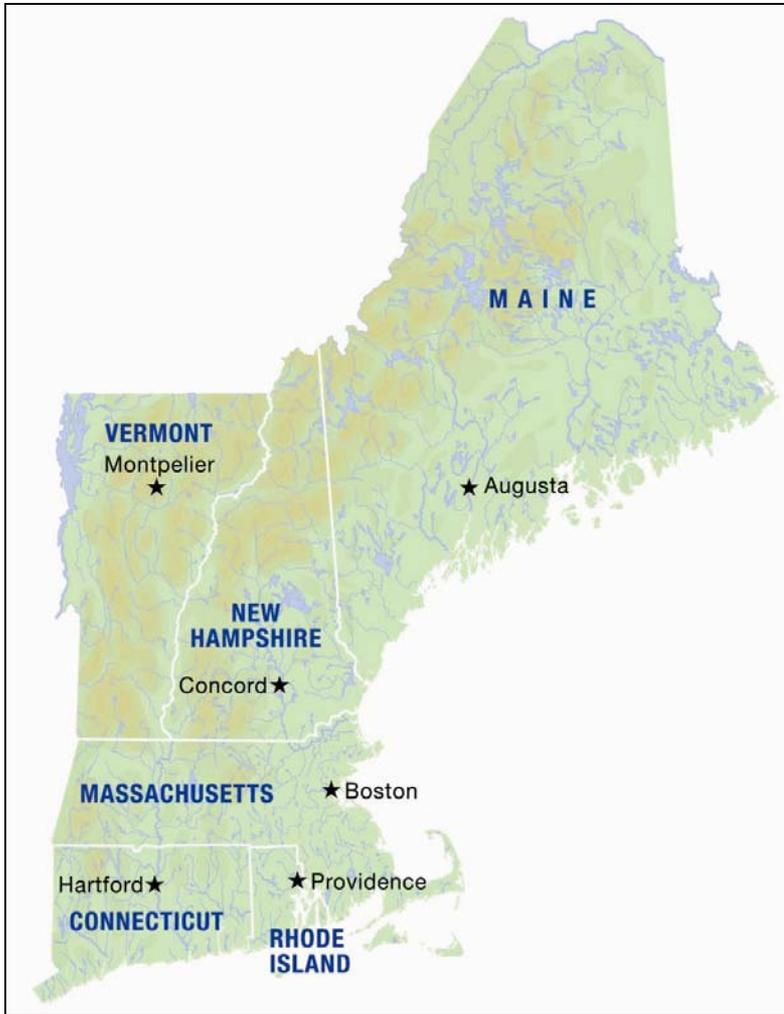


ISO New England Comments on the National Electric Transmission Congestion Study

Department of Energy Workshop
Philadelphia, PA
December 6, 2011

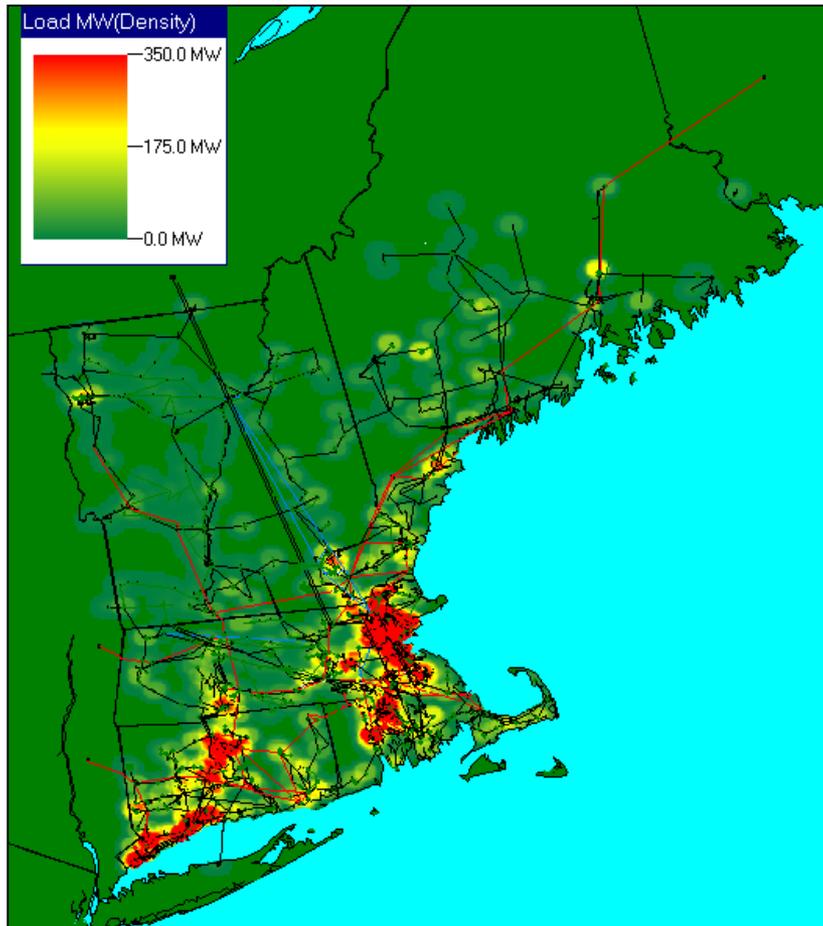
Michael I. Henderson
Director Regional Planning and Coordination, System Planning

