Massachusetts Department of Energy Resources

Creating A Greener Energy Future For the Commonwealth

Wind Energy Potential on MA State Lands

Wind Energy on State Owned Lands: Listening Sessions

Bourne and Pittsfield, MA
June 2009

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Renewable Energy Development

MA Department of Energy Resources

WHY WIND

- No Emissions
- No Water Use
- No Toxic Discharge
- No Drilling/Extraction
- Energy Security
- Price Stability
- Economic Development: Business and Job Creation, Tax/Lease Payments

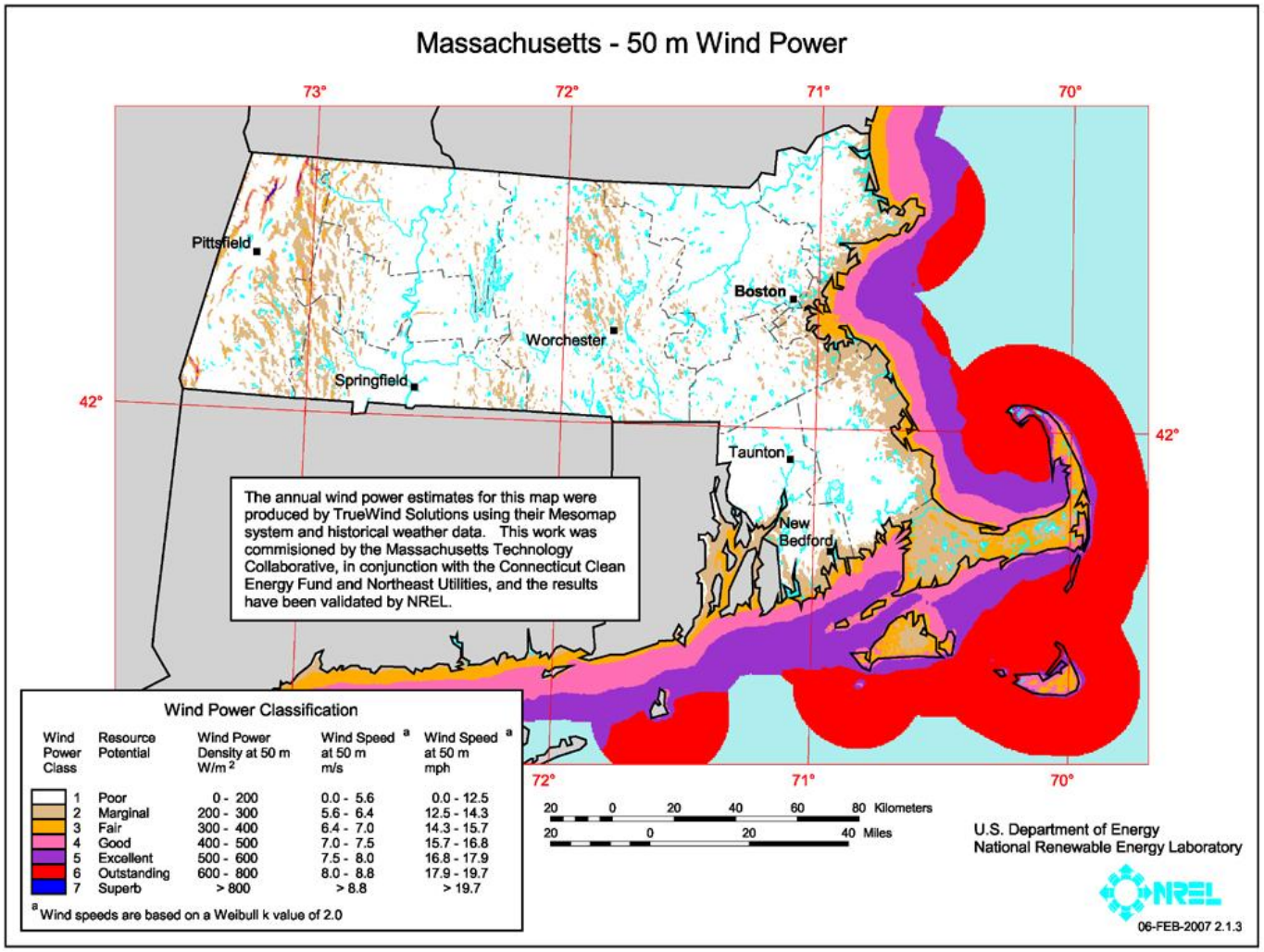
WIND ENERGY IS RAPIDLY GROWING

- 25% Annual Growth Since 1990
- Over 121 GW Installed Globally
- U.S. Overtook Germany to Become World Leader In Installed Wind Capacity Last Year
  - 26,274 MW installed as of 01/31/09
- 2008 Record Year for U.S.
  - Over 8 GW Installed
- DOE Report: 20% Wind by 2030 feasible

MASSACHUSETTS POTENTIAL

- 12 Projects Installed (>100 kW each)
  - Total Installed Capacity of approx. 7 MW
- Over 300 Turbines and 800 MW in Development Pipeline
- MA Geography is Primary Constraint Onshore
- Technical Resource Potential
  - Onshore 1,500 MW
  - Offshore 6,000 MW

