

# 2010 Regional System Plan (RSP10) Public Meeting

Regional System Plan Public Meeting  
September 16, 2010

Stephen J. Rourke  
Vice President, System Planning



# RSP10 Public Meeting: Agenda

9:30 a.m. – 9:40 a.m.

Welcome

9:40 a.m. – 10:30 a.m.

Presentation of the 2010 RSP and stakeholder discussion  
(Priority will be given to written questions received in  
advance of the meeting)

10:30 a.m. – 10:45 a.m.

Break

10:45 a.m. – 12:00 p.m.

Panel #1: State Planning Initiatives and Non-Transmission  
Alternatives

*Panelists:*

1. Kevin DelGobbo, Chairman, Connecticut Department of  
Public Utility Control
2. Philip Giudice, Commissioner, Massachusetts  
Department of Energy Resources
3. Joel Gordon, Director, Market Policy, PSEG Power  
Connecticut
4. David Boguslawski, Vice President, Transmission  
Strategy and Operations, Northeast Utilities
5. Christopher Dutton, President and CEO, VELCO

*Moderator: Paul Levy, ISO Board of Directors*

# RSP10 Public Meeting Agenda, *cont.*

12:15 p.m. – 1:00 p.m.

Lunch

1:15 p.m. – 1:45 p.m.

Keynote Address: Patricia Hoffman, Assistant Secretary, Office of Electricity Delivery and Energy Reliability, U.S. Department of Energy

1:45 p.m. – 3:15 p.m.

Panel #2: Drivers of the Future Grid

*Panelists:*

1. Ira Leighton, Deputy Regional Administrator, Region 1, U.S. Environmental Protection Agency
2. Ellen Petrill, Director of State & Regional Relations, Electric Power Research Institute
3. Tom Kiley, President and CEO, Northeast Gas Association
4. John Buechler, Executive Regulatory Policy Advisor, NYISO, and Representative for the Eastern Interconnection Planning Collaborative
5. Michael Taniwha, Director, Operations, ISO New England

*Moderator: Louise McCarren, ISO Board of Directors*

3:15 p.m. – 3:30 p.m.

Concluding Comments

# 2010 Regional System Plan (RSP10) Process and Summary

Michael I. Henderson  
Director, Regional Planning and Coordination

# ISO-NE System Planning Process

- Regional System Plan
  - Summarizes system planning activities for each year
  - Presents system needs over a 10-year horizon
  - Provides regular updates on status of transmission projects in the plan throughout the year, consistent with national, regional, and ISO New England requirements
- Objectives
  - Provides opportunities for market solutions
    - e.g., generation, demand-side measures, and elective or merchant transmission
  - Provides a regulated transmission plan as a backstop for identified reliability needs
    - can be modified based on market solutions that develop
  - Does not constitute an integrated resource plan
  - Must meet reliability criteria



