Forward Capacity Market (FCM)/ Generator Interconnection Process Stakeholder Group

Stakeholder Meeting No. 1
September 27, 2007
Springfield, MA

ISO new england

Agenda

Welcome and introductions	9:30 – 9:45
Opening remarks	9:45 – 10:00
Proposed process review	10:00 – 11:00
Review and brief summary of resource materials	11:00 – 11:20
Update on progress toward Forward Capacity Auction (FCA) #1	11:20 – 11:30
Upcoming key dates for FCA #2	11:30 – 11:40
Update on current status of Generator Interconnection Queue	11:40 – 12:15
Closing remarks, adjournment, lunch	12:15 – 12:30

Overview of Process

- ISO New England (ISO), New England Conference of Public Utilities Commissioners (NECPUC) and New England Power Pool (NEPOOL) have agreed to engage in a stakeholder process to look for ways to improve the coordination between the requirements of the FCM and the current Federal Energy Regulatory Commission (FERC)-approved Generator Interconnection Process
- Information regarding this stakeholder process may be found at:

  http://www.iso-ne.com/committees/comm_wkgrps/othr/fcm_gen/index.html

Proposed Process Review

- Proposed mission statement
- Overall schedule
- Initial meeting dates and locations
- Outline of discussion at initial meetings
- Stakeholder feedback and suggestions

Project Breakdown

- In an effort to ensure that all voices are heard and all points of view are adequately shared with the stakeholder group, we propose a similar structure to that of the Installed Capacity Working Group, which will establish the three of us, representing ISO, NECPUC and NEPOOL, as co-chairs for this stakeholder process
- We will also be looking for volunteers for a smaller, technical support group that can help prepare materials for each meeting and work on proposals for broader stakeholder review

Stakeholder Process Organizational Structure

- Similar structure to Installed Capacity Working Group (ICWG)
- Chairpersons
  - Steve Rourke (ISO)
  - Anne George (NECPUC)
  - Bob Stein (NEPOOL)
- Legal Counsel Support
  - ISO/NEPOOL
- Technical Working Group (as needed)
  - ISO (S. Rourke, R. Kowalski, D. Forrest, A. McBride, R. Ethier, M. Karl, P. Kozlowski, K. May, M. Gonzalez, C. Ruell)
  - NEPOOL
  - NECPUC

Goals

- Provide background and information to stakeholders about the current Queue process and FCM
- Identify and discuss key issues and principles associated with the Queue and FCM
- Develop approaches to address key issues and principles
- Attempt to reach consensus on how to address key issues and principles where possible
- Provide a mechanism for bringing minority position(s) to the appropriate voting NEPOOL committee
- Enhance current processes as appropriate
- File any changes with the Commission by October 2008

Project Breakdown – Phase I

September – December 2007

- Information sharing and process details
  - Define scope and objectives of the overall process
  - FERC Generator Interconnection Process
  - FCM Resource Qualification Process
  - Establish context/criteria for alternate methodologies given OATT principles

Project Breakdown – Phase II

January – May 2008

- Receive and review alternative proposals from stakeholders and ISO
  - Compare alternatives against established criteria/guiding principles
  - Weigh pros/cons, including likelihood of FERC approval and ISO ability to implement and administer the process
  - Select preferred alternative, including keeping the existing rules/process

Project Breakdown – Phase III

June – October 2008, October FERC Filing

- Develop any market rule and tariff language necessary to support preferred alternative
  - Engage Markets Committee, Reliability Committee, Tariff Committee, as appropriate, in review of Tariff/Market Rule 1 changes
  - Seek NEPOOL support and NECPUC support to prepare joint filing
  - Engage FERC staff to explain reasons for changes, if any, to *pro forma* tariff provisions that are necessary in context of FCM
  - Make FERC filing

