

Managing the Transformation of New England's Energy Resources



Annual NECPUC Symposium, Plenary Panel

Energy from Afar: Do we need it, and if so, how do we bring it to New England?

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PRESIDENT & CEO



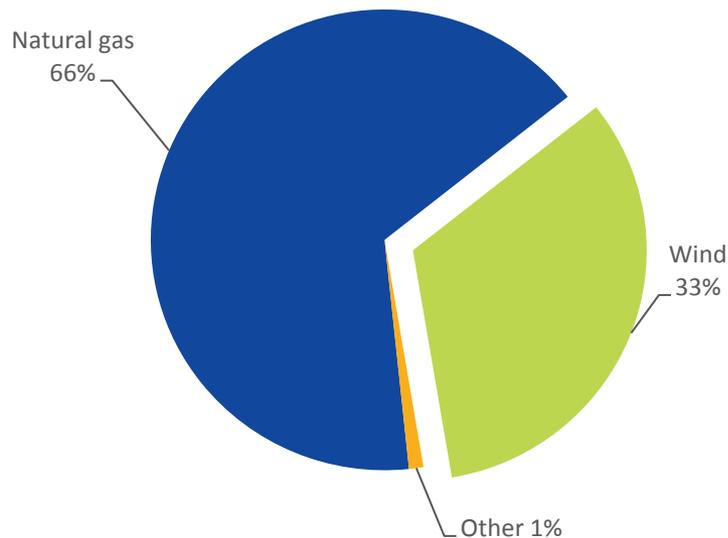
Top Ten Changes to the Power System Since 2000

1. In the winter, gas supplies are inadequate, prices are volatile and emissions are heading in the wrong direction to achieve state environmental goals
2. Investors are committing to build new resources (mainly gas and wind)
3. Uncompetitive resources are retiring (nuclear, coal, oil); *who's next?*
4. Distributed solar, and wind are growing rapidly, and more hydropower is being considered; are these resources the *next* disruptive force?
5. State energy-efficiency programs are flattening demand growth
6. Demand resources are competing with generation to provide capacity
7. Transmission investments have made the grid more reliable and the markets more efficient
8. The air got cleaner as overall NO_x , SO_2 and CO_2 emissions plunged
9. Natural gas became a *disruptive force* in the market
10. Markets were introduced and that fixed everything

Infrastructure will be Needed to Deliver Energy From Proposed Resources

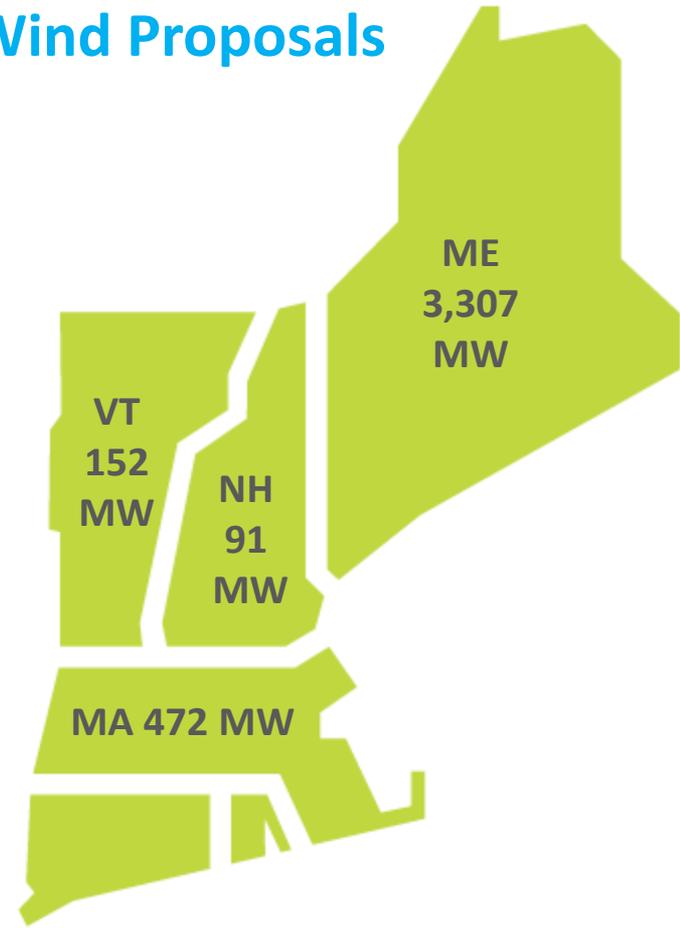
All Proposed Generation

Developers are proposing to build more than 12,000 MW of generation, including 8 GW of gas-fired generation and 4 GW of wind



