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ISO New England Update

Consumer Liaison Group Meeting

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Overview of Presentation

- Pay-for-Performance (PFP)
- Reserve Constraint Penalty Factors (RCPFs)
- Wholesale Energy Prices Track the Price of Natural Gas
- Wholesale Electricity Costs, 2008 – 2013

FERC Issues Order on Pay-for-Performance, Effective for Forward Capacity Auction #9

- On May 30, 2014, FERC issued an order that accepted, in large part, the ISO's proposal to tie capacity payments to resources' performance during stressed system conditions
- FERC also accepted NEPOOL's proposal to increase the Reserve Constraint Penalty Factors (RCPFs) in the energy market
  - 10-Minute Non-Spinning Reserves, from $850/MWh to $1,500/MWh
  - 30-Minute Operating Reserves, from $500/MWh to $1,000/MWh
- Pay-for-Performance will be effective for Forward Capacity Auction #9, impacting the June 1, 2018 – May 31, 2019 Capacity Commitment Period and beyond
- The increased RCPFs will go into effect on December 3, 2014

Resource Performance Issues Drove ISO to Propose Changes to the Capacity Market Design

- Capacity payments were poorly linked to resource performance
- Consequences for non-performance were negligible
- We saw pervasive and worsening performance problems with existing generators
- Resource owners lacked incentive to make investments to ensure they could provide energy and reserves when needed
- Lack of investment poses serious threats to system reliability

Pay-for-Performance Design

- Enhances **investment incentives** in the Forward Capacity Market (FCM) by making each resource's capacity revenue contingent, in part, on its actual performance during stressed system conditions
- Allows for **transfers of revenue** from under-performing resources to over-performing resources during scarcity conditions, providing strong incentives for resources to perform when needed
  - Base payments, set by the auction clearing price, are paid for by load (consumers)
  - Performance payments are transfers among suppliers

Benefits of the Pay-for-Performance Design

- **Greater operational-related investments** at existing resources to improve resource performance
  - E.g., fuel arrangements and/or secondary fuel supplies
- **Efficient resource evolution.** Strong incentives for investment in new capacity that is either:
  (1) Low-cost and highly reliable (nearly always operating); or
  (2) Highly flexible and highly reliable (gets online quickly and reliably)
- **A more reliable power system at lowest possible cost**
  - Market rewards suppliers that deliver most cost-effective solutions

What Analysis Was Performed on Cost Impacts?

- In September 2013, Analysis Group released a final **Impact Assessment** on the possible impacts of the PFP proposal, including the potential benefits (such as reliability improvements), costs, impacts on consumer payments, and other changes relevant to policy goals
- The assessment was performed consistent with ISO New England's framework for evaluating **"major" ISO initiatives** under which the ISO provides "quantitative and qualitative information on the need for and the impacts, including costs, of the initiative"

Analysis on Cost Impacts, *continued…*

- The Impact Assessment indicated that PFP would likely raise Forward Capacity Auction (FCA) prices under most market conditions, but, in the long term, PFP would likely lower offers from new entry due to the incremental revenues provided under the new design, particularly as these new resources are likely to be (and have the incentive to be) high-performing resources
- The net impact of increases in FCM expenditures were estimated to be $0.26 billion to $1.32 billion across the various scenarios evaluated by Analysis Group
- The analysis also found that resources are likely to choose the least-cost option for improving performance (e.g., dual fuel)

What are Reserve Constraint Penalty Factors?

- Reserve Constraint Penalty Factors are rates, in $/MWh, that act as a cap on the price that the ISO may pay to procure additional reserves; reaching this cap signals that the system is in a reserve deficiency
- RCPFs are intended to send price signals to the marketplace when resources are scarce
- Higher RCPFs provide stronger signals for resources to *increase* supply and for customers to *reduce* demand