Key Facts About New England's Electric Power System and Wholesale Electricity Markets

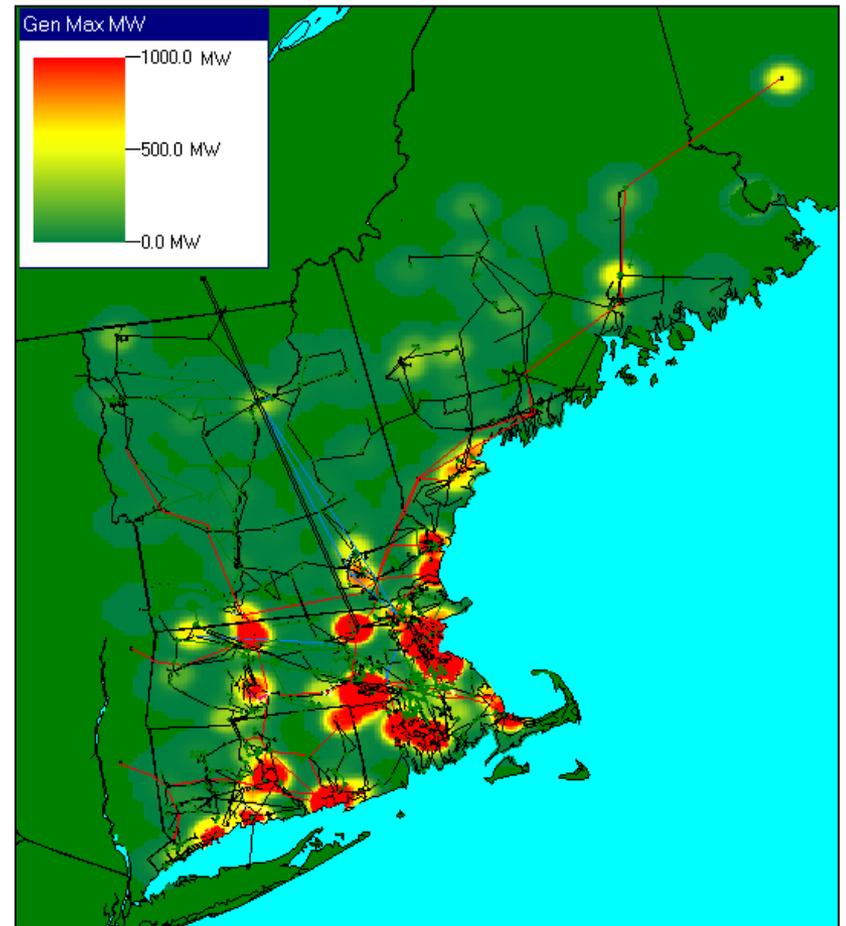


- 6.5 million households and businesses; population 14 million
- Over 300 generators totaling 32,000 MW of capacity
- Over 8,000 miles of transmission lines
- 13 interconnections to electricity systems in New York and Canada
- 2,035 MW of demand-resources
- All-time peak demand of 28,130 MW, set on August 2, 2006
- More than 450 participants in the marketplace (those who generate, buy, sell, transport, and use wholesale electricity and implement demand resources)
- 13,177 MW of new generation interconnected through queue process
- \$9.1 billion total market value; \$7.3 billion energy market, \$37 million in transmission congestion in 2010 . Congestion accounted for only 0.4% of the total market costs
- \$4.7 billion in transmission investment from 2002 through 2010 to enhance system reliability; \$4.6 billion planned over next 10 years,
- Eight major 345-kilovolt projects constructed; six more underway

