Wind in New England

CPES Dinner
June 12, 2013
New England Wind Development

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Wind Proposed for the Region
Based on April 1, 2013 Interconnection Queue

Note: FERC-jurisdictional wind project totals are bold-faced; non-FERC-jurisdictional totals are non-boldfaced; numbers may not add to 2,453 MW total due to rounding.

Source: ISO New England
As of April 1, 2013:
– Approximately 710 MW of commercial wind power in ISO-NE control area
– Approximately 186 MW of wind power went commercial in last year
– 2,453 MW of wind power in the Interconnection Queue (Includes non-FERC-jurisdictional projects requesting interconnection either to the lower voltage distribution system or areas external to ISO’s service territory)
Generators bid in the cost of their next unit of production. The market price is set at the intersection of the supply stack and demand. Every generator is paid that price for each unit of energy. The marginal costs of wind power are essentially zero with wind incurring no fuel costs; wind generators bid their price accordingly. More wind added to the grid shifts the supply stack (dotted supply curve) to the right (solid supply curve) when wind power is being produced. The result is a lowering of the clearing price from Price A to Price B.
According to ISO New England 2011 economic study updates this year, increasing wind from current 892 MW to 3926 MW of wind in the development queue (close to the collective 2021 New England RPS targets), LSE Energy Expense, roughly what load pays in the energy market, would decrease by $1 Billion per year.
Value of Wind in Hedging Energy Prices

Only renewable resources with their “free” fuel can provide an effective long term hedge against electricity price swings caused by the volatility in natural gas markets which generally set the price of electricity in New England.

State Procurement Policies

- 2013 SB1138: Class I LTC programs
- PA11-80: ZREC/LREC
- Connecticut
- Net Metering
- Maine
- Massachusetts
- Sections 83 and 83A
- New Hampshire
- Vermont: SPEED Program
- LTC & DG Statutes
Additional long term contracting for Class I resources can significantly lower the cost of energy. Longer amortization period lowers risks, which lowers the cost of capital for these projects.
Value of Long Term Contracts

Illustrative Impact of Expiring Federal Incentives, Revenue Stability on RE Premium (gap)

(Sample 50 MW Wind Farm)

- Longer terms can offset some of potential loss of Fed incentives
- Hedge Value, if prices increase (e.g. shale gas environmental constraints, carbon C&T, economic upturn)

Would accelerating targets &/or procurement minimize ratepayer costs? Does this opportunity expire with Federal incentives?

Sustainable Energy Advantage, CT RPS Webinar 4/4/11
Massachusetts Long Term Contracting Statutes

Massachusetts RPS and Renewable Contracts

- Mass. Class I RPS
- 2008 & 2012 Total Contracting
- RPS Tracking
- 2008 Act Target (3%)
- 2012 Act Target (4%)
Massachusetts Long Term Contracting Statutes

Source: Massachusetts DOER, June 2013
DEEP could use SB 1138 and ZREC/LREC procurements to match Massachusetts in having about half of 2016 RPS requirements met from projects under long term contract.
Siting

Connecticut Wind Moratorium; Wind Regulations (PA11-245) and changes in HB 6360

Maine Legislation on Wind Siting

Rhode Island: URI Acoustic Research


DEP Rules on Sound

Massachusetts

Wind Siting Reform Bills

New Hampshire: Wind Moratorium Bill Defeated; Siting Study

Federal Offshore