

New England Update

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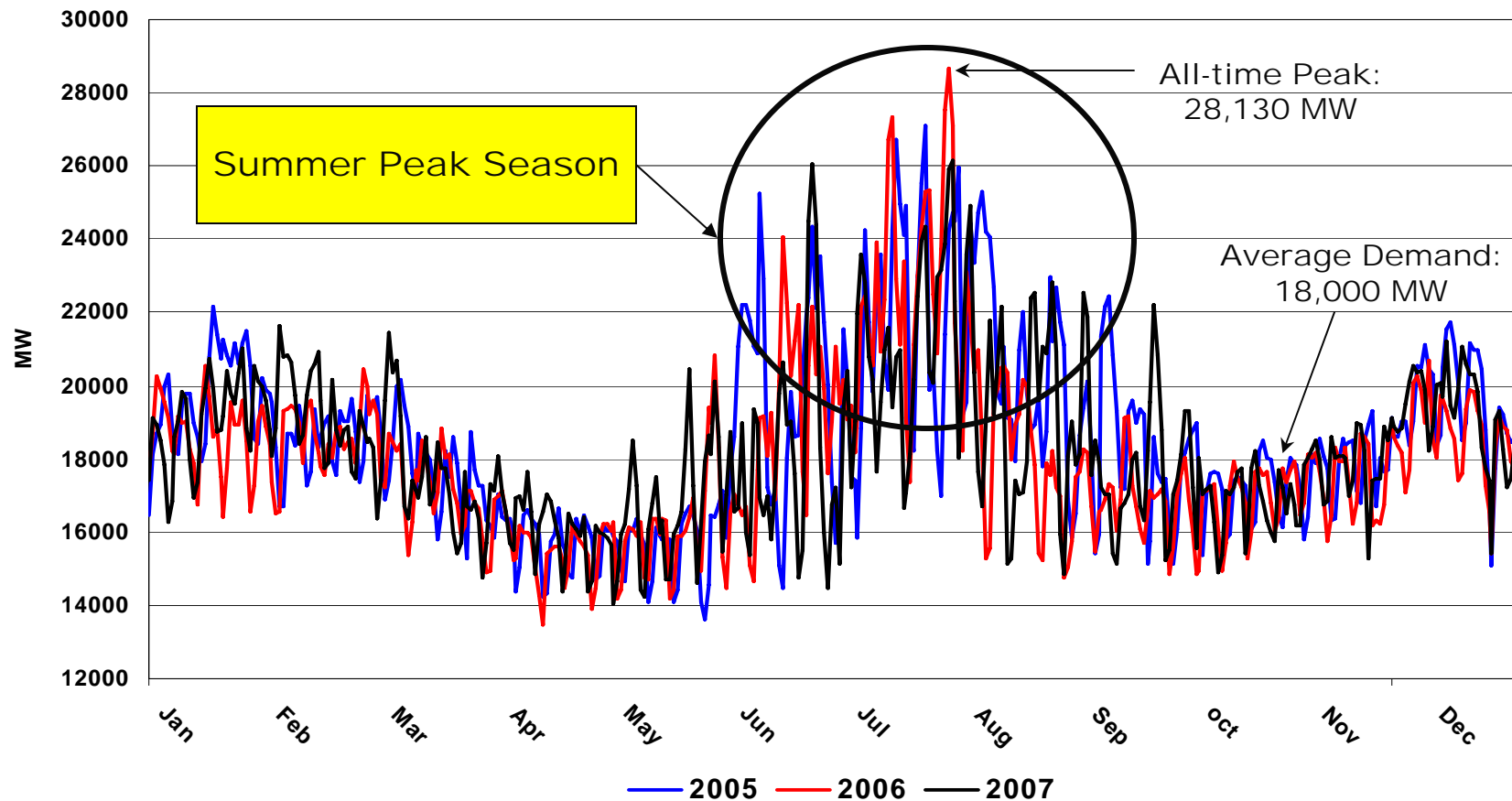
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New York, NY

ISO-NE: *Planning for the Future*

- *New England is developing solutions to address needs for reliability and environmental requirements*
- **Needs:**
 - Growth in **peak demand** drives need for new infrastructure
 - New England continues to be heavily dependent on **natural gas**
 - State **renewable requirements** will double in 10 years
 - Regional Greenhouse Gas Initiative (**RGGI**) will require development of low- or zero emission resources to meet targets for reducing carbon emissions
- **Solutions:**
 - New **capacity market** addresses longstanding concern about how to obtain the level of resources needed for reliability
 - ISO markets promote development of **demand resources**
 - Planning process results in significant **transmission investment**

