

Hon. Maura Healey, Attorney General
Commonwealth of Massachusetts
One Ashburton Place
Boston, MA 02108

October 9, 2015

Re: Attorney General's Regional Electric Reliability Options Study

Dear Attorney General Healey:

Thank you for conducting the Regional Electric Reliability Options Study to determine how the New England states can best meet our electric energy needs through 2030, while ensuring compliance with state greenhouse gas reduction mandates, especially *The Massachusetts Global Warming Solutions Act*.¹ The needs assessment will be an important tool as policymakers in Massachusetts seek to determine how to meet our economic and environmental policy goals. The study should provide policymakers with an understanding that meeting our power supply needs, particularly our winter energy challenges, requires a comprehensive suite of solutions, rather than reliance on a single set of solutions or technologies. A diversified energy portfolio that includes more energy efficiency, demand-side resources, particularly those targeted toward managing peak load, and renewable energy supply options will be better for Massachusetts customers, our economy and the environment over the long term.

As Analysis Group drafts its "Solution Sets" as described in the "Study Overview," we encourage them to consider the following to ensure an accurate and fair accounting of the contributions of resource alternatives to cost-effectively meeting our energy needs.

1) Ensure that the Full Contributions of Energy Efficiency and Distributed Generation Are Included

Energy efficiency and distributed generation (i.e. solar PV) have been recognized by Massachusetts and other states across our region as a viable and cost-effective alternative to traditional energy infrastructure with substantial environmental benefits. As Analysis Group identifies incremental distributed resources options, its forecasting should not be constrained by the assumptions made by ISO-New England in its recent Energy Efficiency and Distributed Resource forecasts for its transmission needs assessment. While we appreciate ISO-New England incorporating these important resources into its region-wide transmission planning, many of the assumptions made undervalue the probable contribution of energy efficiency and solar in meeting future energy needs.

Analysis done by Synapse Energy Economics for the E4 Group finds that ISO-New England discounts the contributions of energy efficiency and distributed resources and may "substantially understate the

¹ M.G.L. Chapter 21N

impact of these resources” on total electricity demand.² Its energy efficiency forecast shows gradual reductions in the contribution of energy efficiency resources based upon assumptions about annual increases in production costs for energy efficiency, reductions in state energy efficiency program budgets, and declining availability of energy efficiency resources in the future, while finding that new incremental solar PV installations decline significantly after 2015. Adjustments to the forecast made by Synapse, however, show significantly greater levels of demand reductions through energy efficiency and solar PV are likely to be available over the next decade. The impact of these adjustments is substantial, with our region seeing a reduction in total electricity capacity growth between now and 2024, rather than a slight increase.³ The Electric Reliability Study should ensure that the full contributions of energy efficiency and distributed resources are reflected in its final Solutions Sets.

2) Use Realistic Assumptions about New Gas Pipeline Utilization Rates

Gas pipeline expansion is often assumed to be New England’s chief option for addressing our winter energy price and deliverability challenges. However, meeting our region’s electric and heating demands in the winter months with year-round new pipeline capacity would be inefficient and expensive compared to seasonal solutions, like energy efficiency, load shedding on peak demand days, or the targeted use of liquefied natural gas (LNG), as well as efforts to accelerate current leak-prone pipeline replacement.⁴

An accurate comparison of the cost of gas pipeline expansion to other resource alternatives must take the utilization rate of the delivered resource into account, in order to avoid overcounting the cost of targeted solutions and undercounting the cost of pipeline capacity. We recommend that Analysis Group take into account the recent study by Greg Lander of SkippingStone regarding pipeline utilization rates to provide an assessment of the cost of pipeline expansion in comparison with utilization of existing LNG and gas storage assets. The report finds that a new gas pipeline of 0.8 BCF/day, smaller in size than either of the largest pending pipeline proposals in New England, would “significantly exceed the region’s demand” on the highest peak demand day in 2030.⁵

Importantly, the Skipping Stone analysis finds that load factors for new pipeline capacity on the 50-75 days of highest load would be between 30 and 50 percent. Likewise, the study finds that the cost of utilizing new pipeline additions to provide fuel for natural gas power plants is likely to be substantially higher than existing forecasts.⁶ Given that these pipelines are likely to be cost-effective only if subsidized by electric ratepayers, a realistic assessment of utilization rates when comparing pipeline expansion with other alternatives is essential.