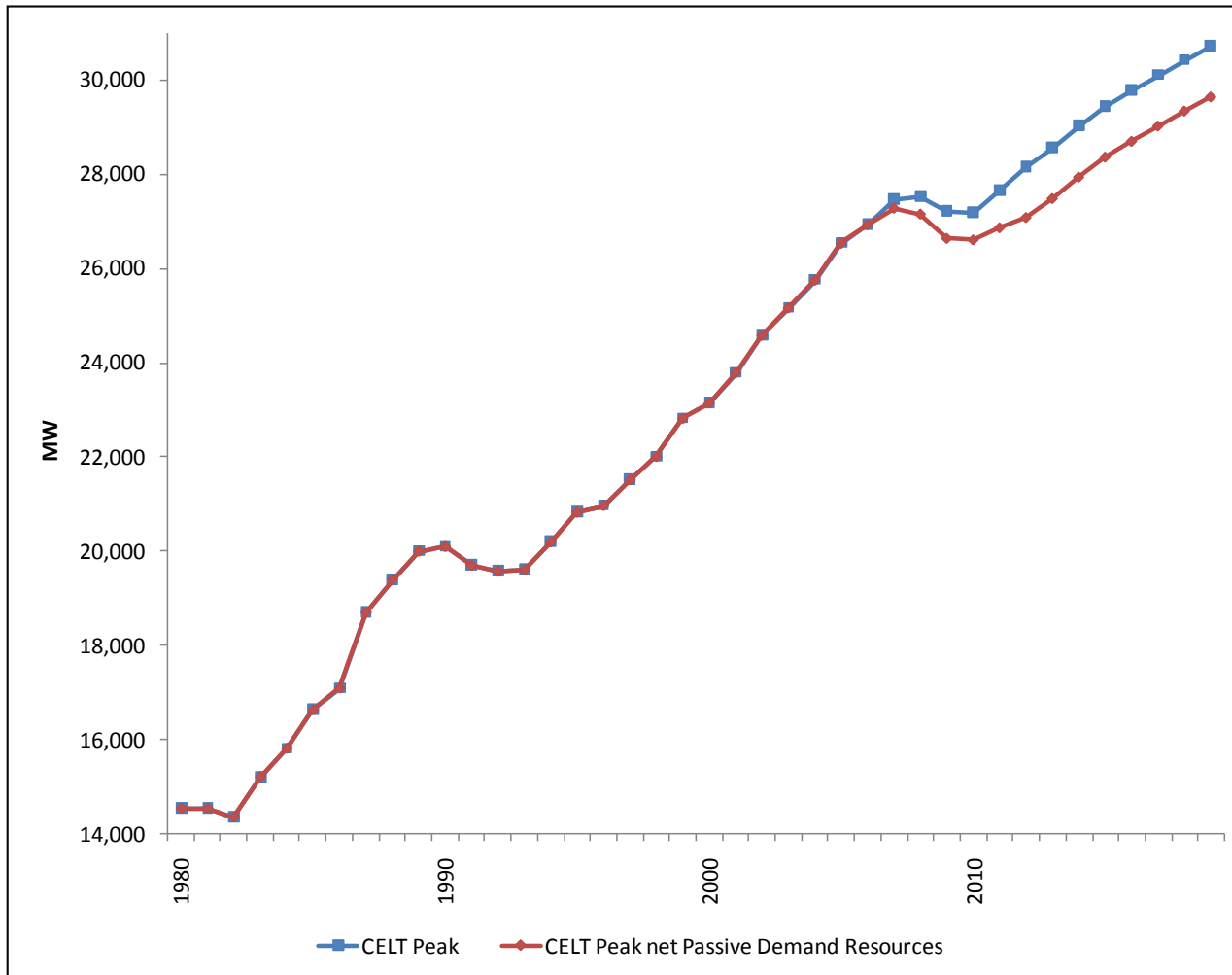
# RSP10 Meets Tariff Requirements

- The ISO carries out regional planning with the Planning Advisory Committee (PAC) as part of an open, transparent stakeholder process
- RSP10 represents the results and findings of the ongoing ISO regional planning process for 2010
- New England meets all required planning criteria

# Forecast of Annual and Peak Use of Electric Energy in New England

- System needs are driven in part by the load forecast, which reflects several key factors
  - Recent economic downturn
  - Inclusion of federal energy-efficiency standards for appliances and commercial equipment
  - Historical energy efficiency
- Forecast shows a one-to-two-year delay in load levels compared with RSP09's forecast

