



Energy,
Environment and
Economic Development Conference:
*Energy Prices – How High and How
Long Are They Going to Last?*

Panel 2

What Are the Drivers of
Electric Prices in Connecticut
and New England?

Connecticut Power and Energy Society

Electricity Price Drivers

James Daly

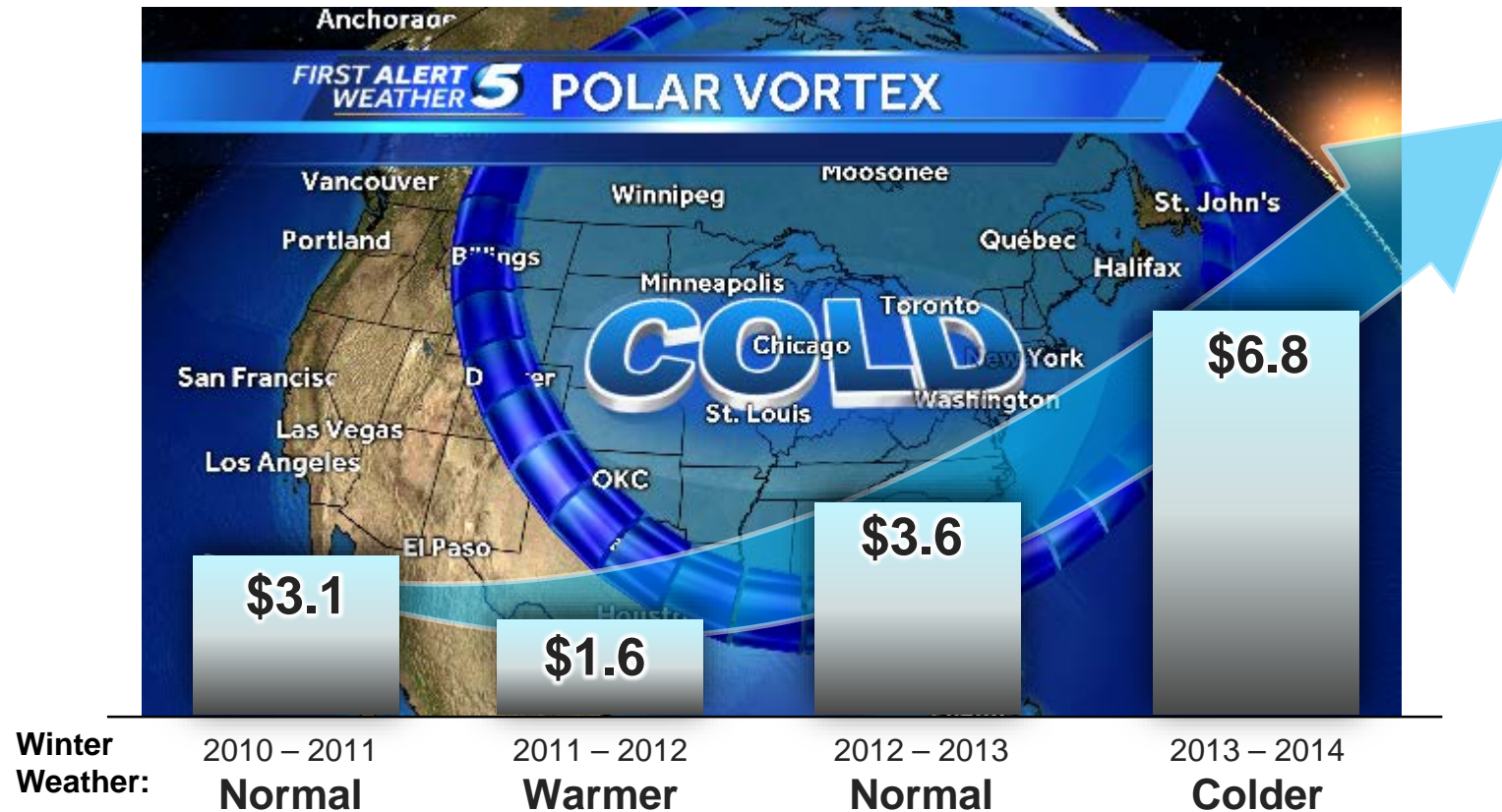
VP Energy Supply

Eversource Energy

March 11, 2015

New England had a \$6.8 Billion 2013/14 Winter

Winter Season Wholesale Electricity Costs December thru March; ISO-NE region (\$ billions)