MASSACHUSETTS RESOURCE



MA INITIATIVES TO HELP SUPPORT WIND DEVELOPMENT

- Governor Patrick's Wind Goals
- Green Communities Act
- Wind Energy Siting Reform Act of 2009 (proposed)
- Green Jobs Act: Wind on State Lands
- Oceans Management Plan
- Global Warming Solutions Act
- MA-NREL Wind Technology Testing Center

MASSACHUSETTS WIND GOALS

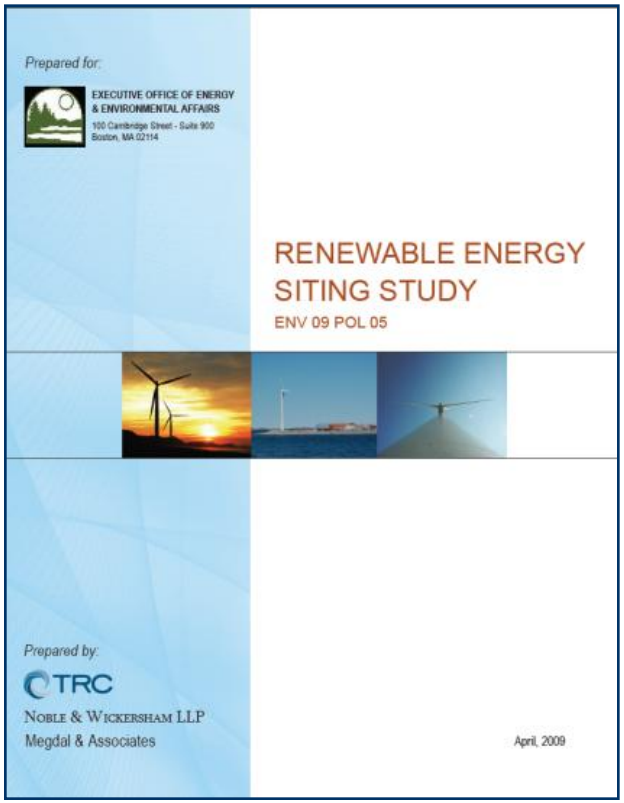
- 2000 MW by 2020
  - Estimated to be accomplished with 500 MW on land, and 1500 MW offshore
- 2000 MW of Wind would . . .
  - Power 800,000 Homes
  - Meet 10% of our Electricity Load
  - Reduce Greenhouse Gas Emissions By 3.1 Million Tons or approx. 12% of Current Power Plant Emissions
  - Create Economic Development

GREEN COMMUNITIES ACT

- Renewable Energy Portfolio Standard (RPS)
  - Accelerates the increase of new renewable energy supplied to MA electric customers, rising from 4% of sales to15% by 2020.
- Long Term Contracts
  - Requires utilities to enter into long-term contracts with the developers of renewable energy projects, to secure the financial value of energy and RECs and enable project financing.
- Energy Facilities Siting Commission
  - Created the Commission to review “whether current laws and regulations do not adequately facilitate the siting of renewable and alternative energy facilities”, and to propose changes to such laws and regulations.
  - EEA established Commission and invited active participation and input by a broad array of stakeholders. EEA has held approximately 15 meetings.

WIND ENERGY SITING REFORM

- EEA retained TRC, a national consulting firm with expertise in wind energy facility development, to conduct a study of siting in Massachusetts. TRC submitted its report to EEA in April 2009.
- TRC report identified several projects that were significantly delayed by a variety of different issues (e.g. wetlands appeals, local permits, etc.)
  - Hoosac wind (8 years)
  - Berkshire wind (10 years)
  - Princeton (10 years)
  - Orleans (4 years)
  - Fairhaven (3 years)
  - Hull (5 years)


Prepared for:
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RENEWABLE ENERGY SITING STUDY
ENV 09 POL 05

Prepared by:
TRC
Noble & Wickersham LLP
Megdal & Associates

April, 2009

WIND ENERGY SITING REFORM

The Siting Commission has recommended draft legislation to reform the siting of renewable energy generation in the Commonwealth.

- Standards: Mandates that the Energy Facilities Siting Board (ESFB) establish clear and predictable siting standards for wind facilities
- One stop permitting: Provides one-stop permitting at the local level for wind projects over 2 MW, with any appeal to the EFSB, not court. ESFB also would issue a one-stop permit for all state permits that are needed.
- Single Appeal: Provides for single appeal of the ESFB decision to the state's highest court.
- Less time: These procedures would decrease the time of permitting from 5-10 years to approximately 9-18 months.
- EFSB: Bill also places a municipal representative and the DFG Commissioner on the EFSB, and provides a number of financial benefits to municipalities that approve wind energy facilities.

