Wind Energy in New England: Update

MA Wind Working Group, Sept. 16, 2009

Bob Grace
President, Sustainable Energy Advantage, LLC
Sustainable Energy Advantage, LLC

Building Renewable Energy Businesses, Markets & Policies

... Through Analysis, Strategy & Implementation
Overview

• Wind project development status: New England
  – Focus on MA
• Current barriers to wind energy and recent initiatives designed to address them
  – Focus on transmission
• Offshore Wind Initiatives
• Development of an objective information resource
  – New England Wind Forum
  – New England Wind Energy Education Project
Currently Posted on New England Wind Forum
(updated ~ 2x/yr)

www.windpoweringamerica.gov/ne_projects.asp

Last updated late spring… slightly stale already
Massachusetts Project Map

(≥ 600 kW only)

Key:
- Construction
- Development
- Feasibility
- Operating
- Permitted
- Seeking Permits

Source:
Sustainable Energy Advantage, LLC; from Sustainable Energy Advantage Proprietary Database
WIND PROJECT
DEVELOPMENT STATUS:
A SNAPSHOT

Hull 1
(photo credit: Bob Grace)
Land-based: MW by state & status type

New England Land-Based Wind Projects > 10 MW by State and MW

Summary of projects > 10 MW

Source: Sustainable Energy Advantage, LLC proprietary database – ‘Public’ projects

Photo Credit: TransCanada Power Marketing Ltd.
Lempster Wind Farm

The Lempster Wind Farm, Lempster, NH. (Photo Credit: Iberdrola Renewables)
Summary of projects > 10 MW

Land-based: #, by size & location

Land Based Wind Projects >10 MW
Project Size Distribution

Source: Sustainable Energy Advantage, LLC proprietary database – 'Public' projects
On Target Utility Crews running the fiber optic lines at First Wind’s Stetson Wind Project
(photo credit: On Target Utility Services)
Land-based: MW by state & status type

New England Small & DG Wind Projects < 10 MW by State and MW

Source: Sustainable Energy Advantage, LLC proprietary database – ‘Public’ projects
100 kW @ McGlynn School in Medford

McGlynn school complex in Medford, MA (Photo provided by the Massachusetts Renewable Energy Trust)
Land-based: #, by size & location

Land-Based Small & DG Wind Projects < 10 MW
Project Size Distribution

Source: Sustainable Energy Advantage, LLC proprietary database – ‘Public’ projects
Holy Name, Worcester

Holy Name Central Catholic Jr./Sr. High School (Worcester, MA) installed September 2008. (Photo provided by the Massachusetts Renewable Energy Trust)
Two 600-kilowatt wind turbines were installed on Deer Island in August 2009, and are shown here next to the waste water treatment facility’s anaerobic digesters. Due to their proximity to Logan Airport, these generators were installed on uncharacteristically short 32-meter towers.  

(Photo credit: Kathryn Craddock, Sustainable Energy Advantage, LLC)
Homeless no more...

• Pictured here outside Windpower 2008 in Houston, this Vestas blade (and the rest of this infamous turbine) is now en route to the Falmouth WWTF

Photo credit: Jason Gifford, Sustainable Energy Advantage, LLC
Offshore: MW by state & status type

New England Offshore Wind Projects

Source: Sustainable Energy Advantage, LLC proprietary database
Key Barriers & Limiting Factors to Wind in New England: 2009 Update

RPS Creates Demands, but….

Barriers:
• Low Commodity Revenue
• Lack of Revenue Certainty
• Siting/Public Acceptance
• Finance
• Grid Integration
• Transmission

Policy Responses:
• Long-Term Contract Initiatives
• Feed-in Tariffs
• Aggregate Net Metering
• Siting Initiatives (MA, ME, NH, RI)
• Federal Stimulus (ARRA)
• ISO’s New England Wind Integration Study
• Transmission proposals, ISO studies of scenarios
Competing Visions of Transmission Future; Decisions can Reshape the Renewables Market

• Within NE
  – Timing of network enhancements & expansions dictate access to ‘renewable energy zones’ in NH, ME
  – Ongoing debate: spread costs broadly vs. 1st generator in vs. participant funding
  – Many competing or complementary proposals in ME, NH
  – Green Line: 600 – 1200 MW, ME to MA

• From the North
  – NU/Nstar/HQES US proposed 1200-1500 MW participant-funded transmission link from Quebec to NE progresses – level of utilization for RE imports unclear

• Hybrid - NB to ME to MA
  – e.g. Northeast Energy Link: 1100 MW,

• From the West
  – Federal legislation, HV transmission ‘superhighway’ plans pit midwest vs. coasts

• Focus on local resources and objectives:
  – MA, RI, CT

• ME Transmission Commission formed under summer 2009 energy law
  – moratorium; study use of state lands

• ISO-NE:
  – Scenario analysis, Regional System Plan 2009 draft for review
  – Wind Integration Study underway
  – Preliminary economic study results released.

