



July 2009  
Status Report

# New England Governors’ Renewable Energy Blueprint

## Preliminary Technical Analysis: Northeast Renewable Resource Development in Consumers’ Economic Interest

The New England states are pleased to present a status report and offer preliminary observations in connection with the ongoing development of the New England Governors’ Renewable Energy Blueprint, including a Renewable Development Scenario Analyses (“RDSA”) conducted by the Independent System Operator- New England. The purpose of this effort is to inform decisions about the most cost-effective way to provide New England consumers with electricity from low carbon, secure energy resources.

Preliminary results of the RDSA, a work in progress that will be the technical underpinning of the Blueprint, demonstrate that:

- 1) New England has significant renewable resources;
- 2) Transmission infrastructure to access such resources can be identified;
- 3) Long-term revenue streams to support renewable infrastructure development can be obtained through various competitive market mechanisms;
- 4) Development of our wind resources could put downward pressure on energy and carbon prices;
- 5) Development of in-region resources appears significantly more efficient than importing equivalent resources from distant regions; and,
- 6) Choices about the level of renewable resource development to meet various objectives can be substantially informed by cost considerations, given the differences in transmission infrastructure costs.

### Cost-Effective, Competitively Driven Development

New England is fortunate to have a significant quantity of untapped renewable resources in and around our region, on the order of over 10,000 Megawatts of on-shore and off-shore wind power potential. A number of potential transmission projects would allow for their development. Developing far less than the maximum potential would enable New England to meet our renewable energy goals and reduce reliance on carbon-emitting generation resources for less transmission investment than more aggressive development. Developing our resources more aggressively would enable New England to export clean power to neighboring regions.

Whichever path we choose, one fact is clear: New England consumers will be best served by placing all potential renewable resources, regardless of location, on an even footing and supporting development of those able to deliver clean power to consumers most cost-effectively.

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*“As New England’s Governors, we believe we have an opportunity in these difficult economic times to make a lasting difference in the way we generate and use electricity and the associated economic, environmental and health benefits that such a change will bring to our region and our citizens.”*

Letter to President Obama and Congressional Leaders, 2.5.09

## Renewable Development Scenario Analysis

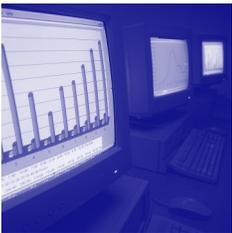
To inform decisions about the most cost-effective way to meet our energy, environmental and energy security objectives, the New England Governors requested ISO-NE to conduct a Renewable Development Scenario Analysis, or RDSA, focused on renewable energy development in and proximate to the region.

*Developing in-region resources appears possible with significantly less capital investment for transmission infrastructure than would be required to import an equivalent quantity of power from more remote, out-of-region sources on new, high-voltage transmission lines.*

The purpose of the RDSA is, in broad terms, to help identify the significant sources of renewable energy available to New England, the means to reliably distribute them within the region's power grid, and estimated costs.

The New England states, with technical support from the ISO-NE, developed the key assumptions for the RDSA. The assumptions are designed to illuminate various future scenarios, in the year 2030, wherein large-scale wind is integrated into the region's grid. The purpose is to reveal environmental and economic data in connection with incremental wind development scenarios, ranging from 2,000 MW up to 12,000 MW of on- and off-shore wind, as well as associated conceptual transmission. The RDSA evaluates more than thirty supply and delivery forecasts.

What the RDSA is *not* designed to do is important. First, because the analysis looks out to a single year in the 2030 timeframe, it is not intended to identify precise supply and demand levels. Second, through the RDSA, the New England states do not identify preferred locations for resource development or preferred transmission pathways. Current market mechanisms and specific proposals by entities in the market will identify what resources ought to be built where, by whom, and the appropriate transmission pathways to deliver power to New England load centers. Similarly, by requesting the RDSA, the states do not seek to identify the kind of resources best suited to meet consumer needs in the year 2030, or to achieve various state and federal policy objectives. The study is in the nature of a "what if" scenario analysis intended to identify power system integration issues, but is not meant to discount the value that other low-carbon resources will contribute to New England's energy and environmental future, or to diminish the strong interest of all states in increasing efficiency and reducing demand.



