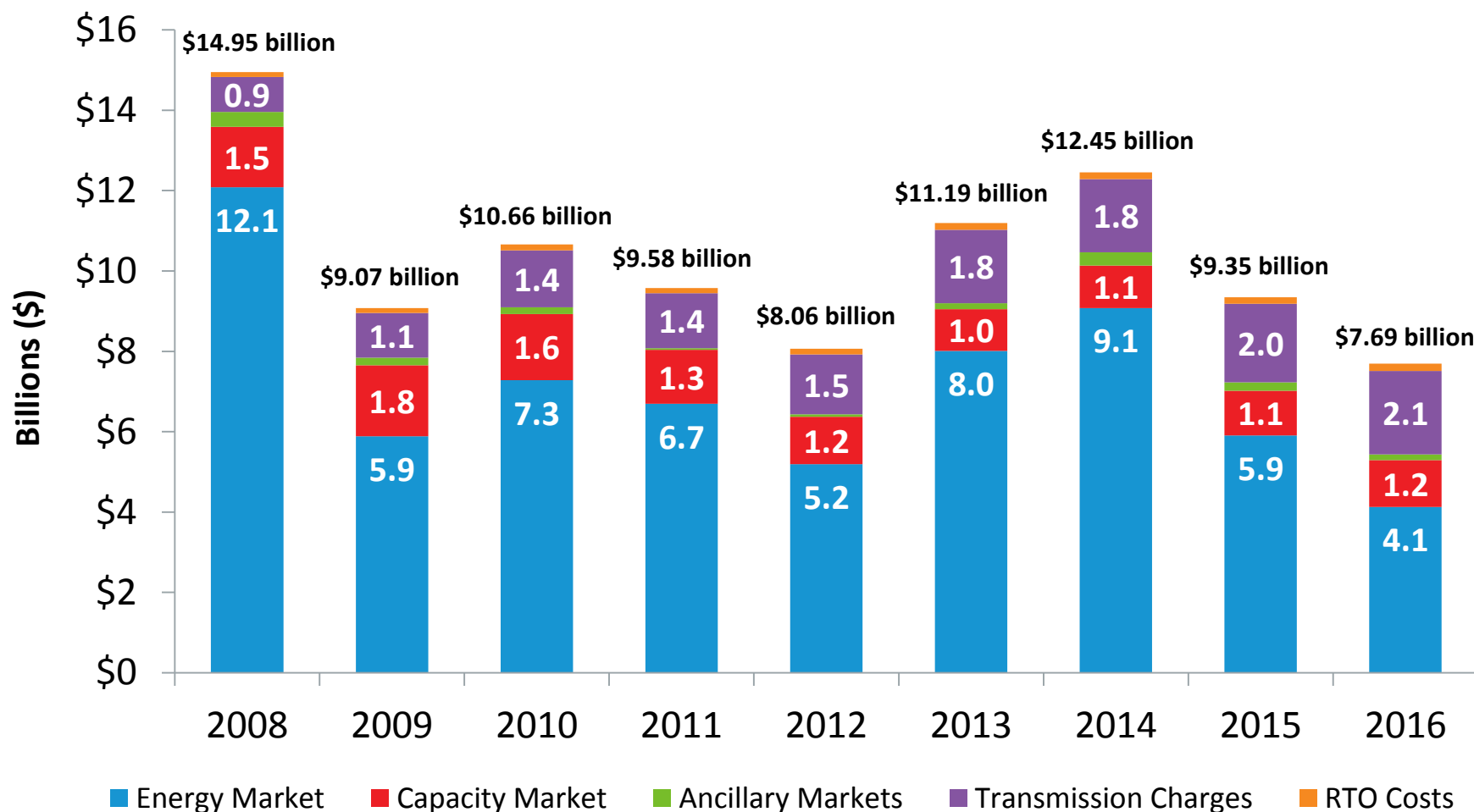


APPENDIX: WHOLESALE ELECTRICITY COSTS



New England Wholesale Electricity Costs

Annual wholesale electricity costs have ranged from \$7.5 billion to \$15 billion



Source: [2016 Report of the Consumer Liaison Group](#); 2016 wholesale electricity values are subject to requested billing adjustments

New England Wholesale Electricity Costs^(a)

	2012		2013		2014		2015		2016 ^(b)	
	\$ Mil.	¢/kWh	\$ Mil.	¢/kWh	\$ Mil.	¢/kWh	\$ Mil.	¢/kWh	\$ Mil.	¢/kWh
Wholesale Market Costs										
Energy (LMPs)^(c)	\$5,193	3.9	\$8,009	6.0	\$9,079	6.9	\$5,910	4.5	\$4,130	3.2
Ancillaries^(d)	\$56	0.0	\$152	0.1	\$331	0.3	\$210	0.2	\$146	0.1
Capacity^(e)	\$1,182	0.9	\$1,039	0.8	\$1,056	0.8	\$1,110	0.8	\$1,160	0.9
Subtotal	\$6,431	4.8	\$9,200	6.9	\$10,466	8.0	\$7,229	5.5	\$5,437	4.2
Transmission Charges^(f)	\$1,494	1.1	\$1,823	1.4	\$1,822	1.4	\$1,954	1.5	\$2,077	1.6
RTO Costs^(g)	\$139	0.1	\$167	0.1	\$165	0.1	\$165	0.1	\$180	0.1
Total	\$8,064	6.0	\$11,190	8.4	\$12,453	9.5	\$9,348	7.1	\$7,694	6.0

(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.

(b) The wholesale values for 2016 are subject to requested billing adjustments.

(c) 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.

(d) 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.

(e) Capacity charges are those associated with the transitional Installed Capacity (ICAP) Market through May 2010 and the Forward Capacity Market (FCM) from June 2010 forward.

(f) Transmission charges reflect the collection of transmission owners' revenue requirements and tariff-based reliability services, including black-start capability and voltage support. FCM reliability totals are not included in this value. In 2016, the cost of payments made to these generators for reliability services under the ISO's tariff was \$37.5 million.

(g) 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*.

For More Information...

- Subscribe to the **ISO Newswire**
 - [ISO Newswire](#) is your source for regular news about ISO New England and the wholesale electricity industry within the six-state region
- Log on to **ISO Express**
 - [ISO Express](#) provides real-time data on New England's wholesale electricity markets and power system operations
- Follow the ISO on **Twitter**
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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