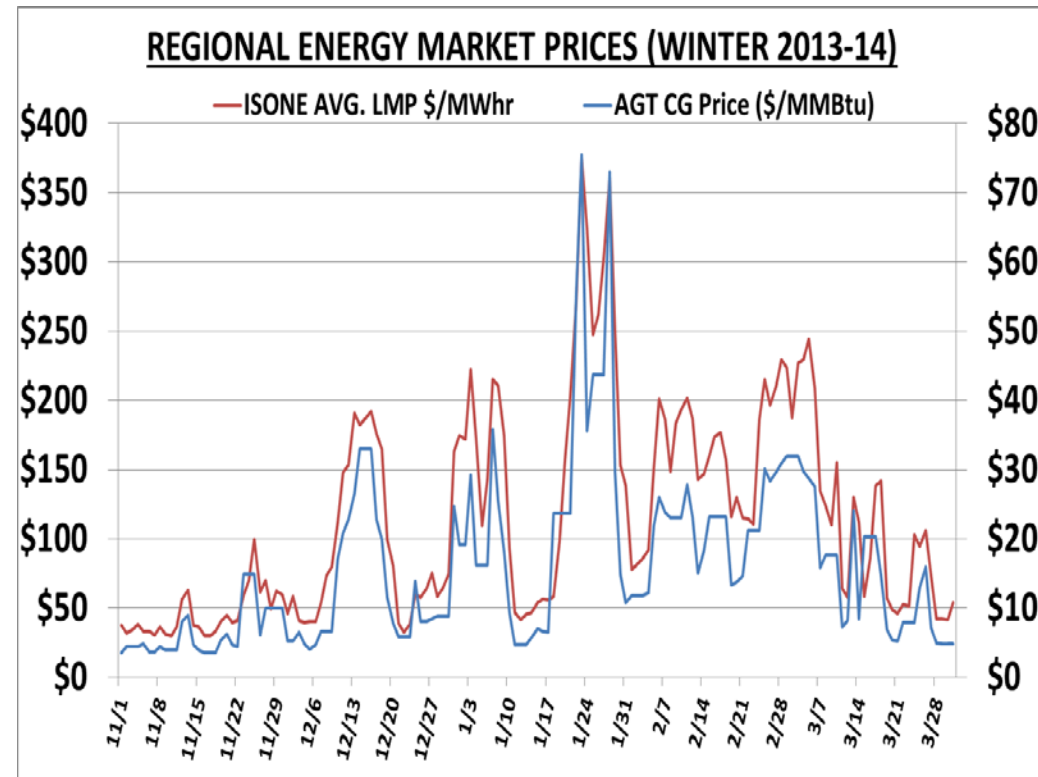
Last Winter's Prices & Volatility Have Significantly Raised New England Energy Rates