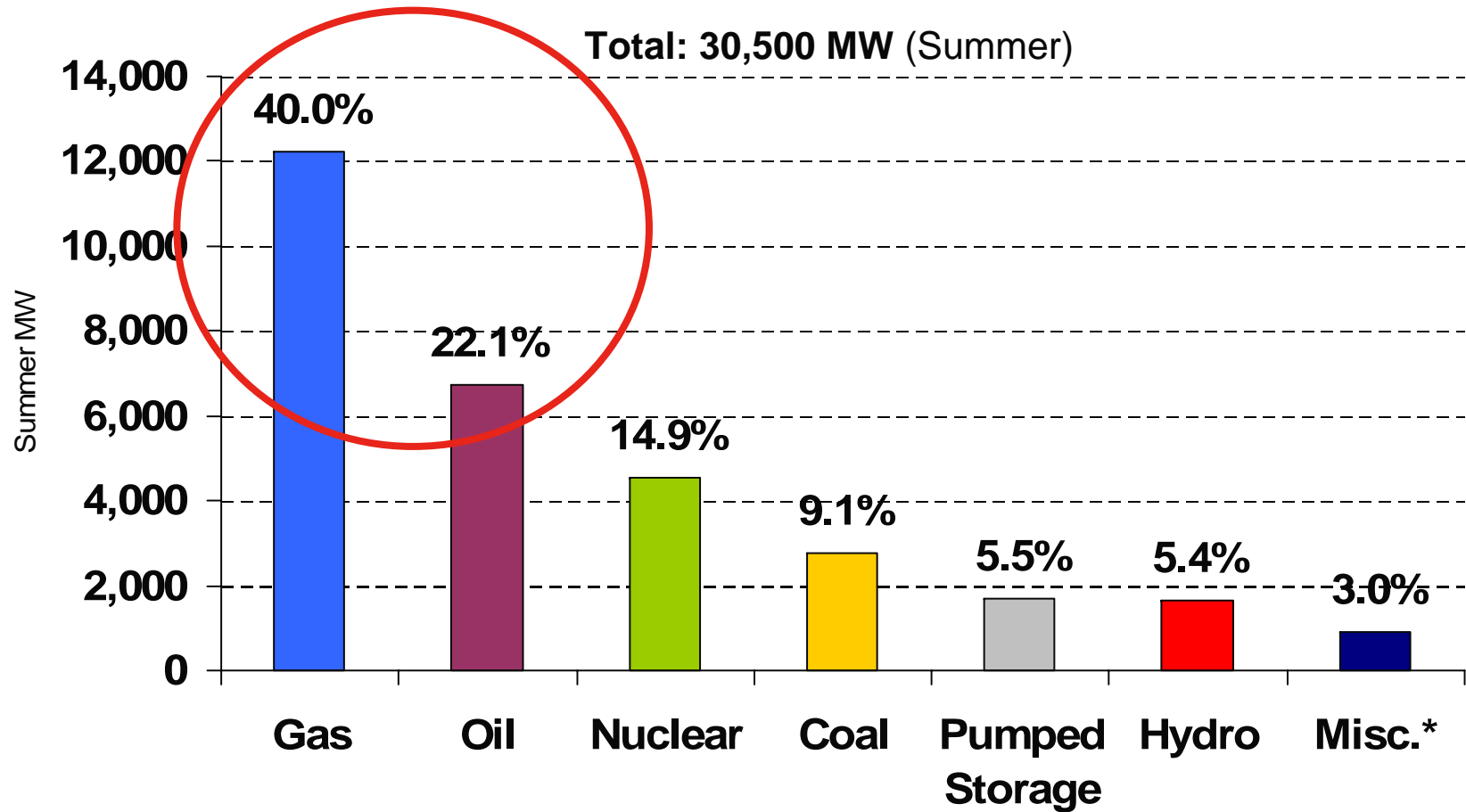
Peak Drives Need to Build Capacity: Creates Inefficient System