# Annual Summer Peak Load With and Without Passive Demand Resources

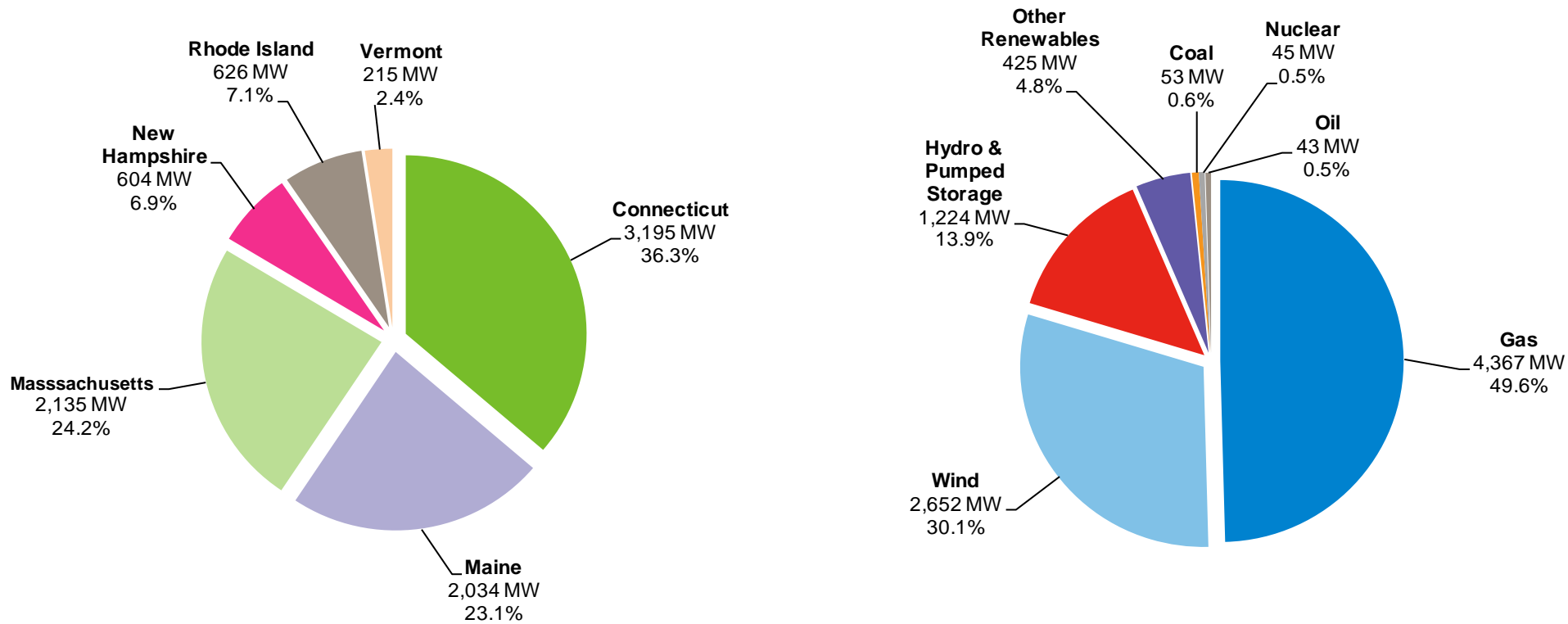




# Supply and Demand Resource Needs Are Being Met

- Sufficient quantities and types of supply and demand resources are developing in response to market signals and other factors
  - Resource adequacy requirements should be met through 2019, assuming no retirements
  - Fast-start resources, in-merit generation, and transmission system improvements are satisfying the operating-reserve requirements of major load pockets