Avg. Increase
Energy Rates
Fall to Winter
2013-2014

Risk Premium in Customer Rates

Avg Increase
Energy Rates
Fall to Winter
2014-2015

27%



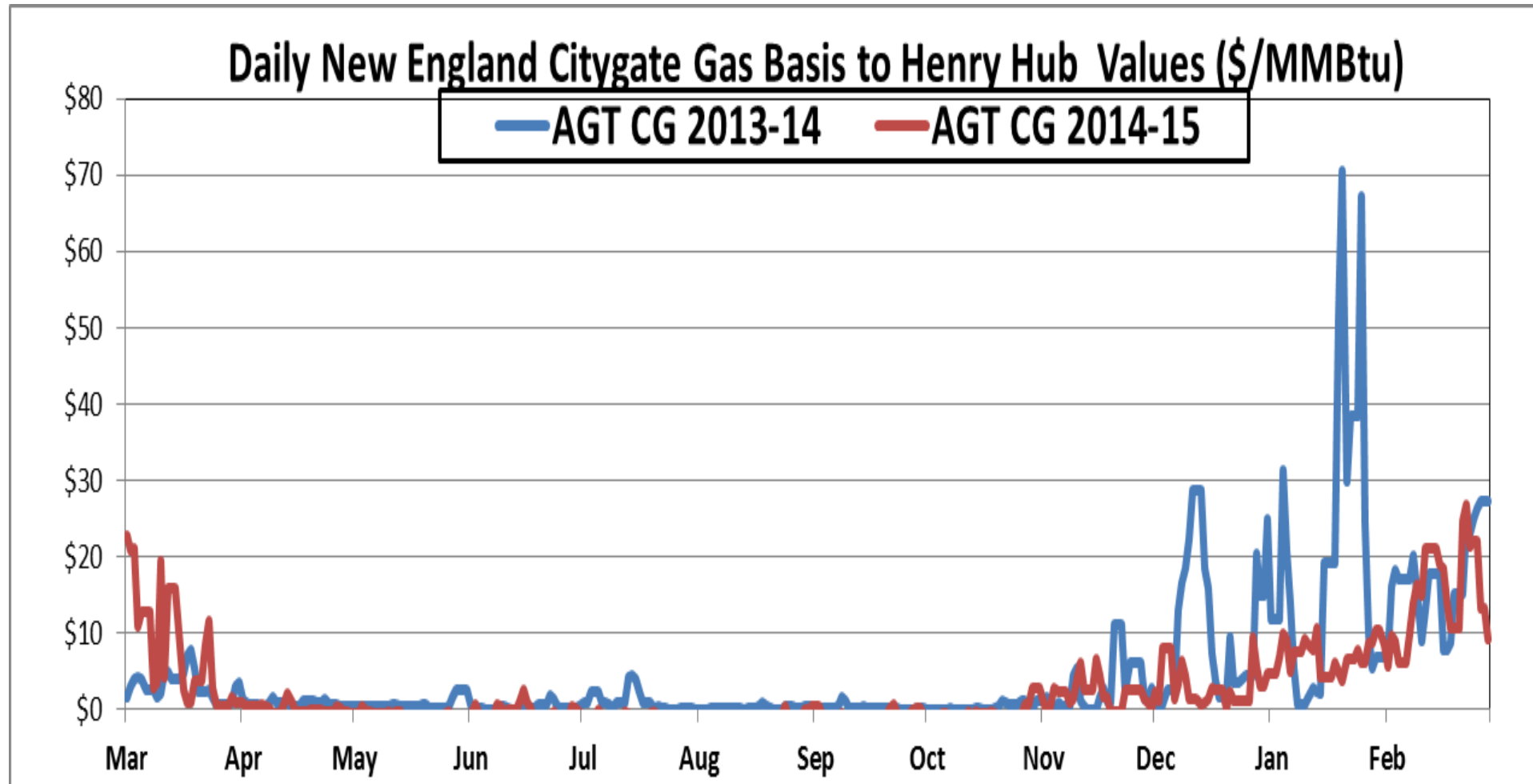
60%

Retail Rate Increases - Energy Only

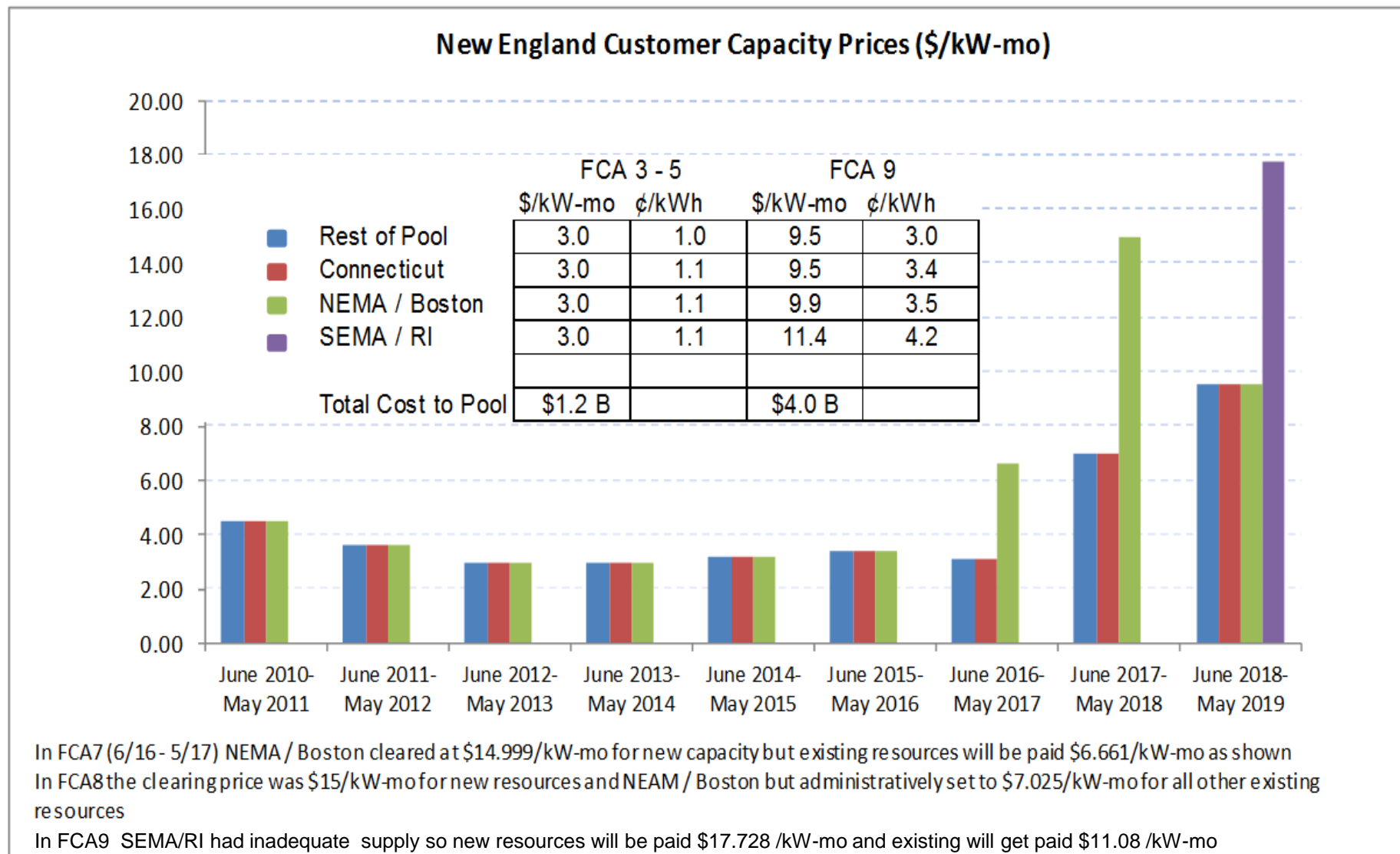
Residential Rates	Energy Rate (c/kWh)		% Change	Upcoming Period
	Current Rate	Upcoming Rate		
Connecticut				
CL&P	10.0	12.5	25%	Jan '15 - Jun '15
United Illuminating	8.7	13.3	53%	Jan '15 - Jun '15
Massachusetts				
NSTAR	9.4	15.0	60%	Jan '15 - Jun '15
WMECO	8.8	14.0	58%	Jan '15 - Jun '15
National Grid	8.3	16.2	96%	Nov '14 - Apr '15
Fitchburg	8.5	14.1	66%	Dec '15 - May '15
New Hampshire				
PSNH	9.9	10.56	7%	Jan '15 - Dec '15
Unitil	8.4	15.5	85%	Dec '14 - May '15
Liberty	7.7	15.5	100%	Nov '14 - Apr '15
NH Elec Coop	9.0	11.6	29%	Oct '14 - Apr '15