New England Daily Peak Loads 2005-2007



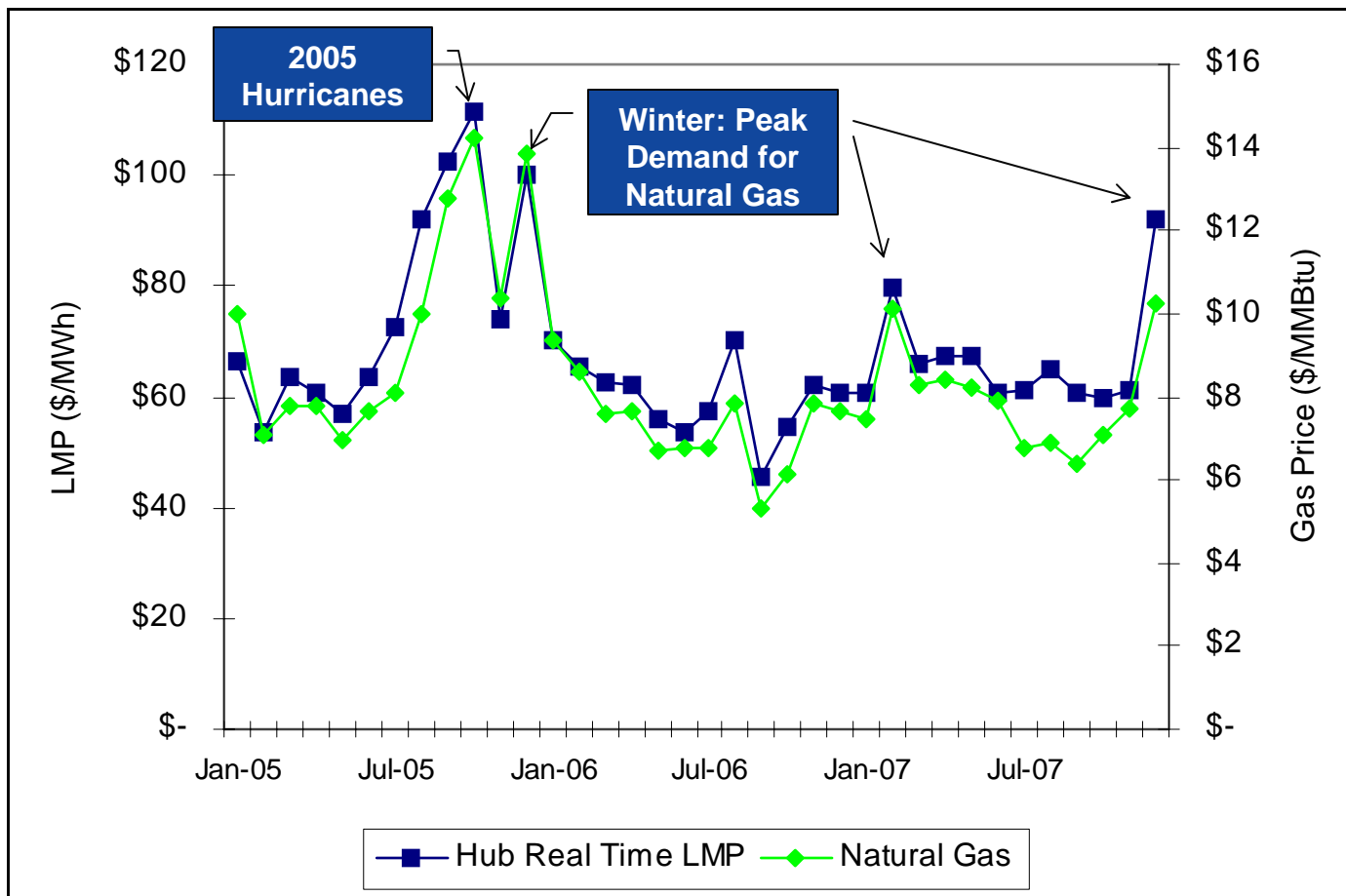
Heavy Reliance on Gas/Oil for Generation

Primary fuel for more than 60% of region's capacity



* Includes biomass, refuse, landfill gas, and wind

Wholesale Electricity Prices Track Natural Gas Prices (2005-2007)