Load Concentrations



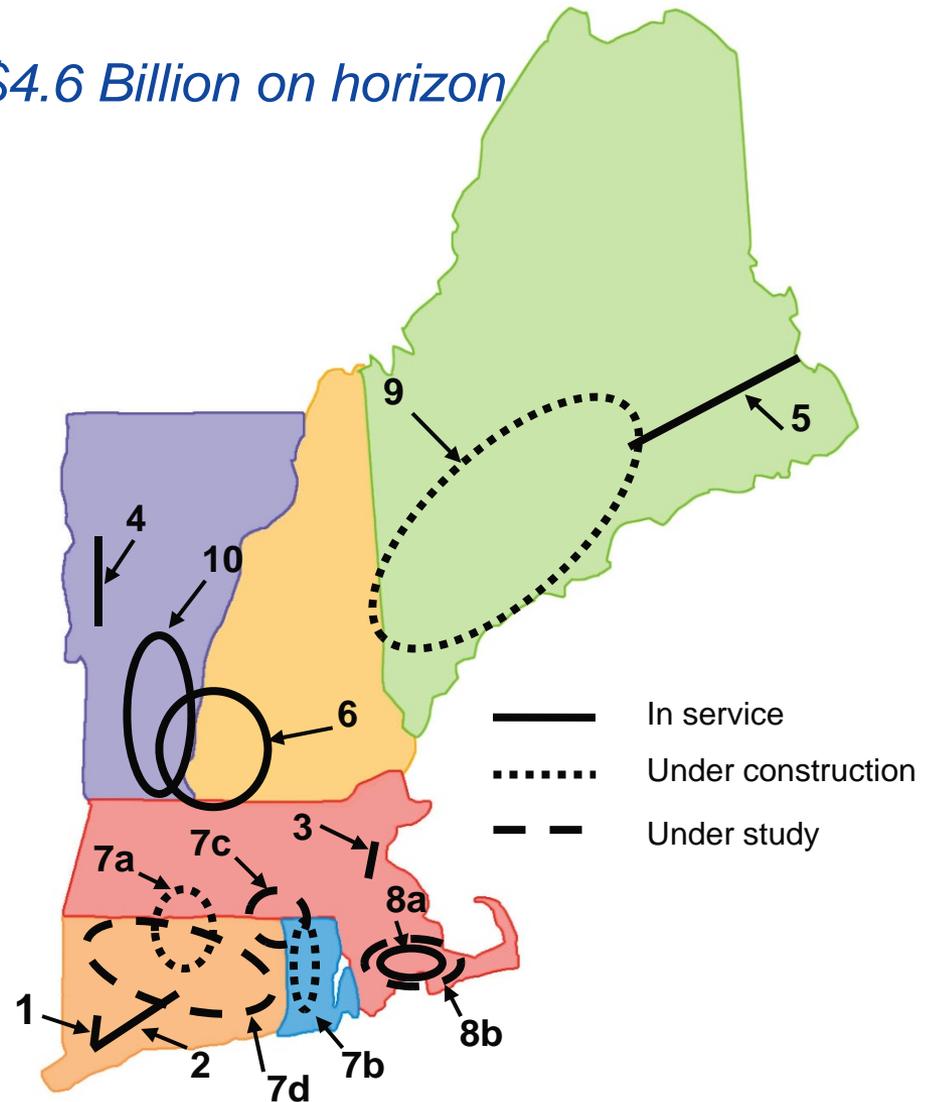
Generation Resources