Proposed Meeting Dates in 2007

- Thursday **October 11**
  - Information sharing and process details
  - Identify key principles
- Thursday **October 25**
  - Continue information sharing and process details
  - Identify key principles
- Tuesday **November 6**
  - Continue information sharing and process details
  - Identify key principles
- Tuesday **November 27**
  - Wrap up information sharing and process details presentations
  - Agree on full set of key principles for alternative development
  - Focus on next steps in the process
- **December Meeting Date To Be Determined**
  - Continue next steps on how FCM and Queue can be better coordinated
  - Set up early 2008 meeting dates

Suggested Discussion Topics – October 11

- FERC Generator Interconnection Procedures
  - Pre-Order 2003 interconnection procedures since 1997
    - Original approach – continuation of past practices
    - Development of New England formal interconnection procedures (PP6)
    - Generator interconnection cost allocation
    - Bucksport order
    - Adoption of Minimum Interconnection Standard (MIS), deferral of "overlapping impacts"
      - Practicalities associated with excessive amounts of proposed generation
      - Facilitation of competitive energy markets
      - Transmission access via bidding (Locational Marginal Price)

Suggested Discussion Topics – October 11 (cont.)

- FERC Generator Interconnection Procedures (cont.)
  - Pre-Order 2003 interconnection procedures since 1997 (cont.)
    - Core Planning Procedures
      - PP3
      - PP5-1
      - PP5-3
      - PP5-6
    - Other Planning Procedures Significant to Generator Interconnection Process
      - Subordinate Proposed Plans (PP5-5)
      - Construction Sequencing (PP8)

Suggested Discussion Topics – October 25

- FERC Order 2003
  - Objectives
    - Nation-wide standardization of interconnection procedures
    - Assure fair and consistent open access for on-system or off-system sales
    - Requires provision of energy-only type of interconnection; supports capacity interconnection

Suggested Discussion Topics – October 25 (cont.)

- FERC Order 2003 (cont.)
  - Pro-forma Procedures
    - ISO New England compliance - Schedules 22 (Large Generator Interconnection Procedure (LGIP) / Large Generator Interconnection Agreement (LGIA) & 23 (Small Generator Interconnection Procedure (SGIP) / Small Generator Interconnection Agreement (SGIA))
      - One interconnection “product”: Minimum Interconnection Standard – Network Resource; slightly higher bar than FERC Energy Interconnection
      - Less flexibility regarding subordinate/optional studies
      - Applicability: FERC-jurisdictional facilities, wholesale generation
    - ISO vs. Transmission Owner/Distribution Company responsibilities
      - State vs. FERC jurisdiction
    - Only “superior-to” modifications allowed
      - FERC has accepted changes that facilitate interconnection
      - FERC has rejected changes that result in delay/limitation

Suggested Discussion Topics – October 25 (cont.)

- Steps/Studies/Provisions
  - Applications addressed first come-first served; cost allocation tracks
    - Cumulative impacts of close-proximity resources
  - Feasibility Study (can be incorporated into System Impact Study in New England)
  - System Impact Study
    - I.3.9 approval
  - Facilities Study
  - Optional Study (must be done after sequential analysis)
  - Restudy
  - Engineering and Procurement Agreements
  - Interconnection Agreement
  - Clustering
  - FERC Order on Wind Power
- Elective Expansion – Purchased enhanced network access
- What it means to be an Open Access Transmission Service Provider
  - Open Access
  - Comparability/equitable treatment

Suggested Discussion Topics – November 6

- FCM
  - Resource adequacy market
    - Installed Capacity Requirement (ICR)
      - Total capacity requirement
      - Identifies location-specific deficiencies
      - Rough/evolving representation of transmission system capability and resource location
    - FCA
      - Uses same representation of transmission system as ICR
      - Intent to purchase incremental useful capacity (need to assess overlapping impacts)
      - "Zonal"
  - New Resource Qualification
    - Construction Timeframe
    - Financial considerations
    - Transmission interconnection/integration timeframe
      - Direct connect facilities
      - Network upgrades
      - Overlapping impact mitigation
      - Can't be practically accessed during auction

Suggested Discussion Topics – November 6 (cont.)