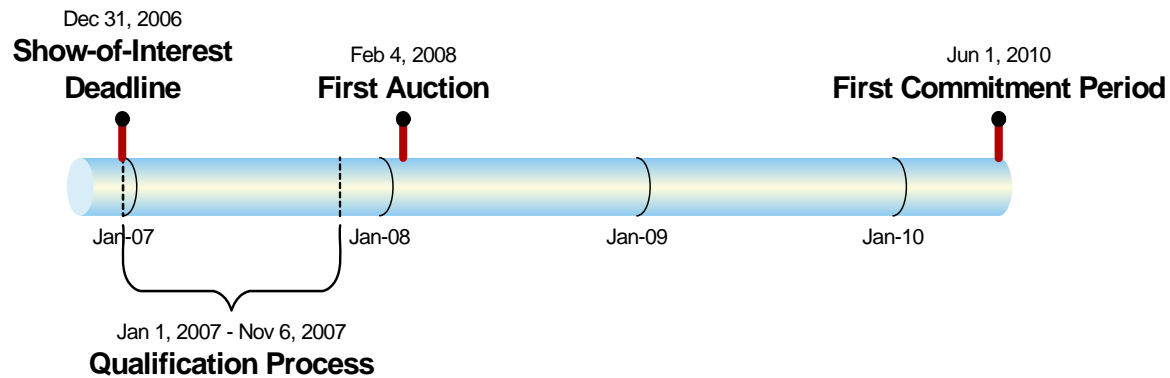


Forward Capacity Market: Objective

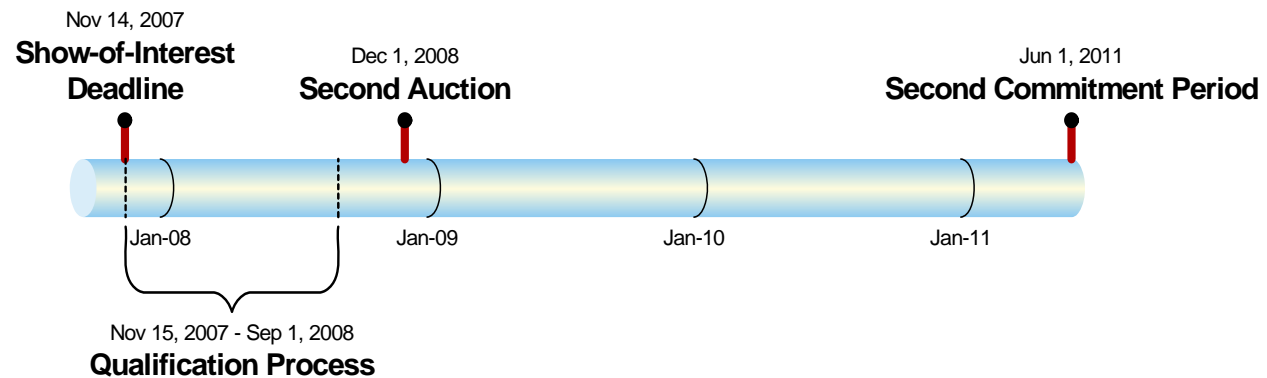
- Procure enough capacity to meet New England's forecasted Installed Capacity Requirement (ICR) three years in the future
- Select a portfolio of **Supply and Demand Resources** through a competitive Forward Capacity Auction (FCA) process
 - Proposed resources must be pre-qualified to participate in the auction
 - Proposed resources must participate and clear in the auction to be paid for capacity
- Provides a long-term (up to 5 year) commitment to New Supply and Demand Resources to encourage investment

FCM: Timeline

Process for Need in 2010



Process for Need in 2011

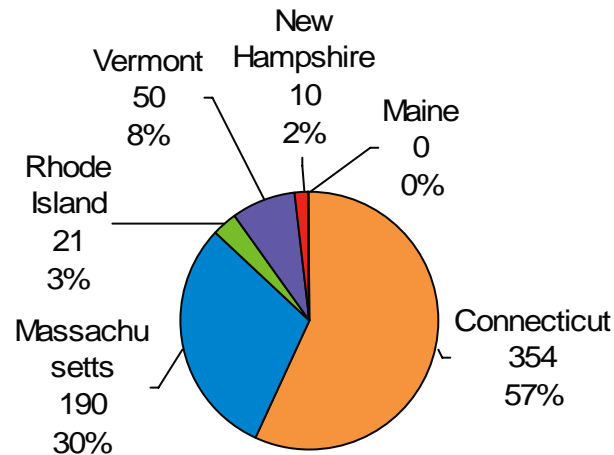


Forward Capacity Auction #1: Highlights

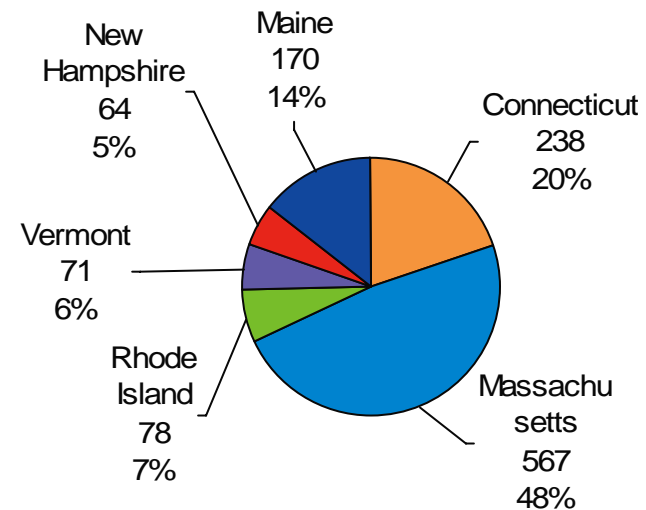
- Forward Capacity Market worked as designed to:
 - Attract significant investment in new resources
 - Maintain needed existing resources in New England
- FCM has achieved other important goals:
 - Presented significant incentives and opportunities for Demand Resources to participate in the market
 - Dramatically decreased the amount of Reliability Agreements in New England