# Resources in the ISO Generation Interconnection Queue<sup>1</sup>



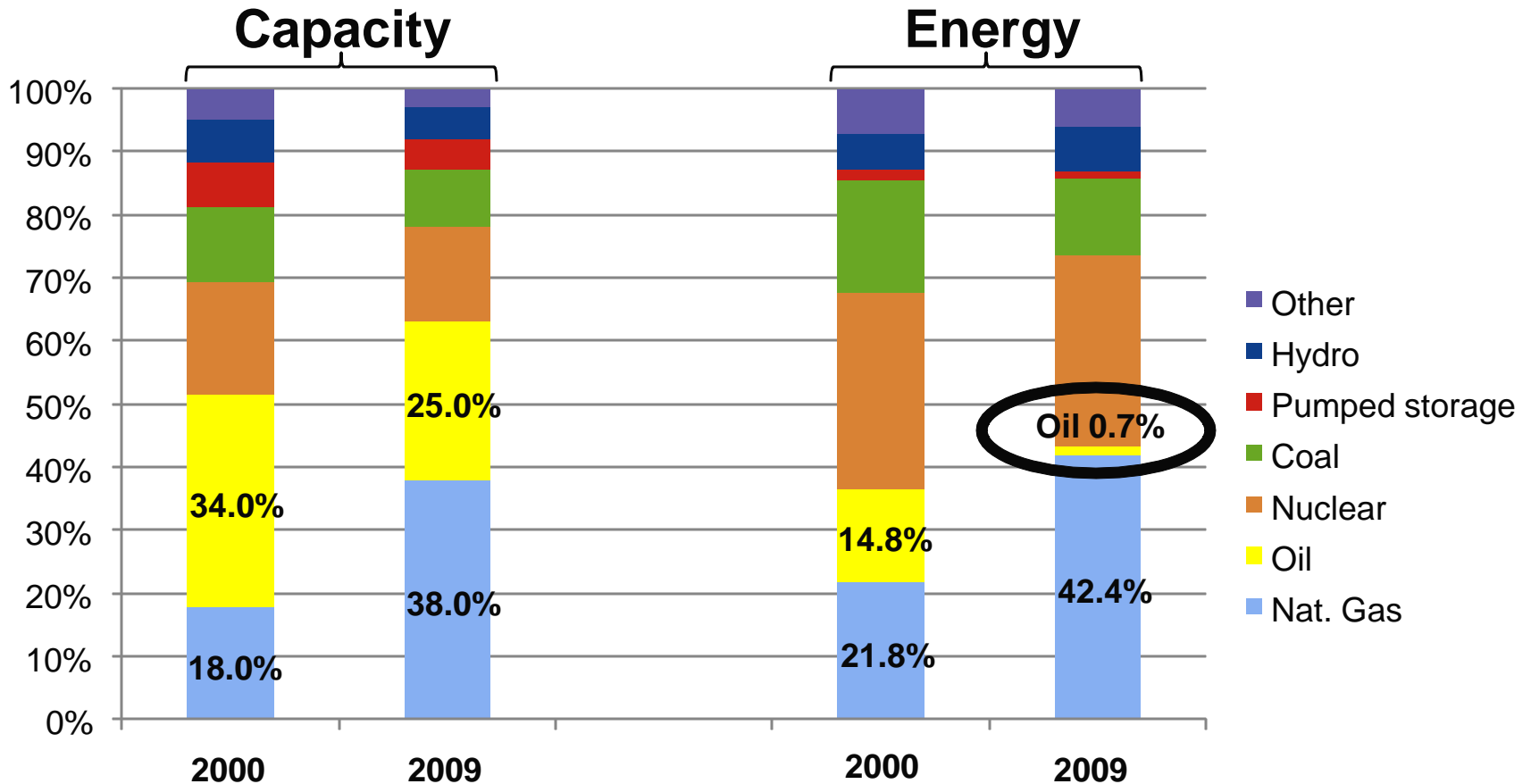
<sup>1</sup> as of April 1, 2010

# Resources Are Being Developed and Integrated

- Fuel diversity concerns have been addressed through natural gas infrastructure improvements and operating procedures
  - New natural gas sources include Liquefied Natural Gas terminals, pipelines, and Marcellus shale
  - Improved communications have reduced operational risks
- The region is addressing more stringent environmental initiatives relating to air emissions, water intake requirements, and handling of coal combustion byproducts
  - The region's average and marginal emission rates have continued to decline, in part due to the region's heavy use of natural gas
  - The initiatives will lead to higher fossil fuel plant operating costs and the need for capital improvements, which could result in unit retirements

# Shift in New England's Fuel Mix

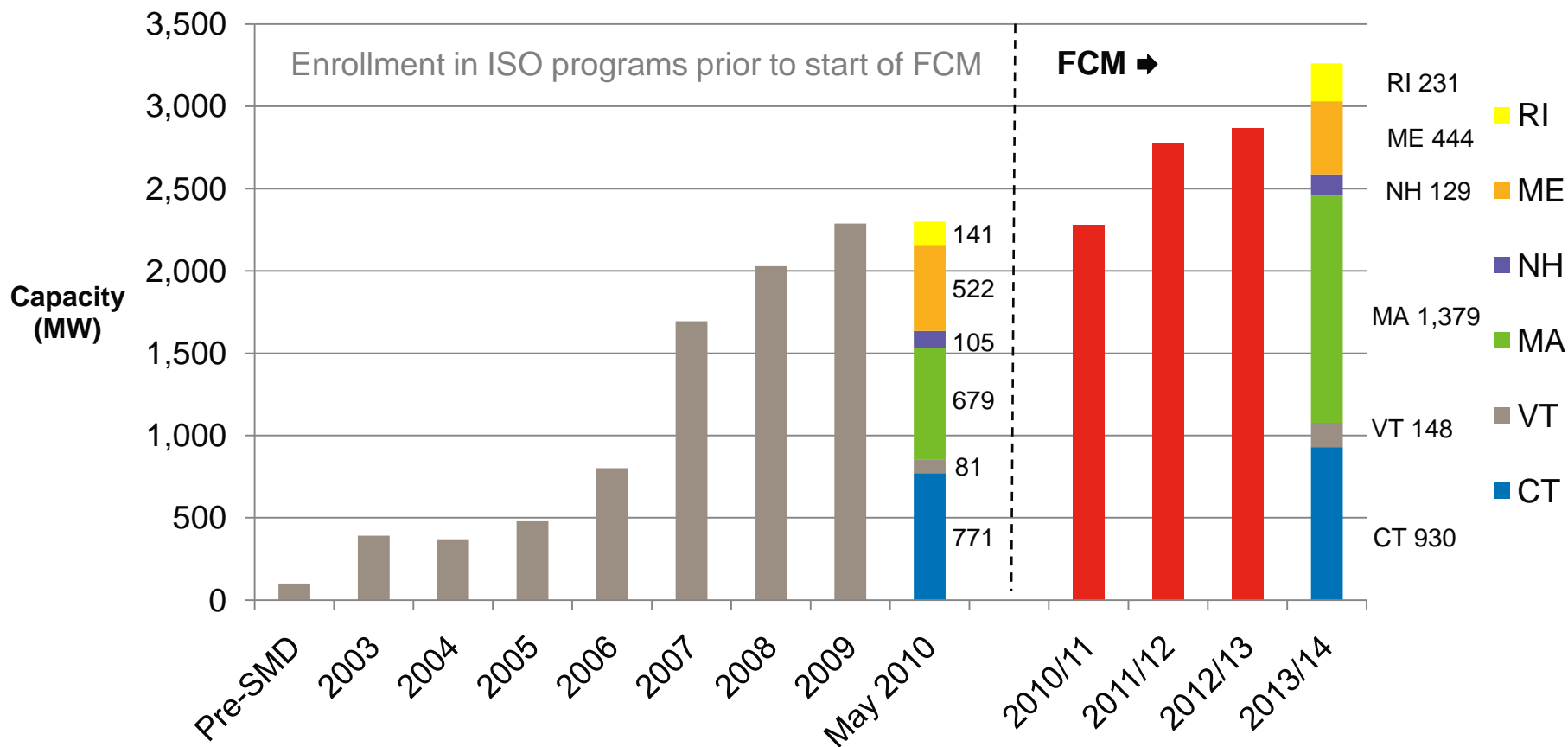
*New highly efficient natural-gas-fired generators displace use of fuel oil*



