

# Wind Issues in Vermont

- **Divided Communities** – Foreign corporations with government subsidies
  - Enel (Italy), Iberdrola (Spain), Gaz-Metro (Canada), Nordex (Germany)
- **Expensive Regulatory Process, Intervenors Consistently Ignored by PSB**
  - \$0 for Towns to participate in the Public Service Board process
- **Economics** – \$\$ to “host” town, neighboring towns get \$0 or token payments, and negative impacts
  - Confidential power costs
  - Selling Renewable Energy Credits (RECs) out of state, while getting credit for the SPEED program requirements
- **Aviation** – Interference with radar and safety issues for airports, gliders, hang gliders
- **Aesthetics** – Vermont’s landscape and “Unspoiled” “Beautiful” “Mountains”
  - Tourism and second home economic impacts have not been evaluated
  - Flashing red lights visible beyond 10 miles
- **Noise & Health** – PSB standard 45 dBA, a level that guarantees complaints
  - Infrasound – noise produced by wind turbines, not regulated
  - Sleep disturbance, nausea, vertigo, headaches, increased blood pressure
- **Setbacks from Property Lines** – National norm is 1.1x total height, 1.5x for ice throw. Vestas recommends 1300 foot setbacks.
  - 188 feet permitted on Georgia Mountain for 420 foot tall turbines
  - 196 feet permitted on Lowell Mountain for 459 foot tall turbines (adjoining property owners sued by wind developers in both cases)
- **Shadow Flicker** and reflection/glare
- **Safety Issues** – Blade throw, ice throw, collapse, fire
- **Land Access** – Posted land around turbines
- **Property Values** – Lempster NH – dozens of homes for sale around wind project, home sales in Sutton VT chilled
  - Clarkson Univ. study – 17% property value decline in 2 of 3 NY counties
- **Technology Failures**
  - Clipper Turbines known to be a flawed design – Sheffield/First Wind
  - Gearbox failures regardless of manufacturer at 5 – 7 years
  - Danes acknowledging lifespan is 10 - 15 years, not 20 - 25

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- **Environmental & Natural Resource Impacts**
  - Bears
  - Birds
  - Bats
  - Wildlife
  - Habitat fragmentation
  - Connectivity
  - High Altitude Forests
  - Carbon sequestration
  - Headwaters
  - Wetlands
  - Water Supplies
  - Sensitive Soils
  - Steep Slopes
  - Blasting
  - Stormwater Runoff
  - Iron Floc, Oil
- **Intermittency & Claims about number of homes powered**
  - Until we have storage, intermittency is an issue
  - Electric cars promise storage, not yet affordable
  - Claims about # of homes powered based on nameplate, not actual output
- **Grid Integration Issues**
  - Grid constraints – curtailment when electricity not needed or cannot be integrated into the system
  - GMP must do \$10 million upgrade, cost not factored into PSB review
- **Lack of Independent Monitoring for Noise, Wildlife and Water Impacts**
- **Lack of Transparency**
- **Adequacy of Decommissioning Funds & Plans**
- **Lack of Planning for Statewide & Cumulative Impacts**
- **Do Wind Turbines in New England Reduce Fossil Fuel Consumption and Greenhouse Gas Emissions?**
  - Northern New England wind projects competing with other renewables like biomass and hydro
  - Producing electricity when there is no demand. Solar better match to shave peak load.
  - Oil, coal and nuclear being displaced by natural gas
    - Coal plants run infrequently, primarily when cold and natural gas price is high
    - Oil usage for electric generation was .6% in 2011, sometimes needed for reliability
    - Coal and nuclear are baseload plants that do not ramp
  - Most efficient natural gas plant in the ISO-NE system is inefficient when it ramps in response to wind
    - NE grid has no flex natural gas generators designed to ramp efficiently
  - \$2 billion has been spent to built 767 MW of big wind in New England at less than 30% capacity factor or about 200 MW of power with 5% reliability factor and no demonstrated fossil fuel and greenhouse gas emission reduction.