Significant New Demand and Supply Resources Awarded in 1st Capacity Auction

New Supply Resources
(626 MW)



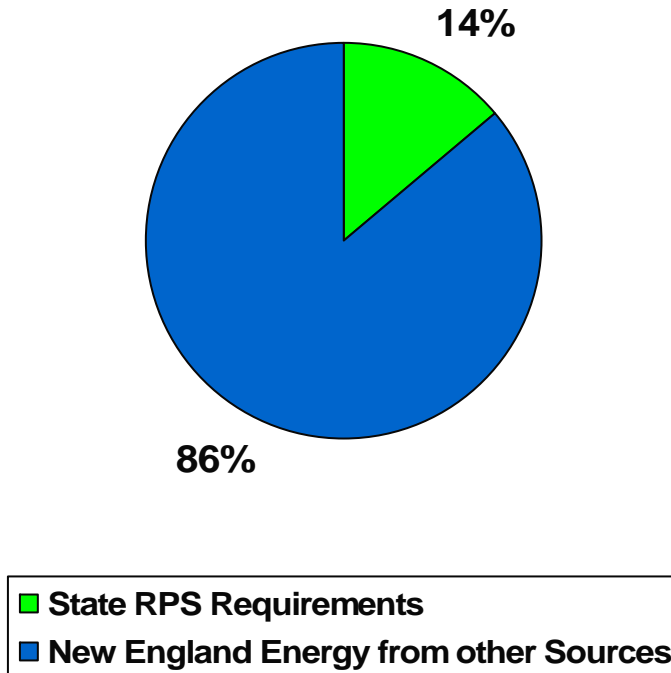
New Demand Resources
(1,188 MW)



States Seek Renewable Energy

State requirements projected to more-than double the amount of energy needed from renewable resources over the next decade

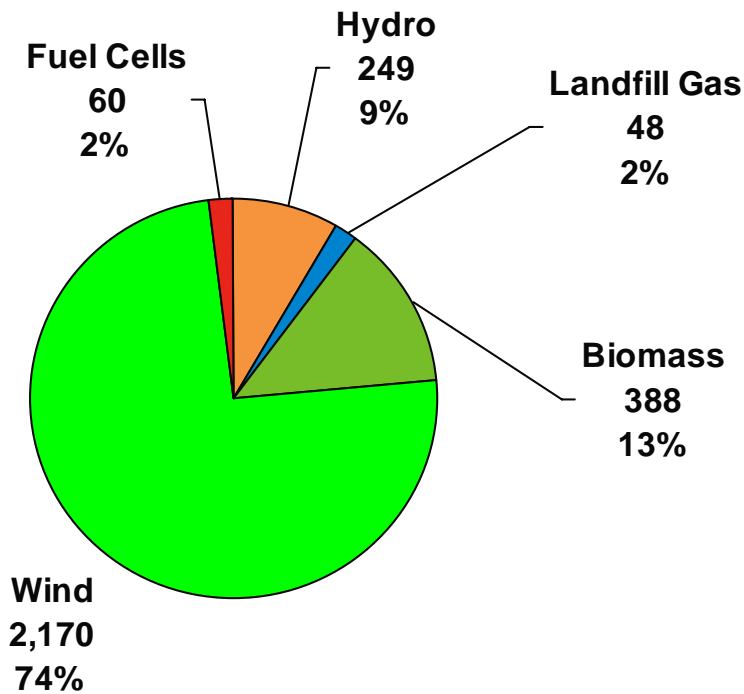
Renewable Requirement as a % of Energy in New England (2016)



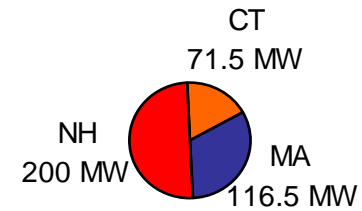
- Renewable requirement projected to increase from 5.6% of total energy in 2007 to 14% in 2016
- 14% energy requirement in 2016 equivalent to:
 - 7,300 MW of wind capacity, or
 - 2,600 MW of biomass capacity
- Proposed renewable projects in New England: 2,500 MW