• New England Governors' Renewable Energy Blueprint July 2009 status report:
  – Concludes development of in-region resources appears significantly more efficient than importing equivalent resources from distant regions
Offshore Wind Policy Initiatives

• Offshore
  – MA – Ocean Plan, Cape Wind, Hull, Others
  – ME – Offshore Energy Task Force
  – RI – SAMP, Selected Developer, Pilot Project, Contracting Legislation
Woods Hole Research Institute, 100 kW Northwind Turbine, As seen from Falmouth-Oak Bluffs Ferry (Photo credit: Bob Grace, Sustainable Energy Advantage, LLC)
New England Wind Forum….

It’s Back!

Restart!
Spring/Summer 2009
New Content
Posted, Next
Newsletter
Coming Soon
Good Information Helps Good Decisions

• New England Wind Forum
  – web site and newsletter - NREL/DOE’s Wind Powering America Program
  – www.windpoweringamerica.gov/newengland
New England Wind Forum (NEWF)

- **Established:** 2005 through NREL’s Wind Powering America Program
- **Objective:** To create a central clearinghouse and provide a single, comprehensive and objective source of up-to-date, Web-based information to all stakeholders on a broad array of wind energy-related issues pertaining to New England.
- **Funding:**
  - Historically funded in part by NREL, in part by 4 NE states (MA, ME, CT, NH)
  - Funding interrupted/lost – suspending project in 2008/9
  - NEWF Restart: Summer 2009: Modest amount of new funding has been secured (NREL 3 yrs; MRET 1 yr)
    - Covers only modest effort: newsletter, project and policy updates
  - Funding for 2009 – 2010 and beyond: Minimal NREL funding in place; state or other non-industry co-sponsorship needed to fulfill objectives

➤ NEWF Needs Your Help:
Coming Soon….

New England Wind Energy Education Project (NEWEEP)

Another Wind Powering America Project

Need a better name!
Introduction to the New England Wind Energy Education Project (NEWEEP)

• **Objective:** To develop and disseminate accurate, objective information on critical wind energy issues impacting market acceptance of hundreds of land-based projects and off-shore wind developments proposed in the 6-state New England region.

• **Goal:** Through this educational initiative, NEWEEP intends to accelerate the pace of wind installations towards the region’s 20% by 2030 goal of 12,500 MW.

• By cutting through the clutter of competing and conflicting information on critical issues, this project is intended to encourage the market’s acceptance of appropriately-sited wind energy generation.
NEWEEP Status

• **Applicants:** Sustainable Energy Advantage & NREL
  • **Selected** by DOE for 2 years of funding  
    – Contract pending… expected start ~Oct 2009?

• **Participants** (contributing time & effort, participating in steering committee)
  - the Massachusetts Renewable Energy Trust (MRET, or ‘the Trust’);
  - the Maine Public Utilities Commission/Efficiency Maine (MPUC/EM);
  - the New Hampshire office of Energy & Planning (NH OEP);
  - the Connecticut Clean Energy Fund (CCEF);
  - ISO New England (ISO-NE);
  - the Utility Wind Interest Group (UWIG);
  - the University of Massachusetts Wind Energy Center¹ (WEC);
  - Renewable Energy New England, a new partnership between the renewable energy industry and environmental public interest groups); and
  - Lawrence Berkeley National Laboratory.²
NEWEEP: Implementation

1. Develop a steering committee to ID topics
2. Conduct a series of topic-specific web-conference briefings
3. Hold a one-day NEWEEP conference (back-to-back w/ a UWIG regional conference)
4. Post all materials on the NEWF website for maximum reach and stakeholder input
5. Collaborate with WPA (including the all-states summit) and regional wind working groups
Sustainable Energy Advantage, LLC

Office:
10 Speen Street, 3rd Floor
Framingham, MA 01701
www.seadvantage.com

Contacts:
Bob Grace
tel. 508.665.5855
bgrace@seadvantage.com