Purpose of Higher RCPFs

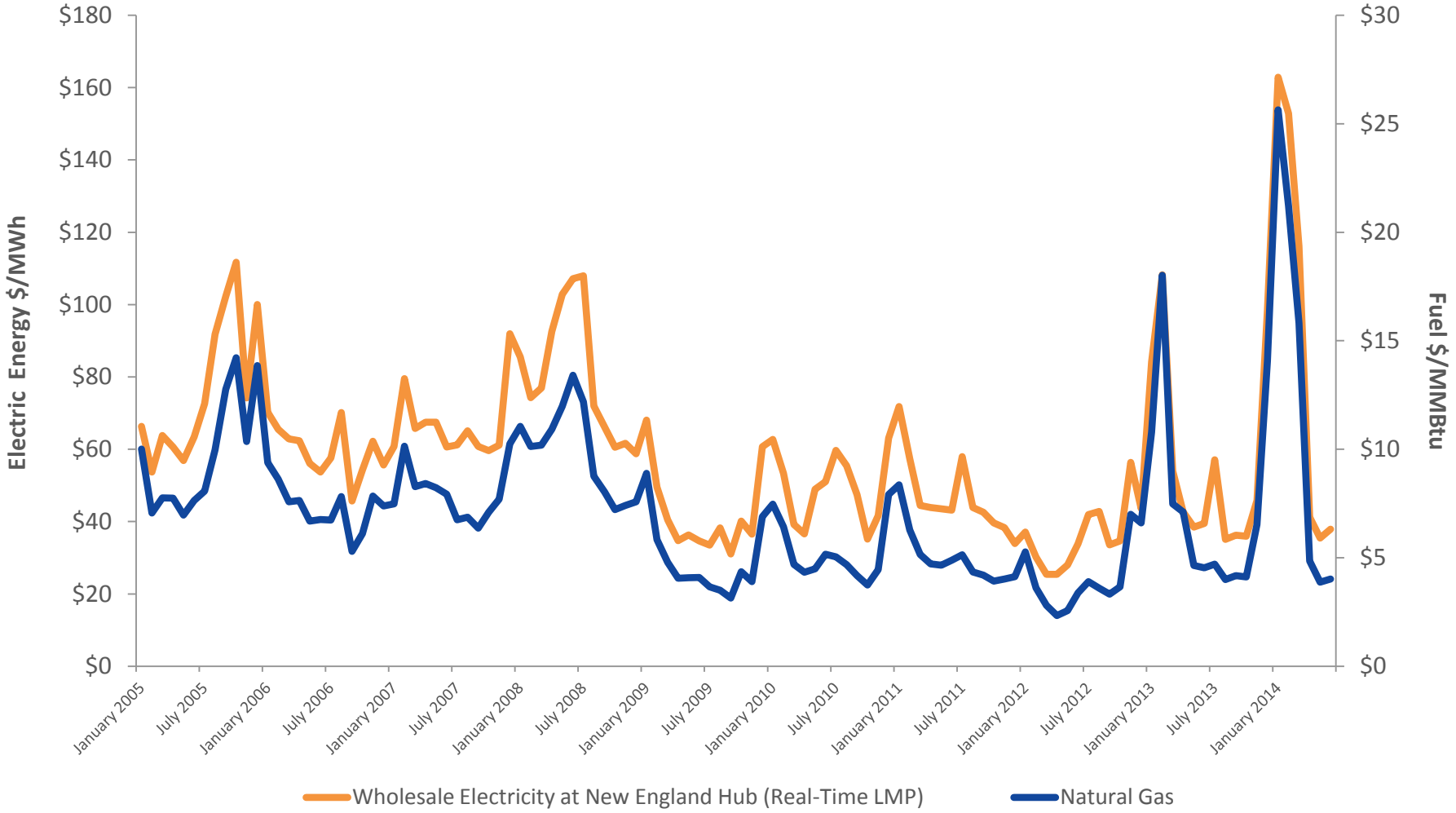
- Higher RCPFs are part of a comprehensive set of solutions to incentivize improved resource performance
- Higher RCPFs send price signals in the near term (beginning December 2014), while PFP is designed to improve resource performance in the long term (beginning June 2018)
- FERC combined elements of the ISO and stakeholder solutions to address resource performance

RCPFs as Part of a Larger Market

- RCPFs are triggered when the region is short of operating reserves – generally this occurs infrequently and events are often short in duration
  - 109 RCPF activations between 2011 and July 2013
- RCPFs do introduce an element of volatility in real-time pricing, but the objective is to ensure we can maintain adequate reserves to keep the lights on
- Higher RCPFs represent a small fraction (<1%) of the total value of the energy market; the main driver of energy prices is fuel costs
  - With the new RCPFs, real-time revenues would have been $12.5 million higher between 2011 and July 2013 (annualized average)