Renewables in the New England Queue Fall Short of Requirements; Transmission Upgrades Needed

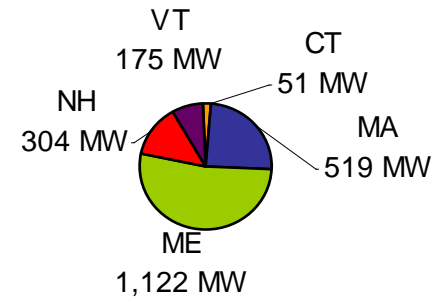
Total: 2,900 MW



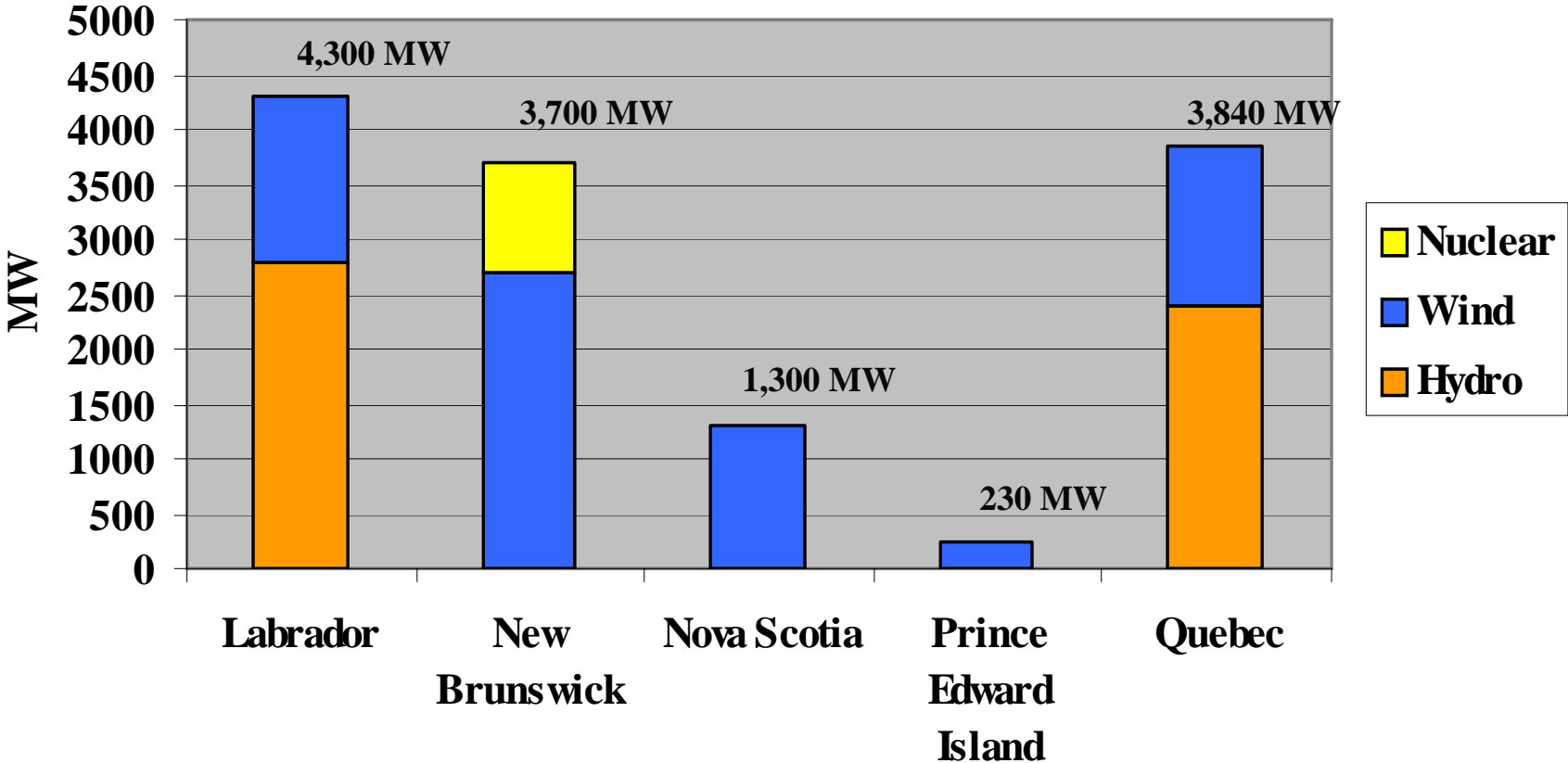
Biomass Total: 388 MW



Wind Total: 2,170 MW



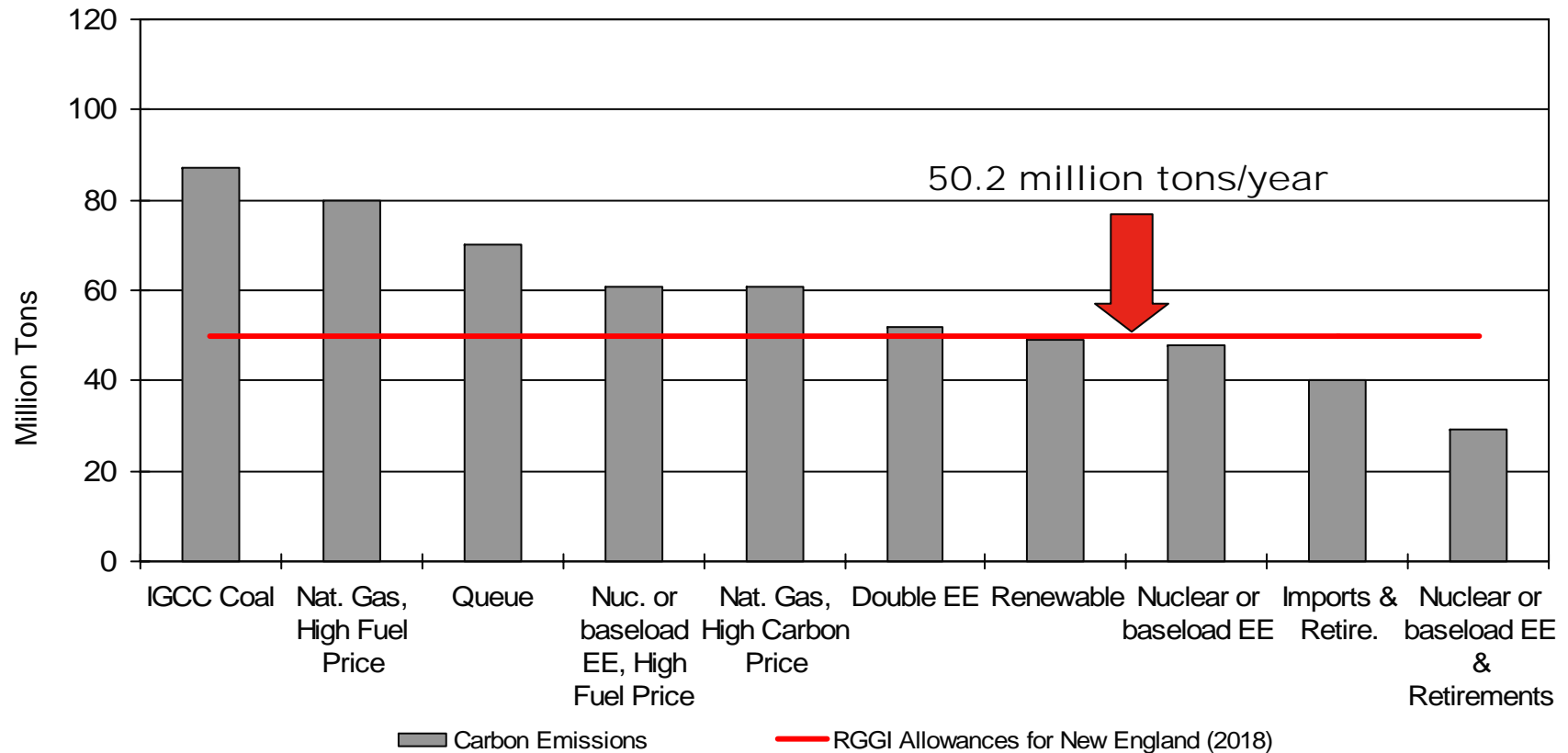
Potential Renewable Resources in Canada is being Assessed