- FCM (cont.)
  - New Resource Qualification (cont.)
    - Associated transmission studies (to assess timeframe)
      - Minimum Interconnection Standard screening
      - Screening assessment of overlapping impact (akin to deliverability)
        - No new intra-zonal constraints for new “capacity”
  - Load Zones
    - Sub-markets
    - Implications for incremental capacity/deliverability
    - Pre-qualification vs. auction purchases
      - All capacity ultimately purchased is regionally deliverable
- State run processes
  - RFP’s
  - Other

Suggested Discussion Topics – November 27

- Generator Deliverability
  - Currently 1 interconnection product (MIS)
  - New England has been directed to develop “intra-zonal” generation deliverability (Capacity/Network Resource interconnection product)
    - Will result in 2 interconnection products
    - Minimum Interconnection Standard will likely be replaced by less stringent Energy Interconnection
  - What is “Deliverability”
    - Deliverable to where?
      - Regional
      - Intra-zonal
      - Intra-zonal deliverable generation in FCM
      - Transmission system changes that could/should alter zones
    - New England experience
      - Pre-Bucksport
      - FCM pre-qualification – overlapping impact assessment, a deliverability assessment
    - Neighbors experience
      - PJM - Generation Deliverability approach
      - New York - 5 difference approaches under consideration

Suggested Discussion Topics – December TBD

- Challenges & Concerns
  - Markets/competitive solicitations result in flood of interconnection requests
    - 10 years ago: 60,000 MW of interconnection requests – about 10,000 MW in service
    - Currently over 100 interconnection requests – FCM, Locational Forward Reserve Market (LFRM), Connecticut Request for Proposal (RFP), Renewal Portfolios
  - Current Conflicts
    - Generation Interconnection Queue may not line up with FCM, etc.
      - Interconnection study priority
      - Uncertainty regarding transmission upgrades for new market entrants
        - Construction schedule
        - Cost responsibility
    - Cumulative impact of sequential studies
      - Can be significant with later resources in close proximity
        - Much worse with deliverability – Useless(?)
        - Inconsistent when projects competing for a limited offering
    - Generators need to understand their interconnection requirements/risks
      - Near-term market participation
      - Upcoming market participation
    - Backlog of Queue related studies

Suggested Discussion Topics – December TBD (cont.)

- Coordination & Integration
  - Determination of main objectives
  - General Approaches
    - Modify Market Rules to accommodate LGIP/SGIP
    - Modify LGIP/SGIP to accommodate Market Rules
    - Modify Market Rules to direct/make best use of LGIP/SGIP
    - Modify Market Rules to direct/make best use of LGIP/SGIP; make "superior to" changes to LGIP/SGIP
  - Some Options
    - Modify LGIP/SGIP to allow Optional study first
    - Use clustering to "batch" FCM, RFP based interconnection request; each studied independently
    - Adjust FCM timing

Review and Brief Summary of Resource Materials

Forward Capacity Market

Status of First Forward Capacity Auction (FCA-1)

