UNIVERSITY OF NEW HAMPSHIRE ENERGY CONFERENCE

June 21, 2008

IBERDROLA RENEWABLES

Background

- **World #1 in Renewable Energy**
- **USA #2 in Wind Power**
- **Global 100 Most Sustainable Companies**
- **10th Worldwide "Greenest Companies of the Decade" – *Business Week***
- **USA Operations – Rapid Growth**
  - **Acquired Community Energy 2006**
  - **Acquired Scottish Power/PPM Energy 2007**
  - **Based in Radnor, PA (East); Portland, OR (West)**
  - **New England Offices (Boston; Concord, Lempster, NH; Connecticut)**

U.S. Wind Power Growth

- Wind power is the fastest growing energy generation in the world
- 5,329 MW Wind Power US Installed 2007 → 46% Increase
  - Comparison: New Coal Installed Capacity 2007 =1,400 MW
- % of New Electrical Generating Capacity – Wind
  - 2000-2004: <4%
  - 2005: 12%
  - 2006: 19%
  - 2007: 35%
- 4,700 New Jobs in US Wind Power 2007
- Positive market drivers
  - Costs dropped dramatically over 25 years: $US 0.40/kWh in 1980 to 0.04-0.07 /kWh today
  - R&D advances, turbine designs, manufacturing improvements, operational improvements
  - Increased demand for clean, renewable energy
    - State RPS laws
    - Public and political support
    - Response to Global Warming
    - Reduce reliance on foreign energy sources

New Hampshire Prospects

- New England Wind Power Lags Behind Other Regions
- NH was home to the first commercial wind installation in the U.S. (Crotched Mountain)
- NH is home to the highest recorded wind speeds on record
- NH has a long history in renewable energy – hydropower, wood
- Utilities (PSNH, NHEC, National Grid) have been supportive of wind power
- Wind power can be an excellent "winter peaker" – producing more energy when winds are strong and prices are high.
- Positive Drivers
  - Demand for Green Power
  - Good Wind
  - Electricity Prices

New England Challenges

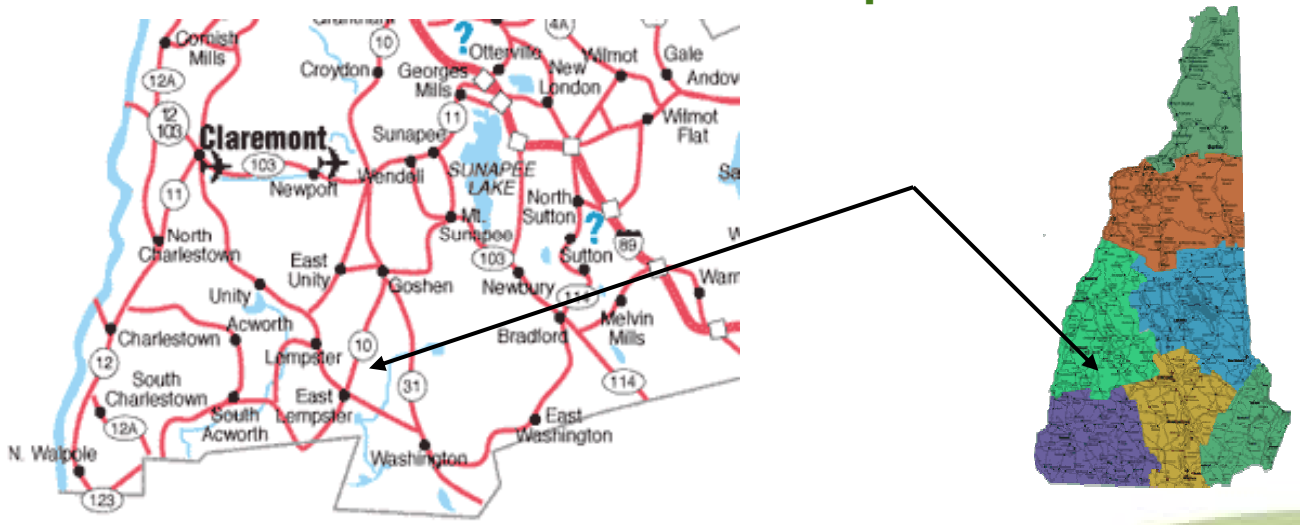
- Lack of Transmission
- Generally Smaller Projects
- Lack of Wind Industry Core Industry Experience
  - Design
  - Construction
  - Transport
  - Operations
- Expensive and Challenging Construction
  - Ledge
  - Ridgeline Grades
  - Climate
- Comparatively Expensive and Long Review and Approval Process

Projects

- U.S. 369 MW at 13 Projects Under Construction 2008
- New England
  - Lempster (NH) 24 MW – 2008 Operations
  - Hoosac (MA)
  - Deerfield (VT)
  - Additional Projects throughout New England

Case Study - Lempster

- **Lempster Mountain Wind Power Project, Lempster, NH**
  - **First utility-scale wind project in New Hampshire**
  - **24 MW Project - (12 Gamesa G87 2 MW turbines)**
    - **Wind Power to Supply approx. 11,000 average NH Homes**
  - **Interconnection → PSNH**
  - **Initial feasibility work 2003 → NH SEC Approval – June 2007**
  - **Construction start Dec 2007 → COD Sep/Oct 2008**



Case Study – Challenges

Bear Creek, PA

- Clearing the Educational Hurdle with Regulators
- NH Permitting for first wind project
  - NH Site Evaluation Committee
  - Process more suitable for large fossil fuel or nuclear

Case Study – Challenges

- Developing Something "new" in New England
- Outreach & Engagement
  - Public Meetings
  - Open Houses
  - Town Meetings
  - Bus Tours
  - Meetings with BOS, Planning Committee, Neighboring Towns

Civil Construction

Electrical Construction

Wind Towers Transport

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