Total: 13,370 MW

Challenges Meeting RGGI Requirements




CO₂ Emissions from RGGI units vs. RGGI CO₂ Allowances

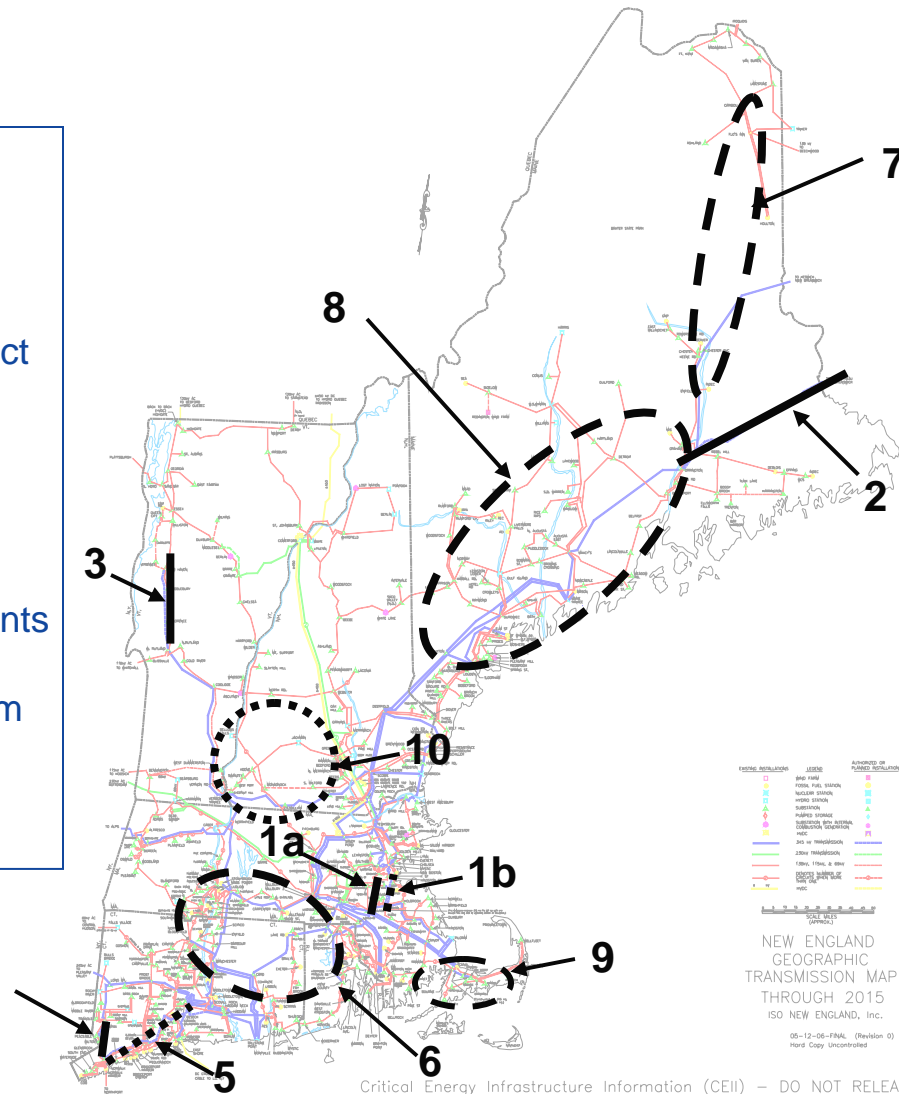


Combination of Scenarios and Sensitivities

Progress on Transmission Investment

1. NSTAR 345 kV Project
 - a. Phase I
 - b. Phase II
2. Northeast Reliability Interconnect
3. Northwest Vermont
4. SWCT Phase I
5. SWCT Phase II
- 6a. NEEWS
- 6b. Greater Rhode Island
- 6c. Springfield 115 kv Reinforcements
7. Maine Power Connection
8. Maine Power Reliability Program
9. Southeast Massachusetts
10. Monadnock Area

-  In service
-  Under construction
-  Under study



Improvements to the Planning Process

- ISO-NE is implementing improvements to regional system planning (RSP) process based on Order 890
 - Identification of economic needs
 - Requirement for economic studies (3 per year)
 - Process for prioritizing economic studies
- Stakeholder working group to implement these improvements
 - Define the scope of economic studies
 - Develop criteria for prioritization
 - Consider factors for determining market efficiency upgrades
- ISO/NECPUC/NEPOOL Steering Committee to guide working group

Critical Energy Infrastructure Information

- Planning-related information that contains CEII is posted on ISO-NE's password-protected Web site
- All requests for access should be submitted to ISO-NE's Customer Services Department

Planning for the Future – Sustainability through Renewable Resources

- Planning process must accommodate new needs – and continue progress on traditional needs
- New power system needs:
 - Transmission and supply/demand resources to meet economic and environmental goals
 - Renewable Portfolio Standards
 - Regional Greenhouse Gas Initiative (RGGI)
- Traditional power system needs:
 - Transmission and supply resources for reliability
 - Growth in peak and overall energy use
 - Reliance on natural gas generation/need for dual-fuel