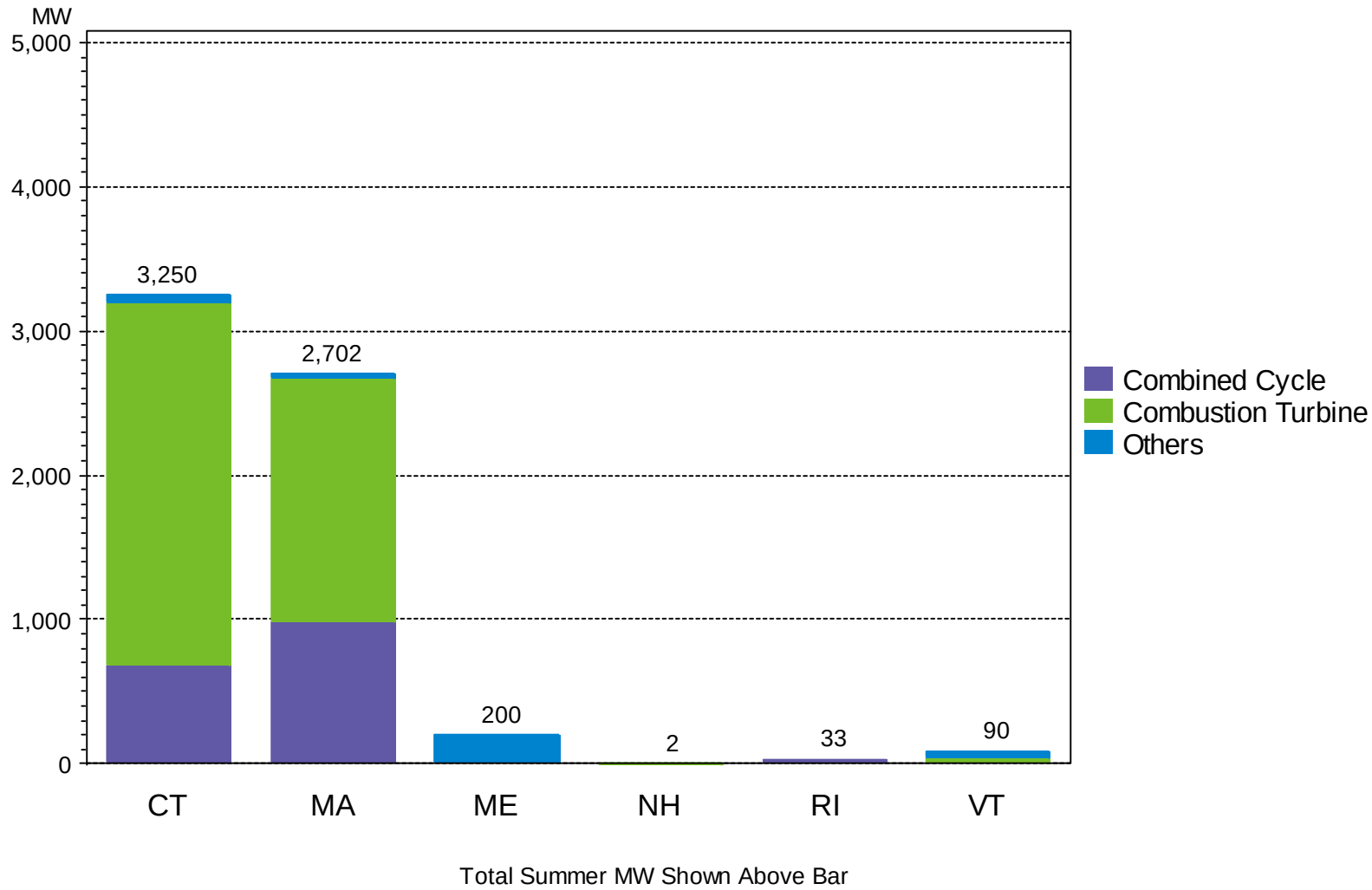
- Rules
  - Market Rules approved by the FERC in April and June
- Amount of resources to be procured
  - Installed Capacity Requirement approved by Participants Committee in September
- Qualification process
  - Qualification of New Resources is underway
- First auction
  - Expect to run first FCA in February 2008

Highlights of Supply Resource Qualification Process for FCA-1

- More than 200 generation and import applications received by the Show-of-Interest (SOI) deadline
  - More than 15,000 MW of Supply Resources
- 70 projects remain active
  - More than 10,000 MW of Supply Resources
  - Approximately 3,600 MW of imports
  - 92% of the remaining 6,500 MW are in the generator interconnection queue
  - Majority of resources are located in Connecticut and Massachusetts, consistent with previous Regional System Plan (RSP) identified needs