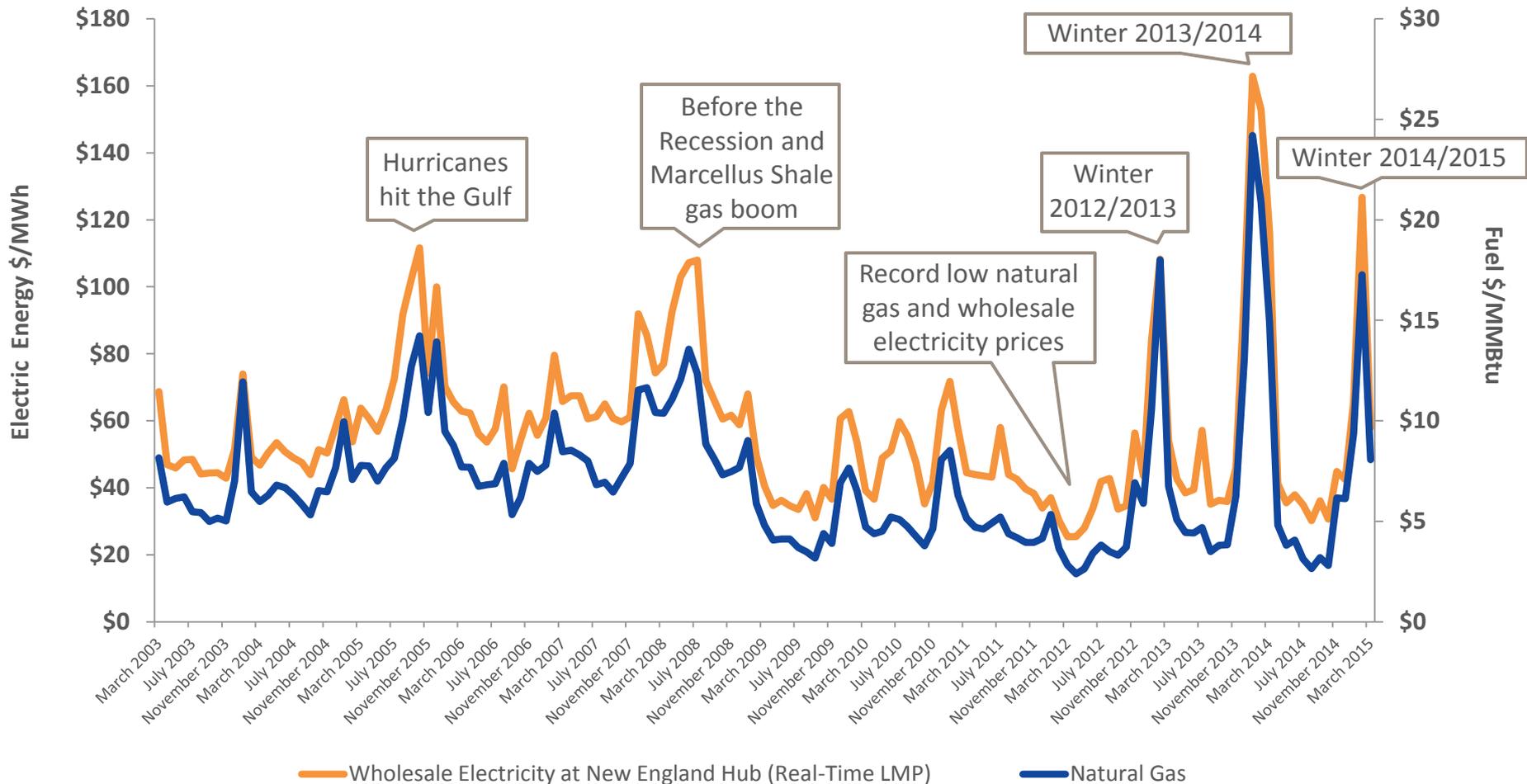
Source: ISO Generator Interconnection Queue (June 2015)
FERC Jurisdictional Proposals Only

