

# Article 2 – Wellfleet Wind Turbine Funding Authorization

Special Town Meeting

October 26, 2009

# Wellfleet Wind Turbine - Background

- **2005:** From among several sites, the Energy Committee identifies a 220-acre Town-owned parcel in Wellfleet-by-the-Sea, west of Ocean View Drive, as most promising for wind energy production.
- **November, 2006:** “Met tower” installed to obtain wind measurements, through February, 2008.
- **August, 2008:** Feasibility study completed by Black & Veatch corporation.
- **July, 2008:** the **Massachusetts Green Communities Act** is passed, providing for “net metering” of larger-scale renewable energy facilities, with rates of reimbursement tied to the retail electricity rate. Goes into effect on 12/1/09.
- **April, 2009:** zoning by-law change to accommodate “utility-scale” wind turbines on Town-owned land in CCNS.

# What's happened since Spring Town Meeting

- **Interconnection application** for NSTAR is prepared and ready for submission.
- **Clean renewable energy bonds (CREBS)** application prepared and submitted (for low interest financing).
- **Request for Proposal (RFP)** for engineering design and permitting support was prepared and published; proposals were received and evaluated and a candidate chosen.
- **Regulatory research and financial projections** completed.
- **Wildlife Assessment and Monitoring Committee** has been established.
- **Flicker and Acoustic Studies** have been completed. **Photo-simulations** study is in progress.
- **Presentations** to Board of Selectmen, Finance Committee, Wellfleet Forum, and members of the press. Outreach to residents of Wellfleet-by-the-Sea.

# Wellfleet Wind Turbine – Project Overview

- A single 1.5 megawatt-class wind generating turbine at the Wellfleet-by-the-Sea site
- A tower 262' tall, with a maximum “tip height” of 397'.
- Sited over 2200' from the closest residence and 2500' from Ocean View Drive.
- Generating electricity that will be fed into the “grid” by an upgraded connection along Ocean View Drive to the Gross Hill Substation.
- Compensated according to the “net metering” provisions of the Massachusetts Green Communities Act of 2008.

# Financial Costs and Benefits

- We estimate is that the total cost of design, permitting, procurement, and construction will be about **\$4.8 million**.
- According to our conservative estimates, the Town will receive a **minimum average yearly *net revenue* of about \$250,000**, or a return on investment (ROI) of about 5%.
- For comparison, the Town's current annual municipal expenditure on electricity is about \$185,000 – the revenue from the turbine would more than cover the Town's municipal electricity cost.
- We expect that the project will be “**cash-flow positive**” within **about 1 year** of the start of production.
- The expected tax increase for the entire project would be approximately \$19 per year for a property assessed at \$450,000, and that increase would last only two or three years, until the project becomes cash-flow positive.

# Summary of Project Benefits

- A **revenue-generating resource** for the town.
- A **fiscal management tool**: it provides a mechanism to insulate the town from the unpredictable volatility of electricity rates – the revenue from the turbine will move in tandem with the changes in retail electricity rates.
- A small, but important, **contribution towards “green”, renewable energy production**. The estimated output of the turbine equals the use of about 700 residential consumers .

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Item 1: A **SITE SURVEY** of the turbine site is an immediate requirement to move forward with environmental reporting (Mass Natural Heritage and Endangered Species Act compliance), as well as for preparation of engineering documents and the geotechnical study.

Maximum cost: \$10,000.

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Item 2: Cost of NSTAR's **IMPACT ANALYSIS** (part of the “interconnection application” process).

This analysis will identify the work and associated costs, for NSTAR's required upgrade of the electrical service from White Crest Beach to the Gross Hill Substation, and for other NSTAR work to perform the interconnection.

Maximum cost: \$25,000.

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## Item 3: Cost of **WILDLIFE and AVIAN ASSESSMENT and MONITORING.**

Planning for this task will be performed with the guidance of our wildlife advisory group:

- Bob Cook, *Cape Cod National Seashore*
- Bob Prescott, *Wellfleet Audubon Sanctuary*
- Hillary Greenberg, *Wellfleet Conservation Agent*
- Peter Stewart, *Wellfleet Energy Committee*

Maximum cost: \$45,000.

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Item 4: Contract for **ENGINEERING, DESIGN, and PERMITTING SUPPORT** . The contracted firm will prepare necessary documentation and specifications for a “bid package” for procurement and construction of the facility, and assist in permitting and environmental due diligence. This includes “geotechnical” analysis of the proposed construction site.

Maximum cost: \$210,000.

# Wellfleet Wind Turbine – Project Schedule

- Begin Wellfleet Special Permit application and hearing process, and continue public outreach and education, January, 2010
- Publish the request for bids for procurement and construction: February/March, 2010
- Request authorization to borrow for procurement and construction: Spring Town Meeting, April, 2010:
- Award procurement and construction contract and begin construction: June, 2010.
- Complete construction and commission the facility: August, 2011.

# Wellfleet Wind Turbine – Proposed Site