Summary of New Generation

MW by Location and Unit Type

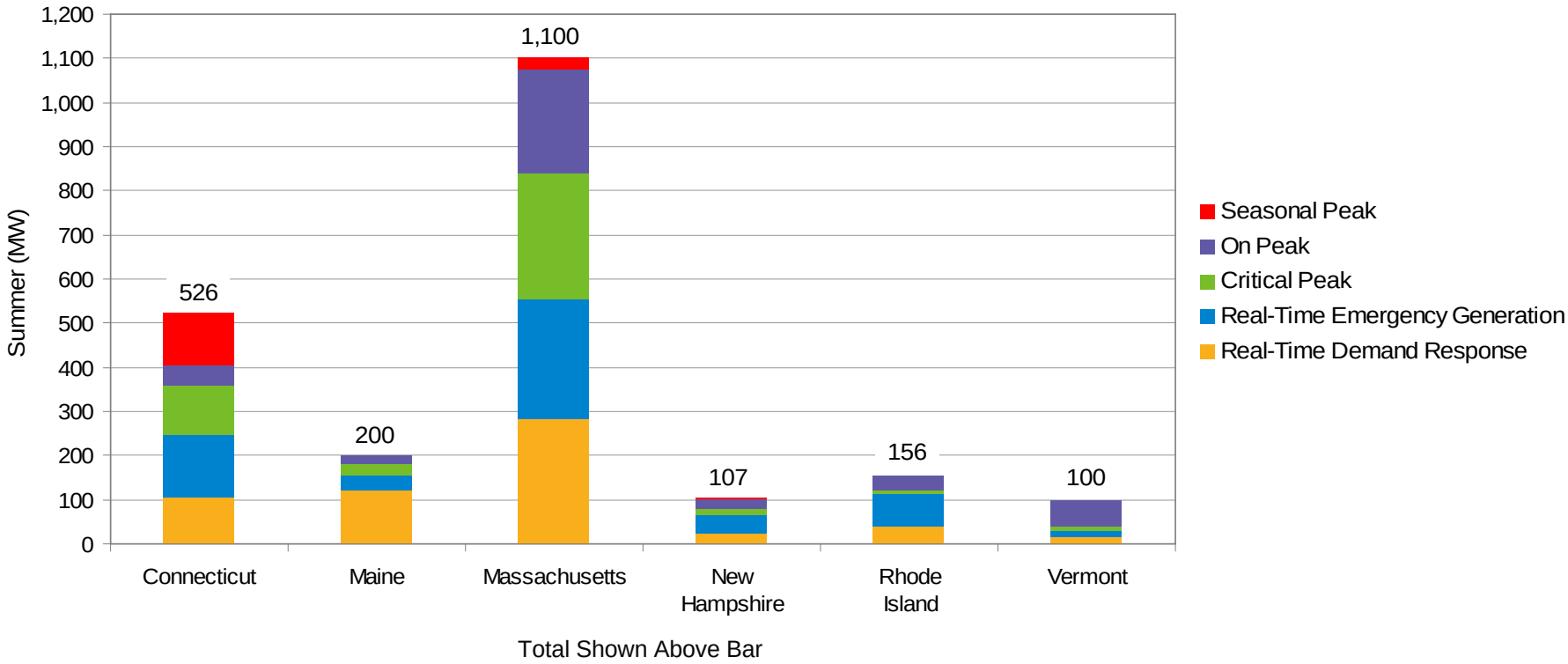


Highlights of Demand Resource Qualification Process for FCA-1

- More than 260 Demand Resource applications received by the SOI deadline
  - Total of 2,449 MW of Demand Resources
- More than 190 projects remain active
  - Total of 2,186 MW of Demand Resources