**Estimate*

Winter Gas Basis Remain High But Lower Than Last Winter

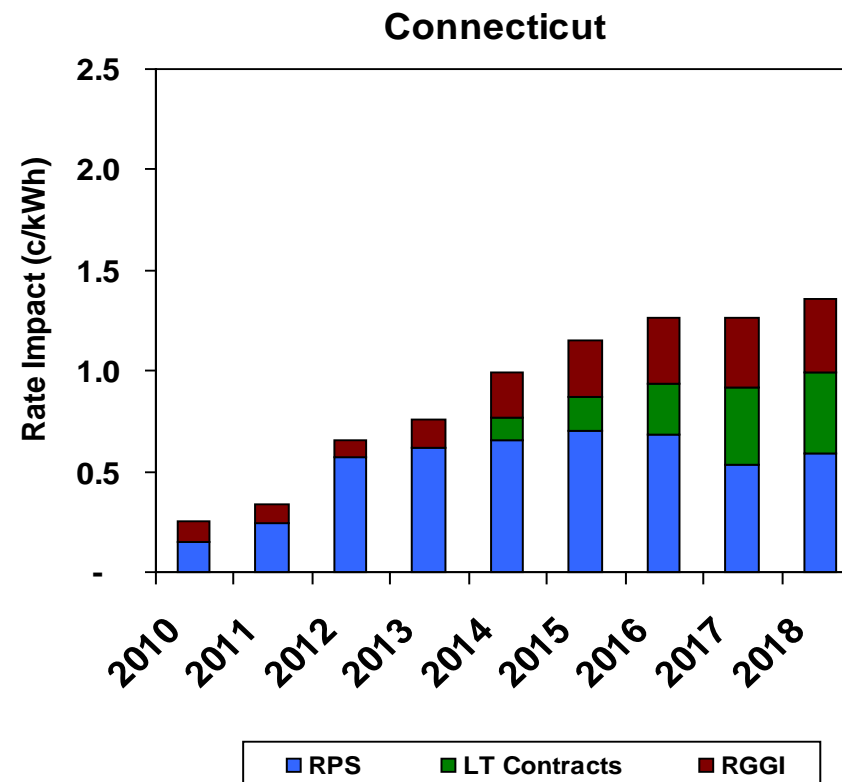
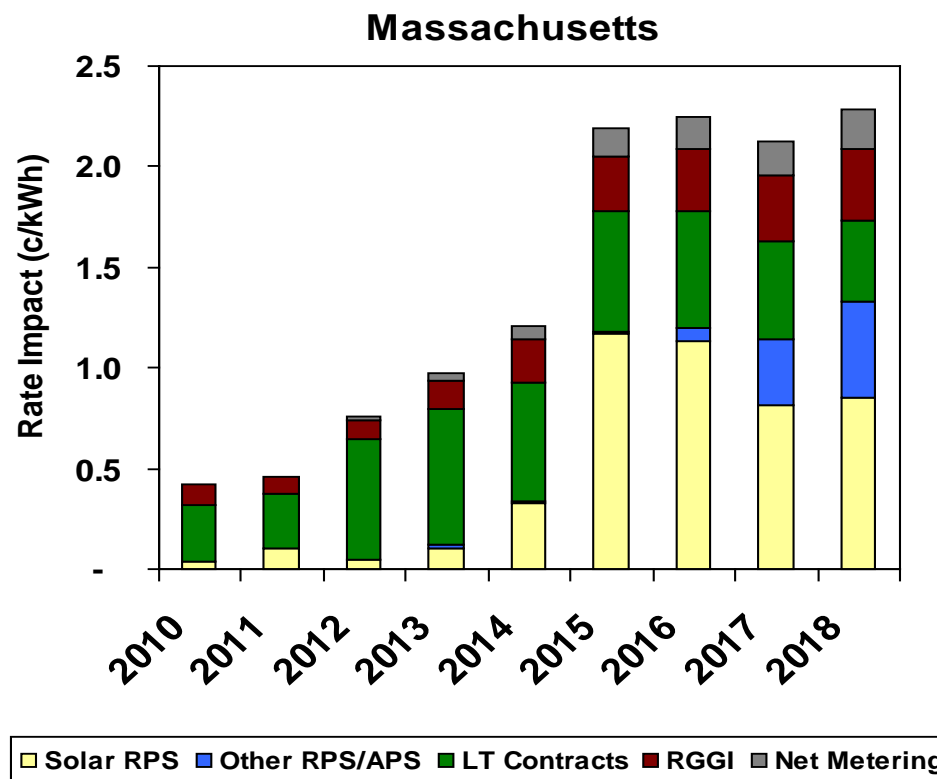


New England Capacity Prices Increasing



Policy Costs Growing in New England

- Incremental costs of clean energy policies is material portion of rates
- 2015 total cost near \$1B in Massachusetts and \$300M in CT
- RPS requirements continue to grow in all states



- ISO Winter Reliability Program ensured oil and some natural gas supply for generation
- Oil price dropped from over \$110/Bbl to circa \$45/Bbl
- LNG imports quantity and diversity increased
 - Seeking higher gas prices versus lower oil related prices in Europe and Asia
- Planned retirements (Brayton Point) still in the market
- Cold weather came in February versus January when loads are higher
- Generation availability in PJM was better – last year >20% of generation was unavailable due to cold weather issues
- Result was lower prices and reduced volatility in NE

- Electricity prices are driven by natural gas prices
- Resource mix is changing away from coal, oil and nuclear and towards gas and renewable energy
- Implications for large hydro, natural gas expansion and renewables
 - Hydro and gas expansion support intermittent renewable generation
 - Hydro and renewables provide needed diversity
 - Hydro and gas can increase reliability and reduce cost to consumers
- Infrastructure expansion takes time – not likely before 2018/19
- Need is urgent on reliability, higher costs on the way

Standard Service Power Procurement

Jeffrey R. Gaudiosi, Esq.

Power Procurement Manager

Public Utilities Regulatory Authority

Connecticut Department of Energy & Environmental Protection

History

- 1999-2006 Transitional Standard Offer - capped generation rate
- 2006-2012 Standard Service – three year laddering provision
- 2012-Present Standard Service – 6 month rates

Current Process

- Public Act 11-80 creates position of Power Procurement Manager
- Feb. 2012-June 2012 – development of Connecticut's first Power Procurement Plan
- October 2012 – approval of Plan by PURA

Power Procurement Plan

- The State is directly involved in the process
- Rates change each 6 months (Jan-Jun, Jul-Dec)
- Closer to market pricing
- Divides expensive winter months, rates drop during peak summer usage
- Flexibility of process
- Mix of products (full requirements & self management)



What are the Drivers of Electric Prices in Connecticut and New England?