Wind Proposals



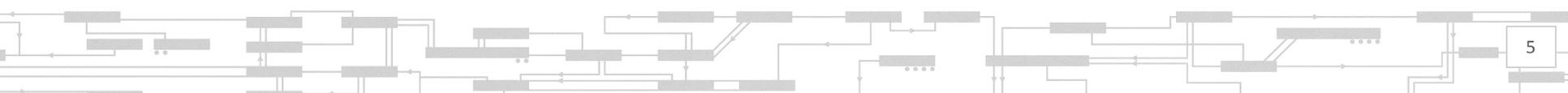
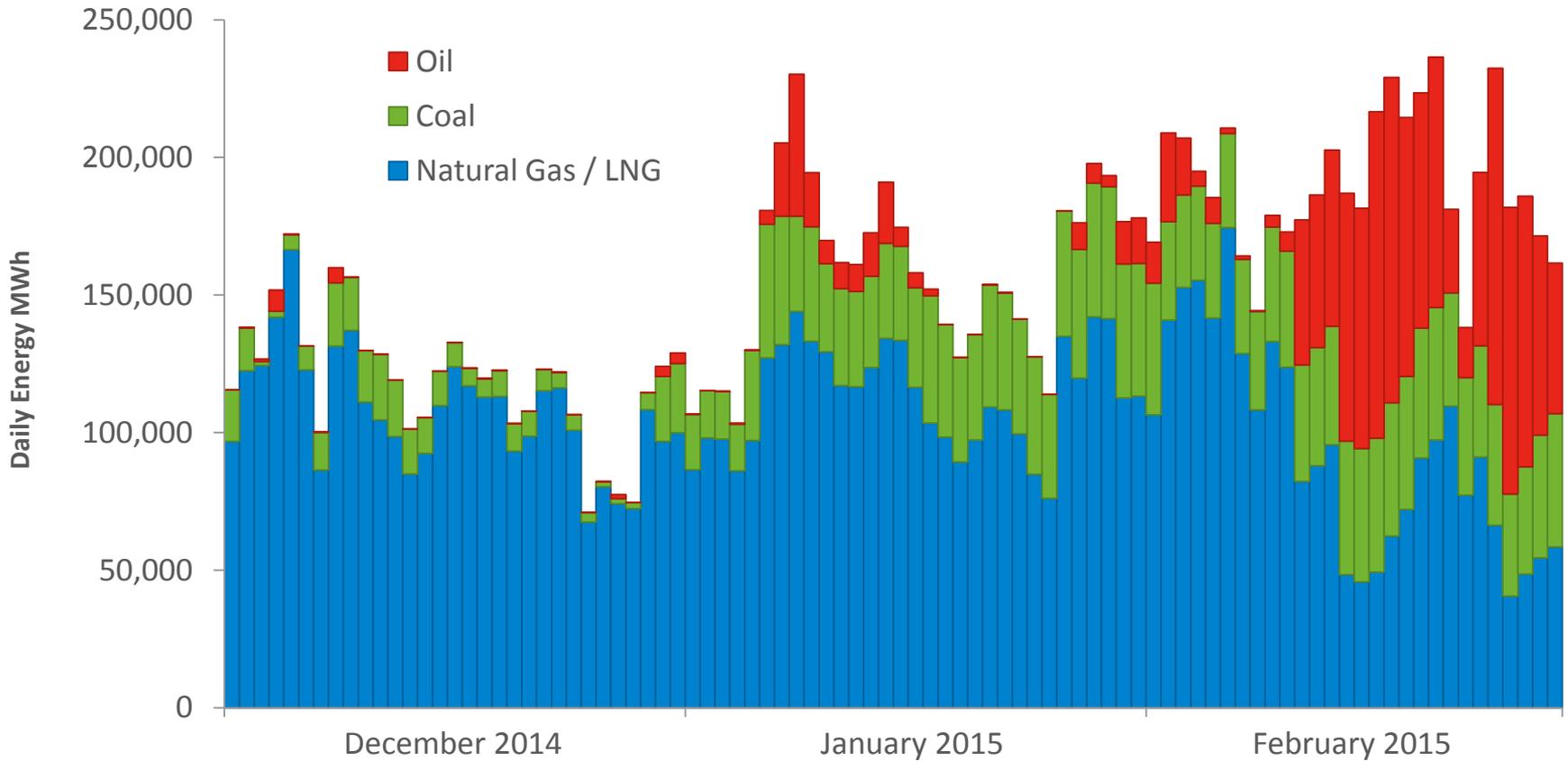
The Region has Experienced High Natural Gas and Wholesale Electricity Prices the Past Few Winters

Monthly Average Natural Gas and Wholesale Electricity Prices in New England



New England Shifted to Coal and Oil Last Winter

Daily Energy for December 2014 - February 2015 (MWh)



Natural Gas Infrastructure has Not Kept Pace with Tremendous Growth in Gas-fired Generation

Cumulative New Generating Capacity in New England (MW)