Summary of New Demand Resource

MW by Location and Type



Other Qualification Process Highlights

- **April 30, 2007: 19 De-list Applications (677 MW) received**
  - Report posted to:
    http://www.iso-ne.com/markets/hstdata/mkt_offer_bid/fcm_bids/delistbidreport_05032007.pdf
  - 2 Permanent (350 MW)
  - 1 Administrative Export (100 MW)
  - 16 Static (227 MW)
- **July 2, 2007: 69 Composite Offers (896 MW) received**
  - Report filed with FERC on August 2, 2007
  - Filing available at:
    http://www.iso-ne.com/regulatory/ferc/filings/2007/aug/er07-546-000_8-2-07_composite_offer_report.pdf

Upcoming FCA-1 Milestones

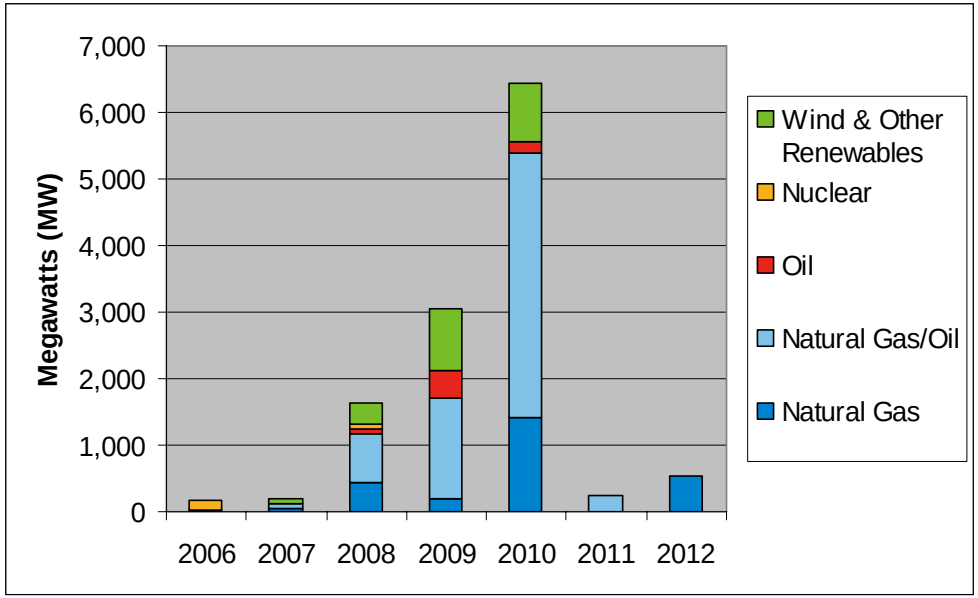
- October 3, 2007
  - ISO issues Qualification letters to New Resources and de-lists of Existing Resources
- October 2007
  - File Installed Capacity Requirement for 2010-2011 Capacity Commitment Period
- November 1, 2007
  - File details of Qualified Resources with the Commission, including de-list bids and New Resources
- December 2007
  - First external Mock Auction
- January 2008
  - Second external Mock Auction (likely)
- February 2008
  - Run first FCA

Next Auction – FCA-2

- SOI Window
  - September 18 – November 14, 2007
  - All Project Sponsors participating in qualification for FCA-1 must submit a new Show of Interest application if they plan to participate in FCA-2
- New Resource Forum
  - October 15, 2007 - Connecticut Convention Center, Hartford
- Auction to be held in December 2008