*Connecticut Power and Energy Society: Energy, Environment and
Economic Development Conference*

Eric Johnson

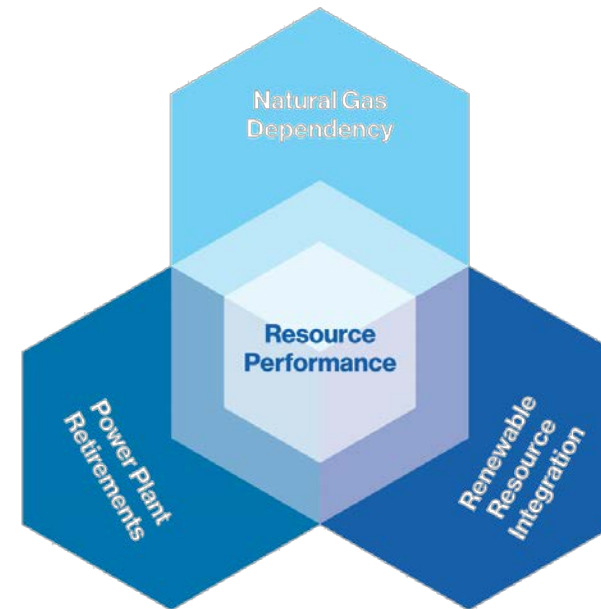
DIRECTOR, EXTERNAL AFFAIRS



ISO New England Is Implementing Solutions to the Region's Top Reliability Risks

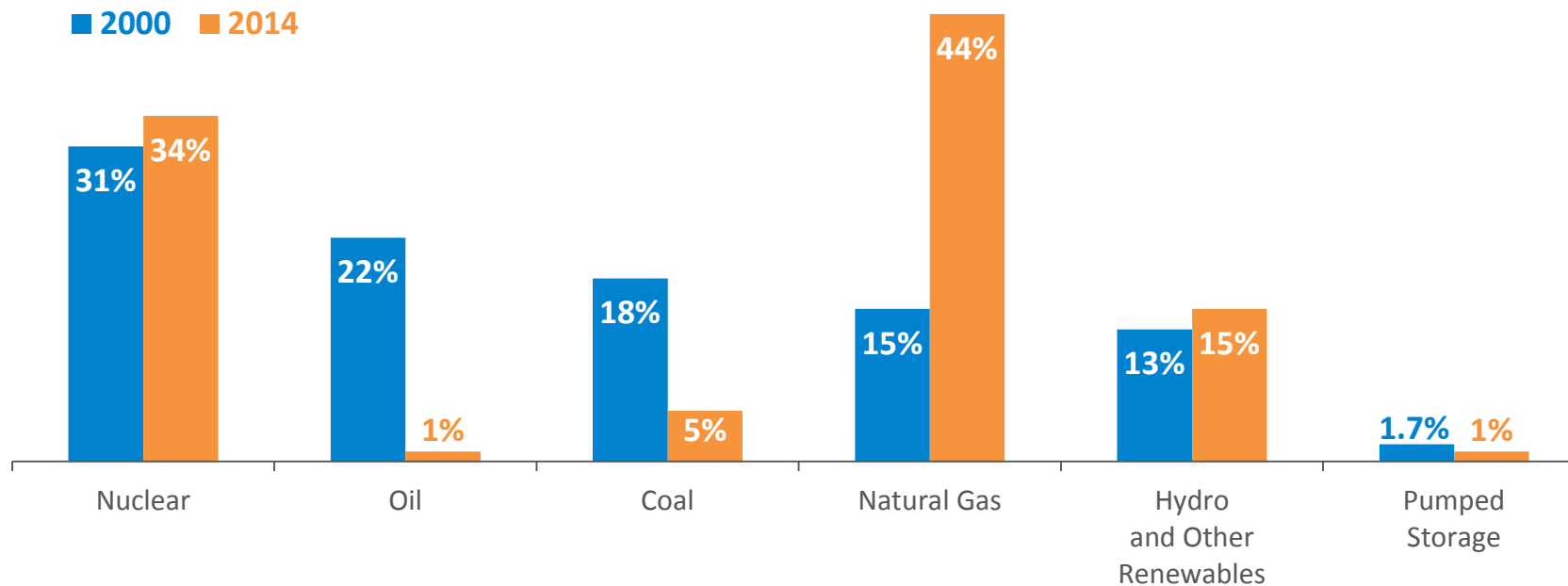
Reliability requires a flexible, high-performance fleet to address these risks:

- Natural gas dependency
- Power plant retirements
- Renewable resource integration



New England Has Seen a Dramatic Shift in Energy Sources Used to Produce Electricity