# Resources Are Being Developed and Integrated, *cont.*

- The region is well positioned for meeting Renewable Portfolio Standards and is working toward integrating wind, demand resources, and smart grid technologies
- Economic studies have provided information to regional stakeholders and policymakers
  - Little system congestion currently exists
  - The region has tremendous potential to develop renewables and demand resources
  - The region is close to Canadian hydroelectric and wind resources
- Several merchant and elective transmission projects that would expand the region's access to renewable, low carbon energy already are in various stages of development

# Demand Resources Growing in New England



2010/11–2013/14: Total DR cleared in FCAs 1–4 (New and Existing); Real-Time Emergency Generation capped at 600 MW.

# Needed Transmission Is Being Developed

- The Maine Power Reliability Program (MPRP)
  - Increases the ability of moving power into Maine from New Hampshire
  - Improves service to load pockets
  - Provides basic infrastructure to improve transfer capability through Maine
- The New England East-West Solution (NEEWS) has progressed
  - Greater Rhode Island Advanced NEEWS Project is under construction
  - Rhode Island Reliability Project and the Greater Springfield Reliability Project are needed; each is in the siting process
  - Interstate Reliability Project is needed; final plans are being refined
  - The need for the Central Connecticut Reliability Project is under study

# Needed Transmission Is Being Developed, *cont.*

- Transmission improvements serving load pockets have improved reliability and reduced dependencies on generating units throughout the system
  - Lower Southeastern Massachusetts (Lower SEMA)
- Transmission improvements required for reliability are being planned and implemented, as summarized in the RSP Project List
- Planning has been coordinated interregionally through joint studies with neighboring regions and across the Eastern Interconnection