GREEN JOBS ACT

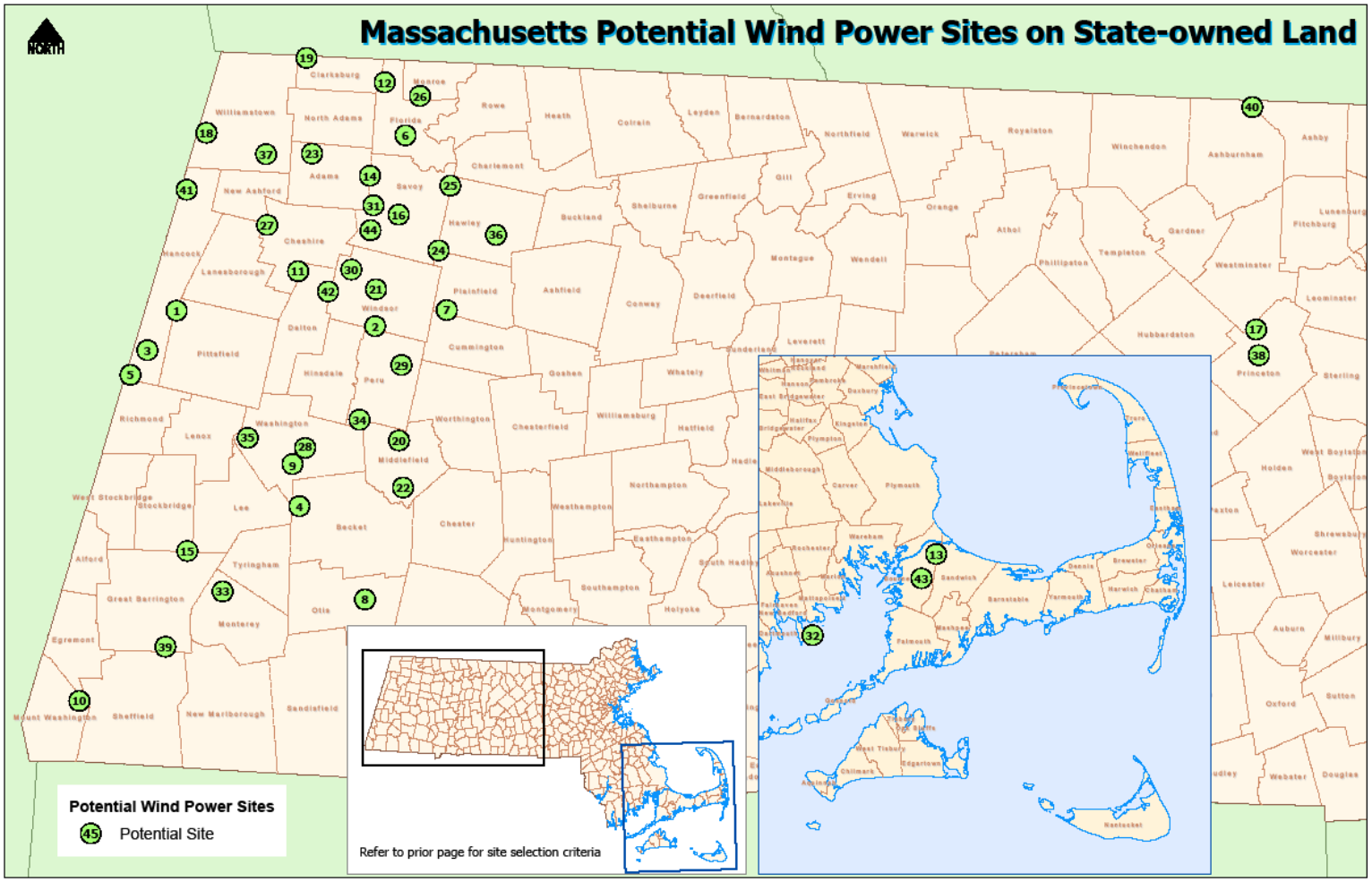
Mandated that EEA Analyze Potential of Renewable Energy on State Owned Lands and at State Facilities

- DOER/MRET Determined that Wind Energy has most Potential
- Navigant Identified 44 Sites with 947 MW of Theoretical Wind Energy Potential
- Secretary Bowles: “Require Careful Balance of Public Interests”

CRITERIA FOR STATE LANDS

- Min. Wind Speed: 6.8 m/s at 70 m height
- Min. Number of Turbines: 5 (1.5 MW)
- Min. Spacing: 5 Rotor Diameters
- Proximity to Airport
- Proximity to Residence
- Transportation Access to Site
- Distance to Transmission
- No Endangered Species
- No Wetlands

IDENTIFIED STATE SITES WITH SUITABLE TECHNICAL POTENTIAL



- POTENTIAL: 44 Locations, 947 MW

RESOURCES

- MA DEPARTMENT OF ENERGY RESOURCES (DOER)
  - Steven Clarke, Director of Wind Development
    - 617-626-1049
    - Steven.Clarke@state.ma.us
- MA RENEWABLE ENERGY TRUST (MRET)
  - Commonwealth Wind Program
    - 508-870-0312
    - www.masstech.org
- MASSACHUSETTS WIND VIEWER
  - http://maps.massgis.state.ma.us/wind/
- WIND ENERGY CENTER – UNIVERSITY OF MASSACHUSETTS
  - Convenes the MA Wind Energy Working Group
  - www.rerl.org