² Synapse Energy Economics, “Challenges for Electric System Planning,” Prepared for the E4 Group, July 24, 2015 p. 1. Available at http://www.synapse-energy.com/sites/default/files/Challenges-for-Electric-System-Planning_0.pdf.

³ Synapse Energy Economics, “Challenges for Electric System Planning,” p. 14. Likewise, the adjusted forecasts would also reduce net energy load growth by 1.43% versus 0.04% in the ISO-NE forecast.

⁴ The Department of Public Utilities’ *Report to the Legislature on the Prevalence of Natural Gas Leaks in the Natural Gas System*, dated September 18, 2015, reports that approximately 20,270 metric tons of methane was emitted from the system into the atmosphere in 2014 out of the 1.65 Million Mcf of lost and unaccounted for gas across a landscape of over 6,000 miles of aging pipeline in Massachusetts.

⁵ Greg Lander and Peter Weigand, SkippingStone, “Solving New England’s Gas Deliverability Problem Using LNG Storage and Market Incentives,” p. 12. Available at <http://www.skippingstone.com/New-England-Gas-Deliverability.pdf>

⁶ Lander, SkippingStone, “Solving the Gas Pipeline Problem,” p. 14-15.

3) Evaluate Offshore Wind Energy Resources

Offshore wind resources near the Massachusetts coastline have the potential to provide substantial energy resources into the New England electricity market. Common estimates suggest that the federally designated Massachusetts wind energy area has the potential to provide at least 4,000 MW of power, which could come online between now and 2030. Given that numerous Massachusetts policy proposals are calling for the procurement of substantial quantities of offshore wind over the next decade, we recommend that Analysis Group include offshore wind procurements of at least 2,000 MW in its “Solutions Sets.”⁷ That will aid policymakers as they evaluate not only the production cost but also potential market price suppression and winter reliability benefits of adding offshore wind capacity. We recommend that estimates for the price of offshore wind should be based upon the latest government and non-partisan forecasting, rather than previous estimates of the prices suggested for the long-term contract for the Cape Wind project.⁸

4) Impact of Exports on Natural Gas Prices

Expanded natural gas pipeline capacity may enable gas moving into the New England market to be made available for export. Two recently approved LNG export facilities in Nova Scotia approved by Canada’s National Energy Board, for example, would rely on expanded gas pipeline capacity for the New England market.⁹ We encourage Analysis Group to take account of the potential for a significant amount of pipeline capacity in New England to be used for the LNG export market. The U.S. Energy Information Agency (EIA) recently projected that significant increases in LNG exports would result in a significant increase in residential natural gas prices, with up to a 25 percent increase between 2015 and 2025. The final analysis should take account of the potential for significant export on domestic natural gas supplies and how that may alter the estimated benefits of additional pipeline capacity.¹⁰

Thank you for the opportunity to provide input into this important study regarding our resource options to meet the energy needs of our state and region. We thank you for consulting with a broad range of stakeholders in your advisory group process and we look forward to reviewing the final results.

⁷ We refer here to significant legislation currently before the Massachusetts Legislature, particularly H. 2881, *An Act to Promote Energy Diversity* by Representative Patricia Haddad.

⁸ See Bloomberg New Energy Finance, “Wind and Solar Boost Cost Competitiveness Versus Fossil Fuels,” October 5, 2015, available at <http://about.bnef.com/press-releases/wind-solar-boost-cost-competitiveness-versus-fossil-fuels/>.

⁹ Globe and Mail, “Two National Energy Board-approved LNG Projects Hinge U.S. Permits,” August 17, 2015, <http://www.theglobeandmail.com/report-on-business/industry-news/energy-and-resources/two-national-energy-board-approved-lng-projects-hinge-on-us-permits/article25995937/>.

¹⁰ U.S. Energy Information Agency, “Effect of Increased Levels of Liquefied Natural Gas Exports on U.S. Energy Markets,” October 4, 2014, p. 14. Available at <http://www.eia.gov/analysis/requests/fe/pdf/lng.pdf>.

Sincerely,

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