# Transmission Projects to Maintain Reliability are Progressing

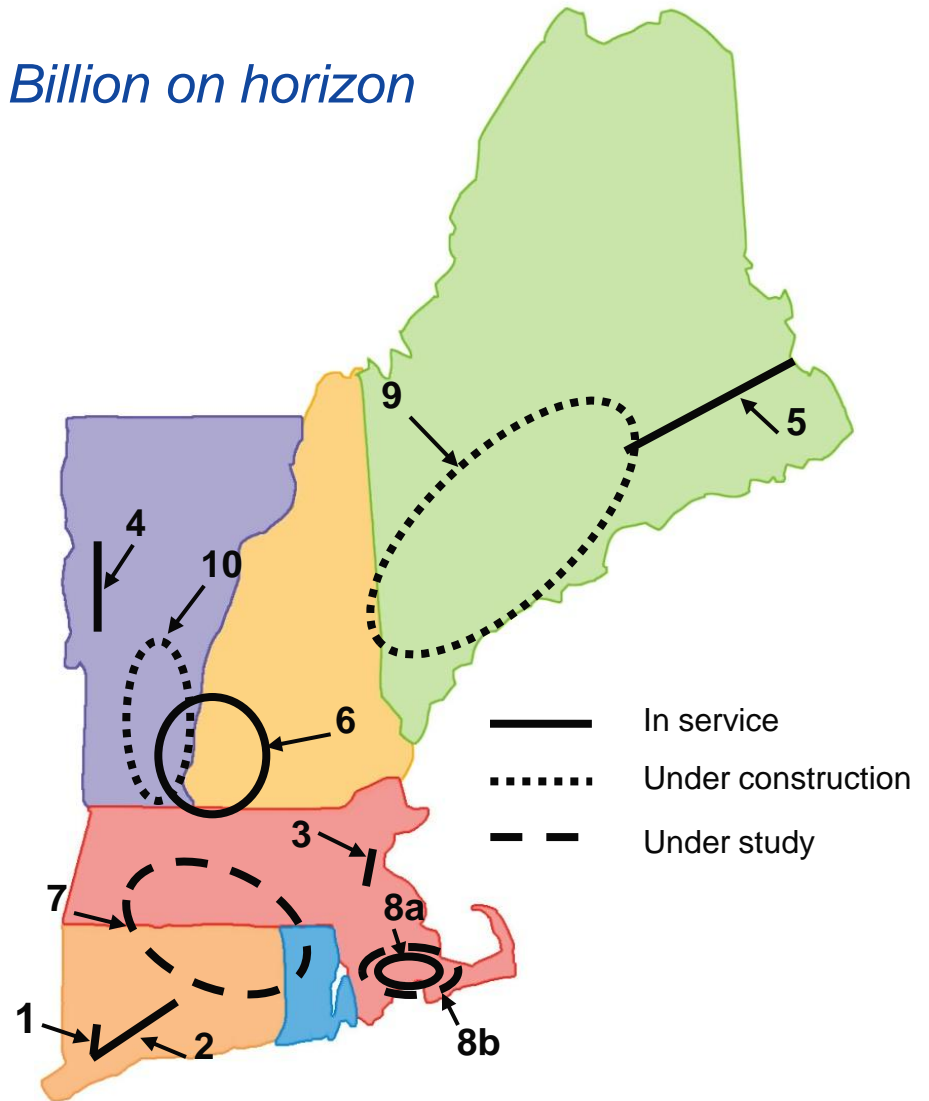
*\$4 Billion invested since 2002, \$5 Billion on horizon*

## **DOE highlights progress in New England**

In the Energy Policy Act of 2005, Congress directed the U.S. Department of Energy to conduct a study every three years on electric transmission congestion and constraints.

In its latest (2009) study, DOE dropped New England from its list of “Congestion Areas of Concern” citing the region’s success in developing transmission, generation, and demand-side resources.

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
8. Southeast Massachusetts
  - a. Short-term upgrades
  - b. Long-term Lower SEMA Project
9. Maine Power Reliability Program
10. Vermont Southern Loop



# Support for State, Regional, and Federal Initiatives that Affect System Planning

- ISO continuously works with a wide variety of state policymakers and regional stakeholders through its planning process
- Several new initiatives will affect the planning process
  - ISO will provide additional information on non-transmission alternatives
  - State energy efficiency programs, wind resources, and smart grid technologies will have impact on the regional planning process
  - Should the planning process take into account potential retirement of older generators?
    - Stakeholders differ on what ISO planning studies should assume
  - FERC has issued a Notice of Proposed Rulemaking (NOPR) on transmission planning to build upon earlier guidance in Order 890

# The Region Is Ready to Meet Future Challenges

- Uncertainties and changes in plan assumptions
- Transmission development and siting
- Market and process improvements
- Regional, state, and federal initiatives
- Environmental regulations, Renewable Portfolio Standards, and related policies
- Integration of new technologies

# RSP10 Reflects PAC Comments

- Working with staff, the technical editor appropriately incorporated comments by avoiding repetition and determining the proper placement, degree of detail, and emphasis of comments
- Updated the status of the NEEWS project
- Put more emphasis on the fact that the region will meet its Renewable Portfolio Standard goals and has tremendous potential for developing renewable resources
  - Resource development is expected to exceed the development of projects in the April 1, 2010 Generation Interconnection Queue
- Added clarifying comments, primarily on environmental issues, wind and solar unit integration, and transmission projects
- Updated the new initiatives summarized in Section 12.3.2 and included them in the Executive Summary

## *Special Thanks To*

The Planning Advisory Committee and all stakeholders involved in the development of the *2010 Regional System Plan*