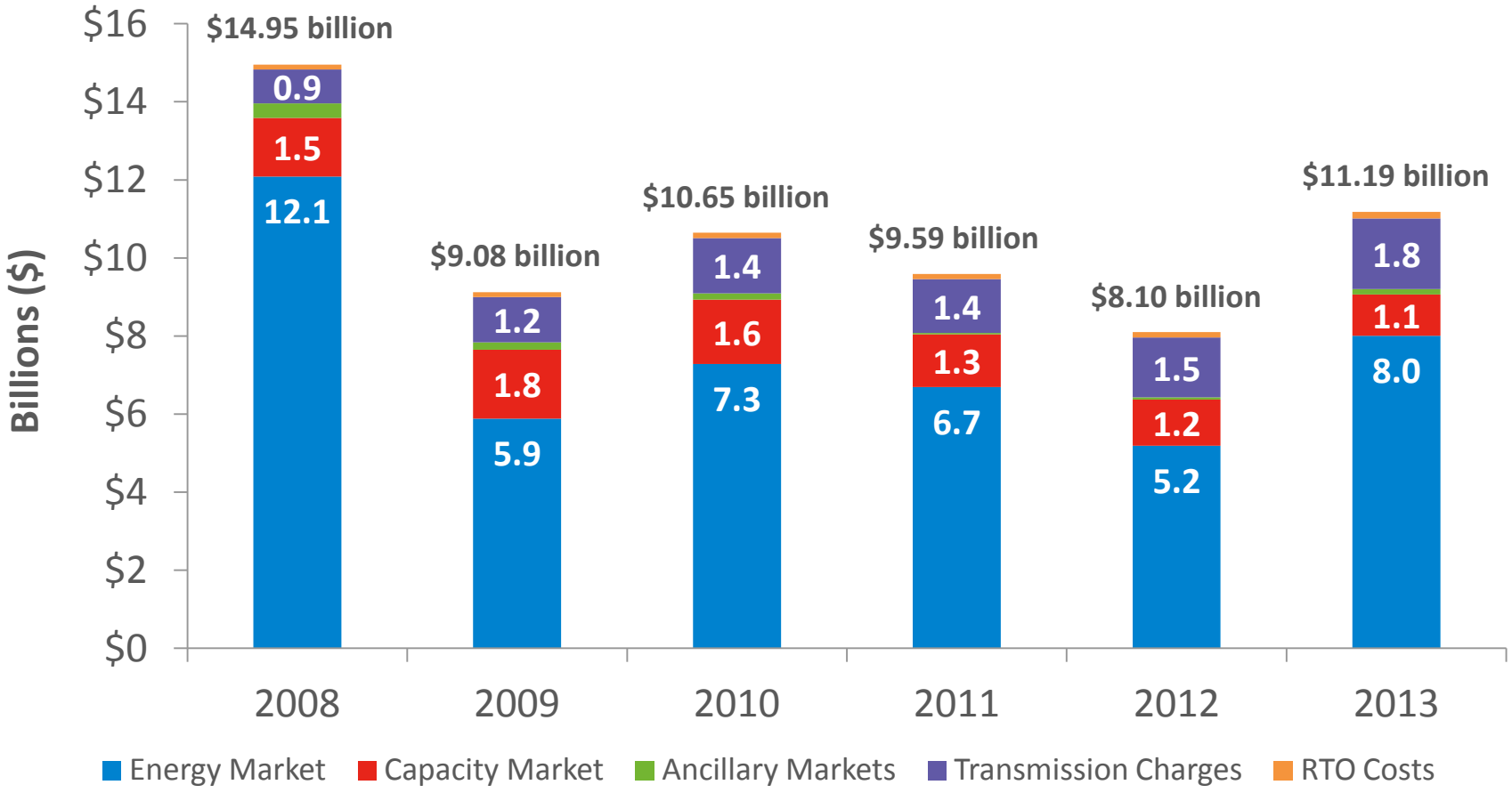
Wholesale Energy Prices Track the Price of Natural Gas

Because of New England's heavy reliance on natural gas as a fuel source, natural gas typically sets the price for wholesale electricity



Wholesale Electricity Costs in New England

Annual wholesale electricity costs have ranged from $8 billion to $15 billion



Source: *2013 Report of the Consumer Liaison Group, Appendix C*

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	2008		2009		2010		2011		2012		2013	
	$ Mil.	¢/kWh	$ Mil.	¢/kWh	$ Mil.	¢/kWh	$ Mil.	¢/kWh	$ Mil.	¢/kWh	$ Mil.	¢/kWh
Wholesale Market												
Energy (LMPs)[b]	$12,085	9.1	$5,884	4.6	$7,284	5.6	$6,695	4.9	$5,192	3.9	$8,009	6.0
Ancillaries[c]	$366	0.3	$190	0.1	$164	0.1	$39	-	$54	-	$155	0.1
Capacity[d]	$1,505	1.1	$1,768	1.4	$1,647	1.3	1,345	1.0	$1,182	0.9	$1,057	0.8
Subtotal	***$13,956***	***10.5***	***$7,842***	***6.1***	***$9,095***	***7.0***	***$8,079***	***5.9***	***$6,429***	***4.8***	***$9,220***	***6.9***
Transmission Charges[e]	$869	0.7	$1,155	0.9	$1,417	1.1	$1,378	1.0	$1,533	1.1	$1,806	1.3
RTO costs[f]	$125	0.1	$123	0.1	$137	0.1	$130	0.1	$139	0.1	$167	0.1
Total	**$14,951**	**11.3**	**$9,080**	**7.1**	**$10,649**	**8.2**	**$9,588**	**7.0**	**$8,100**	**6.0**	**$11,193**	**8.3**

(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.

(b) Energy values are derived from wholesale market pricing.

(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 market mechanisms in effect at the time.

(e) Transmission charges reflect the collection for transmission owners' revenue requirements and tariff-based reliability services, including black-start capability and voltage support. In 2013, the cost of payments made to these generators for reliability services under the ISO's tariff was $59.6 million.

(f) RTO costs are the costs to run and operate ISO New England Inc.

Questions