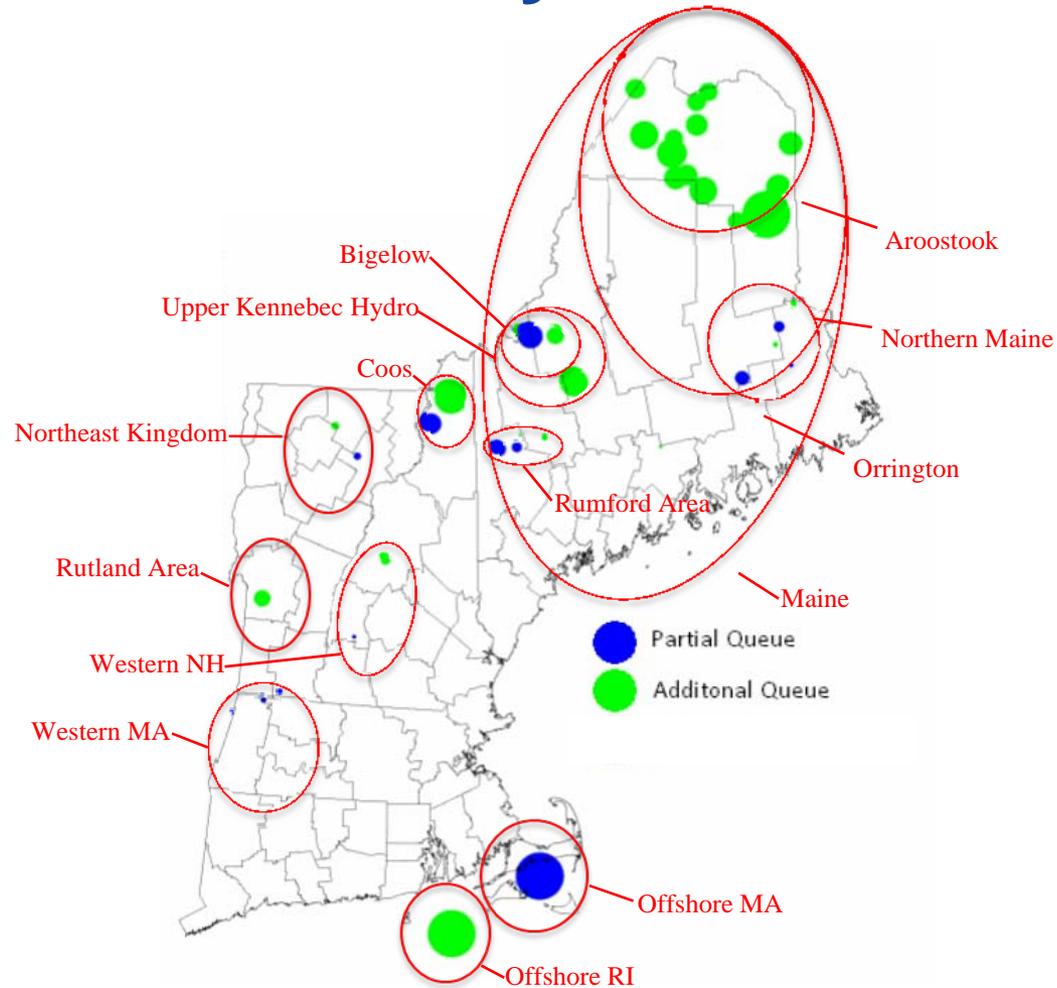
Transmission Projects to Maintain Reliability are Progressing