*Renewable development, rooted in regional analysis.*

The technical work done to date solidifies the New England Governors' interest in and commitment to meeting our energy and climate challenges with the vast renewable resource in and around New England. Moreover, a review of the preliminary analysis suggests that New England is well-positioned to serve customers from these resources more cost-effectively than by importing equivalent power from distant resources.

## Preliminary Observations

Some initial observations of the preliminary RDSA results are as follows:

- There are vast renewable resources in the New England region; this includes more than ten thousand (10,000) Megawatts of on-shore and off-shore wind power potential. Even if developed at conservative levels, there are ample renewable resources to enable New England to meet renewable energy goals and to reduce reliance on carbon-emitting generation. If developed more aggressively, New England could export renewable power to neighboring regions
- Each of the New England states is seeking, through initiatives associated with various state laws, policies, and regional coordination, the aggressive development of renewable resource potential within and outside state borders.
- All of the wind resource potential could provide downward pressure on the marginal prices for energy within the New England electricity market, with similar effects as those that would result from developing new, efficient combined-cycle gas fired generation.
- Wind generation would be eligible under all definitions of renewable energy credits in current state and proposed federal renewable portfolio standards and could realize a valuable stream of revenues associated with renewable energy credits.
- Since wind generation is a zero-carbon resource, development of New England's wind resources could provide downward pressure on the marginal price of carbon allowances in current regional or proposed federal carbon cap-and-trade programs.
- A number of potential transmission projects can be identified that would allow for the reliable transfer of power from offshore and onshore wind resource regions to load across New England, and for export to our neighbors. The length of such transmission is modest on a national scale given the region's relatively small geographic footprint.
- The expansion of near off-shore wind resources could be accomplished incrementally with lower-voltage and lower-cost transmission interconnections directly into heavy load centers along the coast.
- The expansion of renewable resource development in our region could facilitate the retirement and/or repowering of existing coal- and oil-fired generation within New England without a meaningful impact on marginal energy prices.
- In-region development of renewables and access to renewable energy from our closest neighboring systems appears possible with significantly less capital investment for transmission infrastructure than would be required to import an equivalent quantity of power from more remote, out-of-region sources on new, high-voltage transmission lines.



*New England has ambitious goals. The possibilities for progress in meeting them - and concurrently advancing national objectives - will be strongest if guided by a state-federal partnership designed to support regional resource development in a way that is cost-effective and respectful of the competitive marketplace.*



*New England has over 10,000 MW of untapped wind power potential.*



# NEGC

New England Governors' Conference  
www.negc.org  
617-423-6900

## State-Federal Partnership Opportunities

Some of the ways the Federal government could help New England achieve our renewable goals and simultaneously advance federal policy objectives include:

- Considering regional transmission system scenario analyses to provide policy guidance and to direct federal financial support for infrastructure development.
- Supporting New England's effort to encourage the development of renewable resources in the context of competitive market mechanisms; evaluating resources that emerge in the market on an equal basis with other like resources and supporting those that are most cost-effective.
- For those New England off-shore wind projects located in federal waters, encouraging expedited permitting by the Department of Interior, Minerals Management Service.

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## Next Steps: Blueprint Development



*The Blueprint will be the first holistic analysis assembled by and at the direction of the New England Governors focused on development of renewable resources to meet our energy needs.*

The Governors' Renewable Energy Blueprint, a tool for the effective and expeditious development of renewable resources in the Northeast, will be issued in the fall. Following further review of the RDSA as it is brought to completion, the Governors' Blueprint will include:

- A presentation of the extensive potential for near-term development of commercial and advanced-technology renewables in our region;
- A comprehensive overview of options, albeit not all, to develop the infrastructure needed to access these resources and move their power about the region;
- Discussion of siting such resources and associated transmission infrastructure across the New England states, and potential opportunities to coordinate; and
- An overview of various power supply procurement and contracting authorities within the New England states that could be used to provide long-term revenue streams to facilitate project development financing.