Update on Generator Interconnection Queue

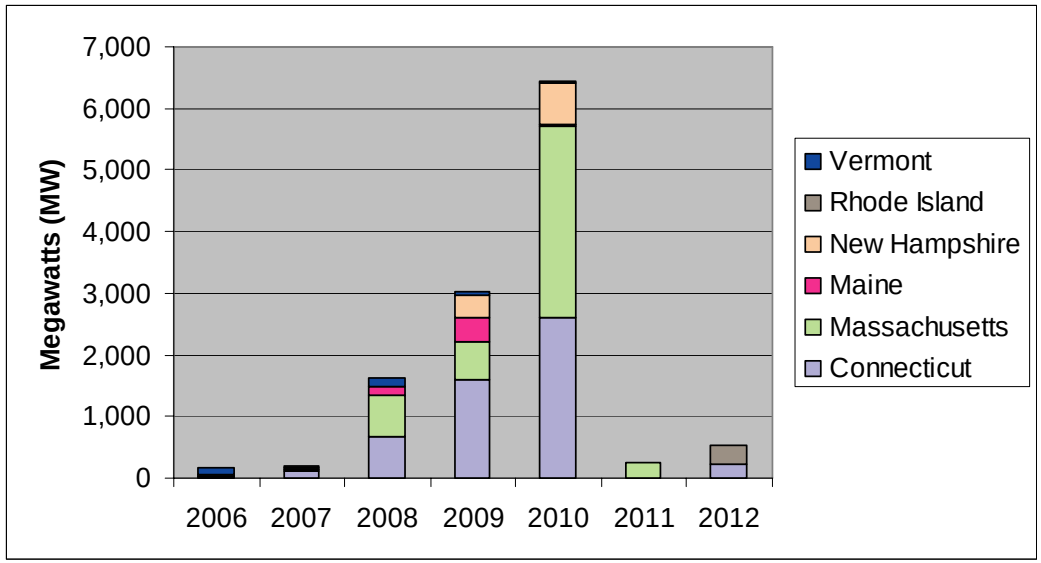
Actual and Projected Annual Capacity Additions
By Fuel Type



	2006	2007	2008	2009	2010	2011	2012	Total	% of Total
Wind & Other Renewables	0	58	330	920	872	0	0	2,180	17.8
Nuclear	157	0	70	0	0	0	0	227	1.9
Oil	14	0	54	401	168	0	0	637	5.2
Natural Gas/Oil	0	89	736	1,512	3,972	244	0	6,553	53.5
Natural Gas	0	43	446	204	1,416	0	543	2,652	21.7
Totals	**171**	**190**	**1,636**	**3,037**	**6,428**	**244**	**543**	**12,249**	**100.0**

- 190 MW is projected to be in commercial operation by the end of 2007

Actual and Projected Annual Capacity Additions
By State



	2006	2007	2008	2009	2010	2011	2012	Total	% of Total
Vermont	110	0	140	82	6	0	0	338	2.8
Rhode Island	0	15	0	0	0	0	320	335	2.7
New Hampshire	22	24	0	350	690	0	0	1,086	8.9
Maine	0	8	160	403	30	0	0	601	4.9
Massachusetts	0	19	663	603	3,097	244	0	4,626	37.8
Connecticut	39	124	673	1,599	2,605	0	223	5,263	43.0
Totals	**171**	**190**	**1,636**	**3,037**	**6,428**	**244**	**543**	**12,249**	**100.0**

- 190 MW is projected to be in commercial operation by the end of 2007

New Generation Projection
By Operating Type and Fuel Type

Fuel Type	Total		Baseload		Intermediate		Peaker		Wind Turbine	
	No. of Projects	Capacity (MW)	No. of Projects	Capacity (MW)	No. of Projects	Capacity (MW)	No. of Projects	Capacity (MW)	No. of Projects	Capacity (MW)
Biomass/Wood Waste	9	389	9	389	0	0	0	0	0	0
Hydro	4	126	2	18	1	8	1	100	0	0
Landfill Gas	3	23	3	23	0	0	0	0	0	0
Natural Gas	22	2,652	5	290	4	1,193	13	1,169	0	0
Natural Gas/Oil	29	6,553	0	0	10	4,100	19	2,453	0	0
Nuclear Uprates	1	70	1	70	0	0	0	0	0	0
Oil	5	623	0	0	0	0	5	623	0	0
Wind	22	1,642	0	0	0	0	0	0	22	1,642
Total	95	12,078	20	790	15	5,301	38	4,345	22	1,642