\$4.7 Billion invested since 2002, \$4.6 Billion on horizon

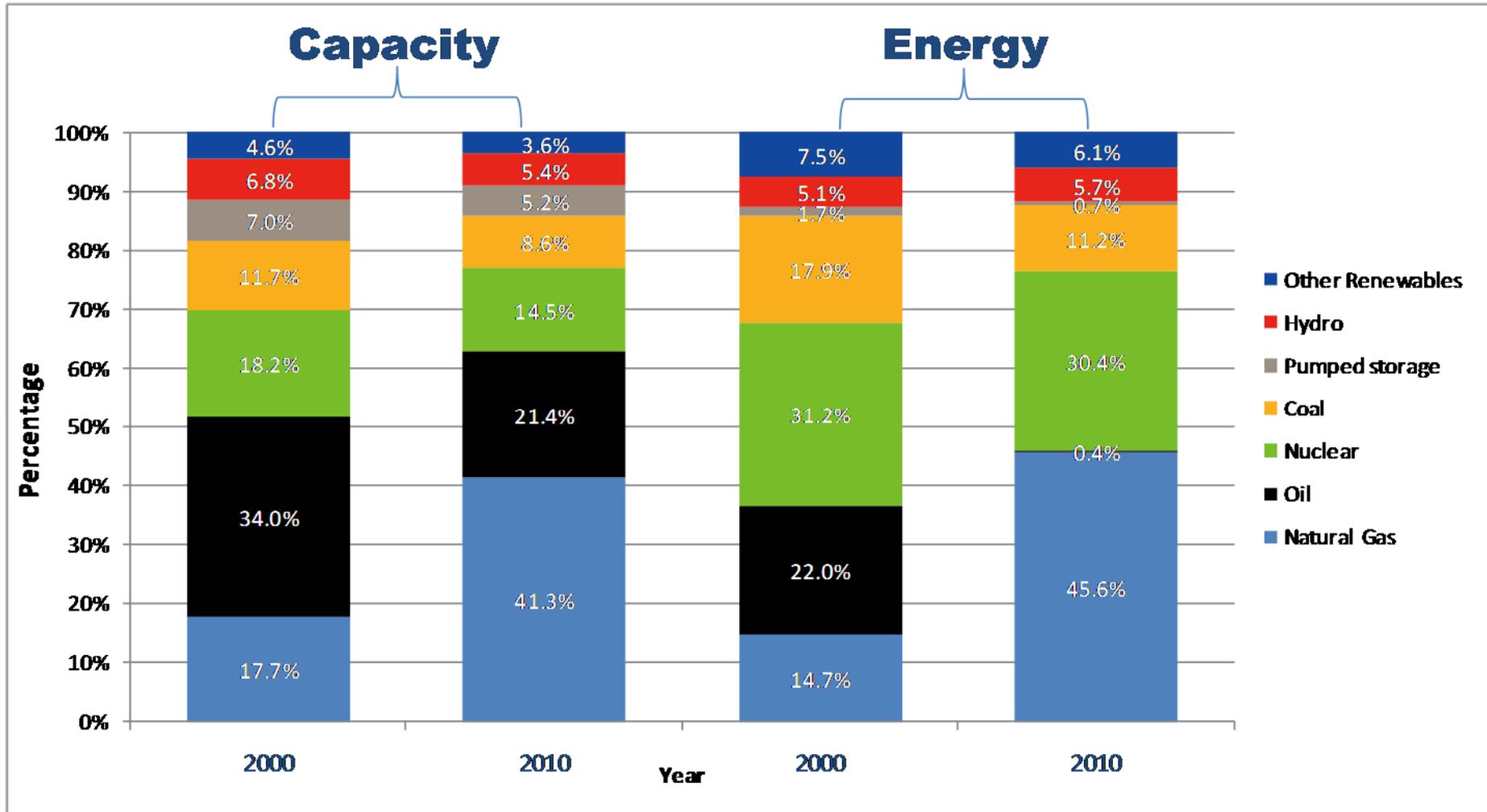
1. Southwest CT Phase I
2. Southwest CT Phase II
3. NSTAR 345 kV Project, Phases I & II
4. Northwest Vermont
5. Northeast Reliability Interconnect
6. Monadnock Area
7. New England East-West Solution
 - a. Greater Springfield
 - b. Rhode Island
 - c. Interstate
 - d. Greater Hartford/Central CT
8. Southeast Massachusetts
 - a. Short-term upgrades
 - b. Long-term Lower SEMA Project
9. Maine Power Reliability Program
10. Vermont Southern Loop