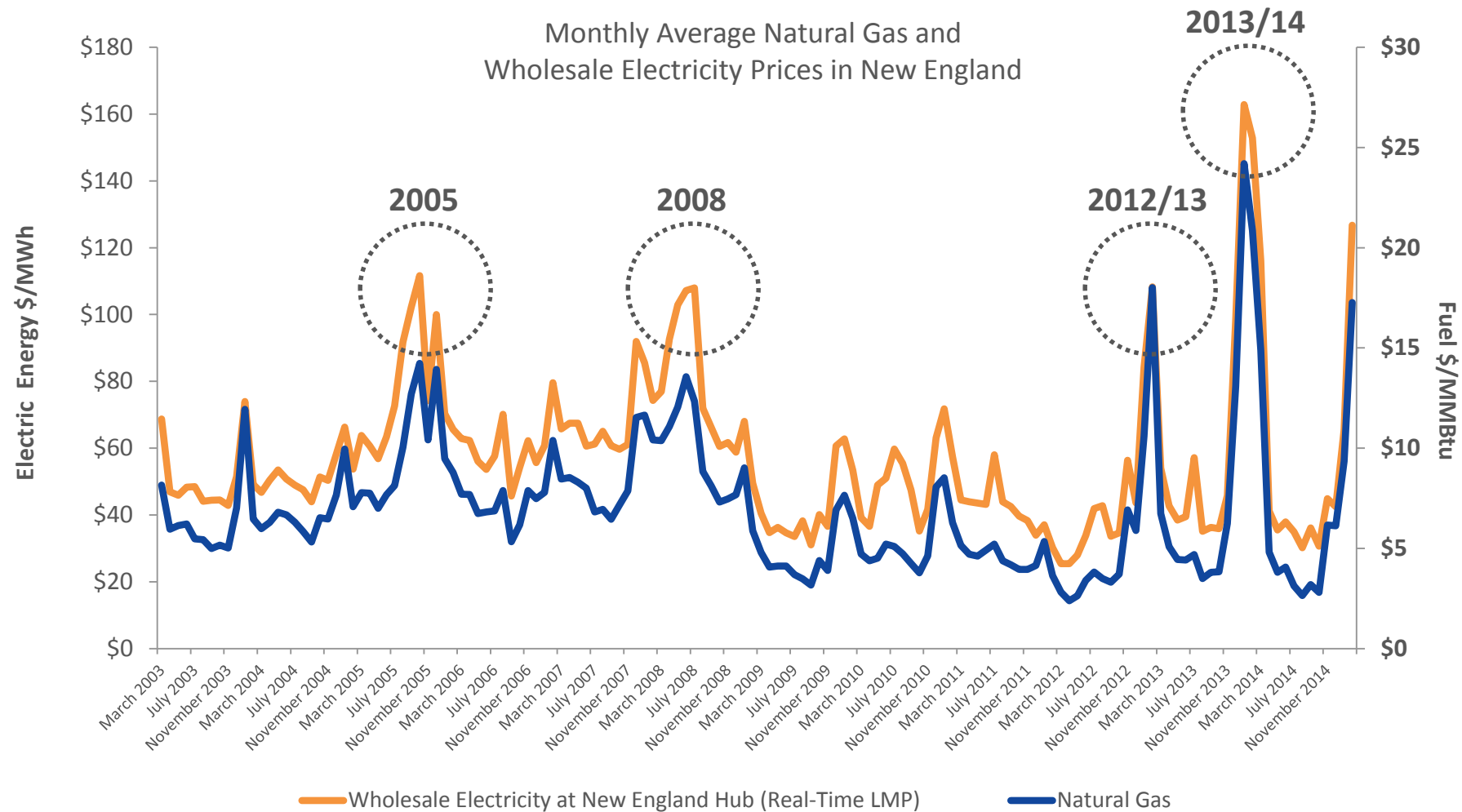
Percent of Total **Electric Energy** Production by Fuel Type
(2000 vs. 2014)



Source: ISO New England [Net Energy and Peak Load by Source](#)

Other renewables include landfill gas, biomass, other biomass gas, wind, solar, municipal solid waste, and miscellaneous fuels

Natural Gas and Wholesale Electricity Prices Are Linked



>10% of Existing Fleet Will Retire Within 5 Years

More than 3,500 MW of coal, oil, and nuclear resources will retire between 2014 and 2019



Key retirements:

Connecticut

Norwalk Harbor 340 MW

Massachusetts

Brayton Point 1,535 MW

Salem Harbor 749 MW

Mt. Tom 142 MW

Vermont

Vermont Yankee 604 MW

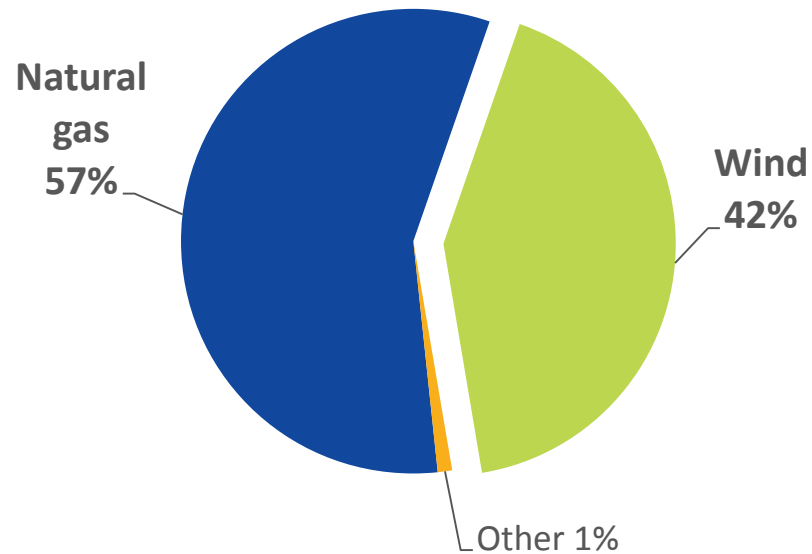
Additional retirements are looming



Proposed Generation Is Primarily Gas and Wind

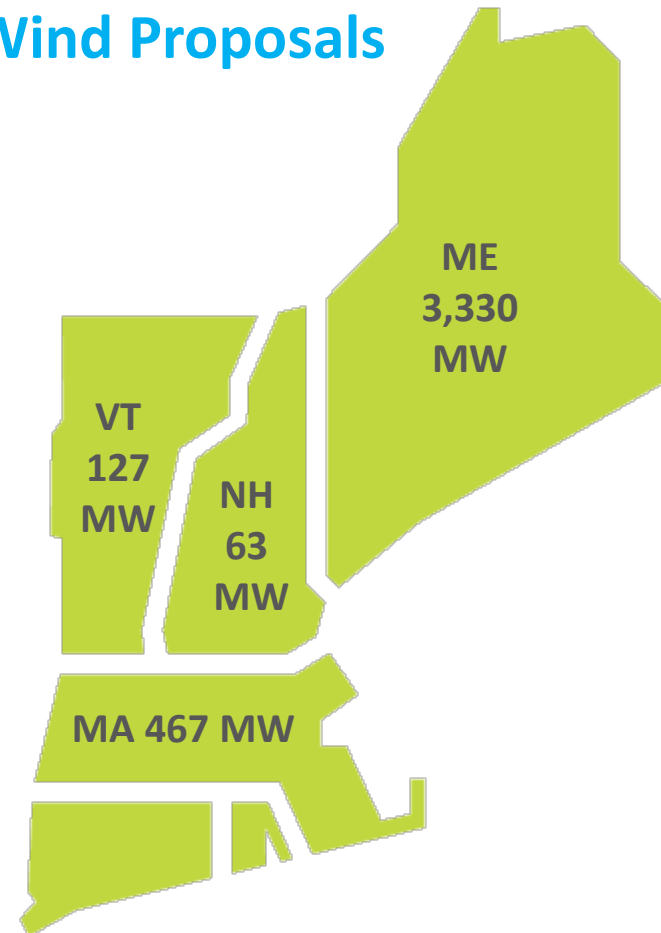
All Proposed Generation

Developers propose >5 GW of gas-fired generation and approximately 4 GW wind; wind is mostly onshore in northern New England and offshore in southern New England



Source: ISO Generator Interconnection Queue (January 2015)
FERC Jurisdictional Proposals Only

Wind Proposals



2014/2015 Winter Operations

- The region's power grid has been operating well through the cold weather this winter, with **sufficient resources** available to meet peak demand and provide reserves
- The ISO continues to monitor and coordinate with generators and natural gas pipeline companies to help ensure this continues
- Natural gas pipelines serving New England continue to be **utilized at near full capacity**, supplemented with injections of Liquefied Natural Gas (LNG) occurring in the eastern portion of the system
- These injections have helped meet the high demand for natural gas for power generation
- In addition, with the extremely cold weather, we have seen an increased use of **oil-fired generation** to meet demand for electricity



2014/2015 Winter Operations, *continued*

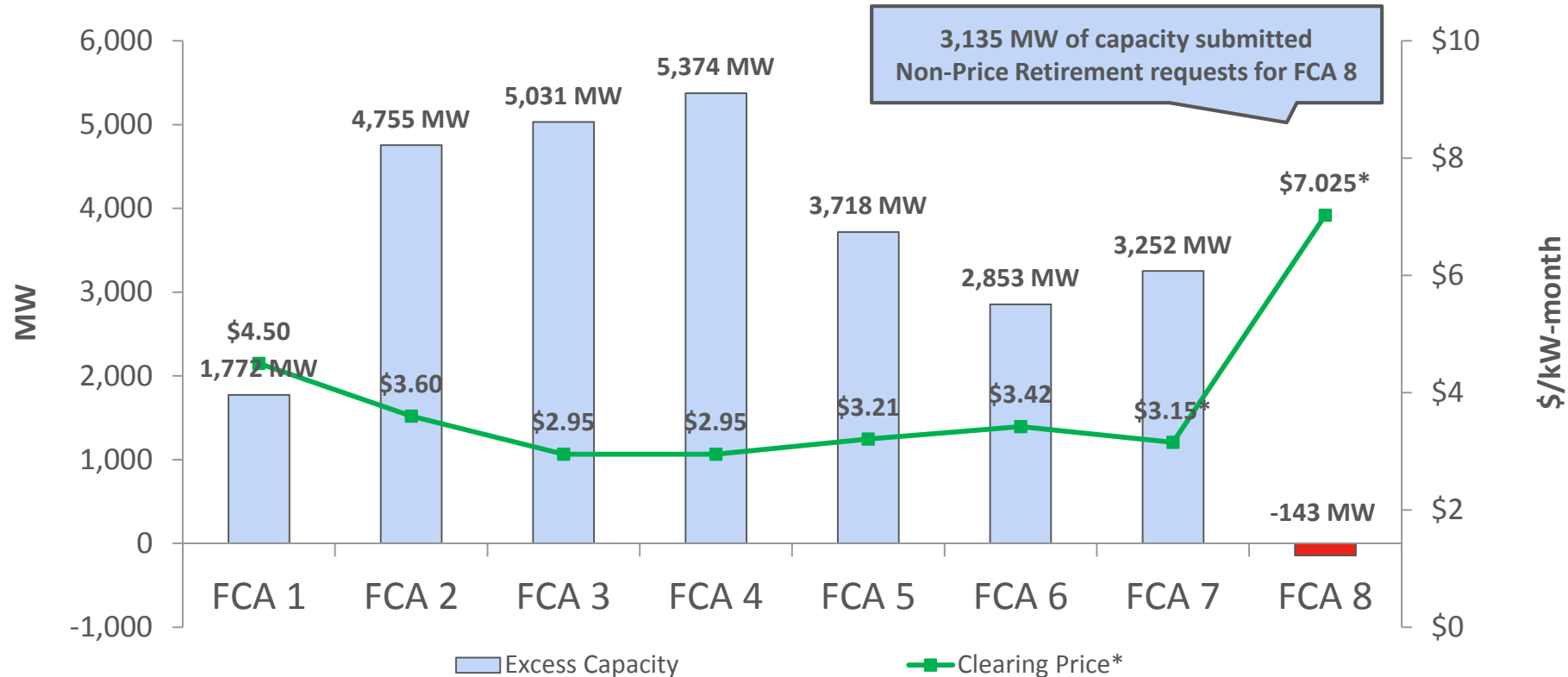
- For much of the winter, **wholesale electricity prices** have been lower than last winter
- The most significant factor in this winter's lower wholesale power prices is **lower fuel prices** for natural gas, LNG, and oil
- **Oil prices have fallen** across the globe, to approximately half what they were a year ago, which has dramatically reduced the cost of operating oil-fired power plants
- **LNG has been in much greater supply** this winter than last, which has resulted in greater competition with pipeline natural gas from the west