Proposed Renewable Energy Clusters 2011 Economic Study

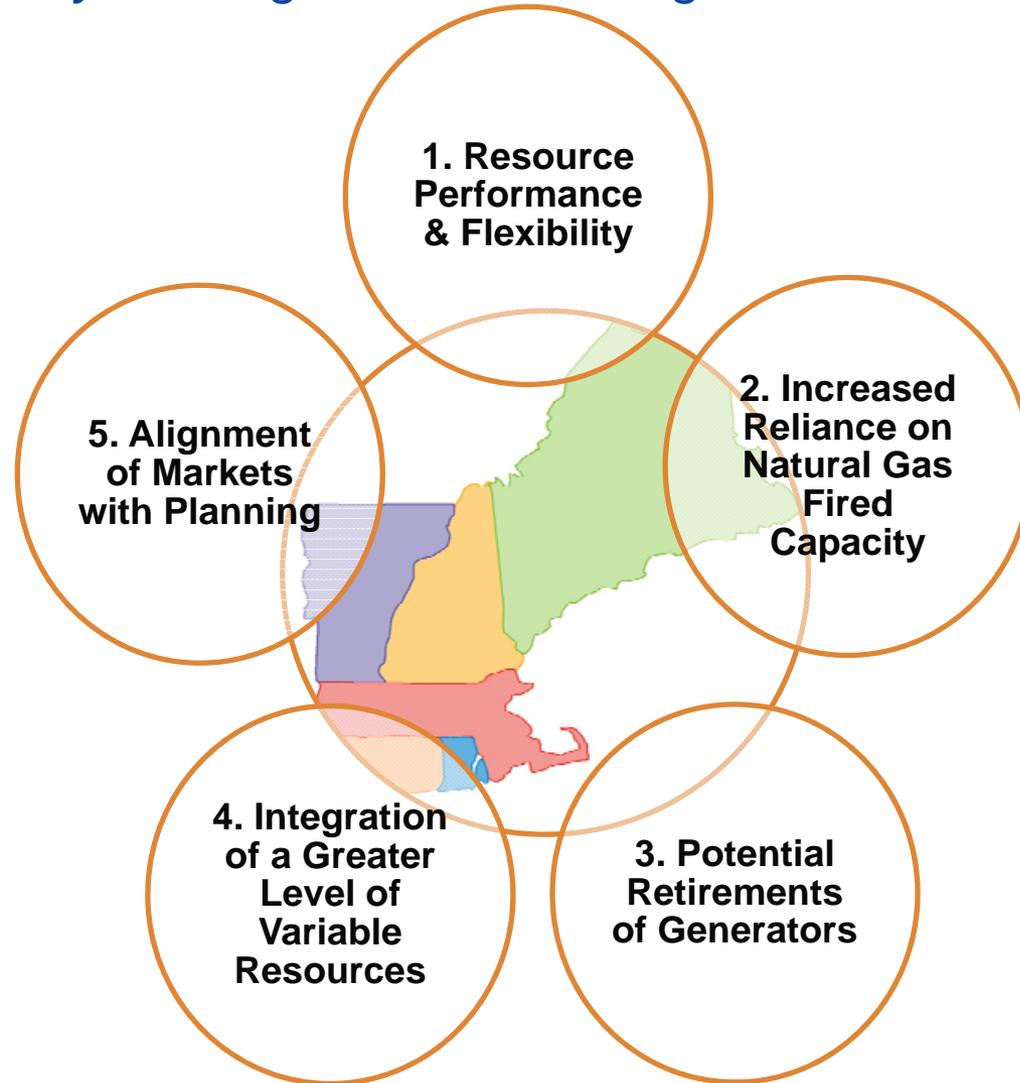


Capacity and Energy Production New England 2000 and 2010



Strategic Planning Initiative

Region proactively working to create strategic vision for New England



Response to DOE Questions

- The 2009 Congestion Study came to the correct conclusion
 - Congestion is virtually non-existent in New England
 - The region has a robust planning process and is meeting upcoming challenges through a Strategic Planning Initiative
- Factors DOE should consider:
 - Compliance with NERC planning reliability requirements
 - Historical congestion
 - Robustness of planning process and proven ability to build needed facilities
 - Region's ability to anticipate and address challenges
- Conditional congestion due to potential renewable development
 - No current evidence of congestion
 - Resource development has been close to load due to markets and state energy efficiency programs
 - Successful development of transmission throughout region has happened and will continue to meet system needs

Response to DOE Questions, *cont.*

- The region is ready to meet future conditional congestion situations
 - New England Wind Integration Study
 - Economic Studies show potential transmission bottlenecks
 - Merchant Transmission Projects in the Interconnection Queue
 - The region will support planning for public policy in compliance with FERC Order 1000
- Data sources and analyses
 - Should be publicly available for transparency
 - Facilitate DOE data gathering process
 - ISO-NE information is readily available through Annual Markets Reports, Regional System Plans, Flow Duration Curves, Locational Marginal Prices, and other information on the ISO webpage
 - Can use public information from other sources, such as NERC reports
 - Eastern Interconnection Planning Collaborative (EIPC) provides useful scenario information, but is not a plan

Planning Studies and Coordination

- ISO coordinates planning activities
 - Among the six New England states
 - With neighboring systems through a Planning Coordination Protocol and the NPCC
 - Across the interconnection through the EIPC
 - Nationally through NERC
- FERC Order 1000
 - New England regional stakeholder meetings are underway to comply with new requirements such as:
 - Public policy planning and cost allocation provisions
 - Interregional planning and cost allocation refinements

Summary: Meeting Regional Challenges

- The Regional System Plan summarizes challenges to maintaining a reliable and efficient operation of the power system
 - The need for improved resource performance and flexibility
 - The potential for retirement of older oil and coal generators
 - The integration of more variable resources and natural gas-fired generation
 - The alignment of wholesale market design and regional transmission planning
- ISO works with regional stakeholders to address emerging issues
 - State energy efficiency, renewable, and other efforts
 - Planning process and market design issues
 - The need for resource development and transmission improvements
 - Interregional coordination and compliance requirements
- ISO, NEPOOL, the New England states, and other regional stakeholders have engaged in a strategic planning process