Month & Year	Average Real-Time Price of Electricity (Hub) (\$/MWh)
<i>December 2013</i>	98.53
<i>January 2014</i>	162.88
<i>February 2014</i>	152.84
<i>December 2014*</i>	42.47
<i>January 2015*</i>	65.59
<i>February 2015*</i>	126.70

*preliminary figures

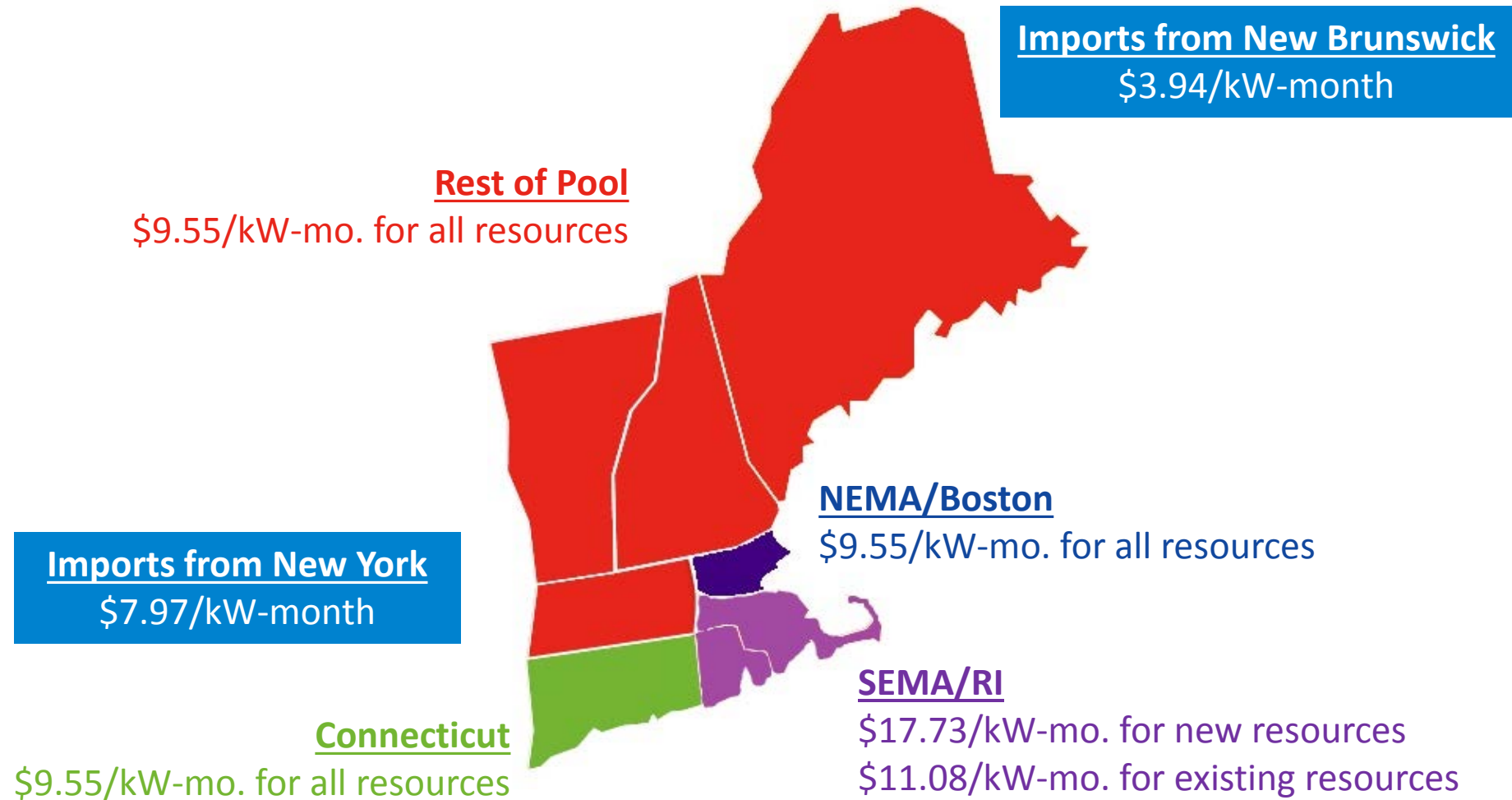
Capacity Prices Vary with Changes in Supply

Capacity Surplus or Deficit (MW) Against Auction Clearing Prices (\$/kWh-month)



* Prices cleared at the floor price in the first seven auctions due to excess capacity; therefore, resources were paid a slightly lower prorated price. The clearing price in NEMA/Boston was \$14.999/kW-month for FCA 7 (new capacity received \$14.999/kW-month and existing capacity received an administrative price of \$6.66/kW-month). The clearing price in FCA 8 was \$15.00/kW-month (new capacity in all zones and existing capacity in NEMA/Boston received \$15.00/kW-month and existing capacity in all other zones received an administrative price of \$7.025/kW-month).

Capacity Zones Show Where New Resources Are Needed Most



2014 Report of the Consumer Liaison Group Published This Week

- The *2014 Report of the Consumer Liaison Group* summarizes the activities of the CLG in 2014:
 - <http://www.iso-ne.com/committees/industry-collaborations/consumer-liaison>
- The report also provides an update on ISO activities and initiatives, as well as wholesale electricity costs and retail electricity rates in New England



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- Subscribe to the **ISO Newswire**
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