

Local Groups Plan Feasibility Studies On Viability, Access To Wind Energy

By NADIA C. HARMSSEN

A few organizations in Falmouth are trying to decide whether wind energy will be the future for Falmouth.

The town's wastewater treatment plant, Falmouth Hospital, the Woods Hole Research Center, and Webb Research Corporation are interested in using wind energy to power their facilities.

Good wind areas cover six percent of the continental US but those areas have the potential to supply more than one and a half times the current electricity consumption for the country, according to the US Department of Energy.

Cape Cod is considered a strong area for the use of wind energy and some Falmouth groups are trying to take advantage of the financial and environmental benefits of this and other types of renewable energy.

The wastewater treatment project's feasibility study is well underway.

Initiated by the Falmouth Energy Committee and with the help of the Massachusetts Technology Collaborative and its partner, the Renewable Energy Research Lab at UMass Amherst, a 40-meter anemometer tower was installed at the plant in the spring.

The collaborative and the UMass energy lab have been providing an array of assistance to towns and organizations interested in clean energy.

The purpose of the tower is to gauge whether the amount of wind at the treatment plant is sufficient to power a wind turbine.

So far, data has only been collected for the summer months, recording an average wind speed on the moraine of 10.9 miles per hour, but wind speeds are expected to be higher in the winter.

For the wind turbine to be economically advantageous, an average wind speed of 14.5 mph is required, said Meghan C. Amsler, co-chairman of the committee.

Data collected at the treatment plant is sent to the UMass energy lab, where it is analyzed by graduate students.

The committee is waiting for reports on data collected through November, Ms. Amsler said.

Turbines' generating capacity ranges from 50 kilowatts to several megawatts.

The committee is looking to install a 660-kilowatt turbine at the plant, measuring 164 feet in height.

Wind energy would allow the plant to produce electricity on-site, saving the town 11 cents per kilowatt hour, cutting the price per kilowatt from 14 cents to three cents.

Anemometer Towers, Computer Modeling Used To Determine Wind Speeds

However, the committee is looking into another form of wind data collection called Sound Detection and Ranging System, or SODAR.

The anemometer tower at the treatment plant is 40 meters, or 131.2 feet, and the wind turbine will measure 164 feet. "There is a 20 percent margin of error in the data collected in the anemometer tower," Ms. Amsler.

The SODAR equipment can gather more accurate data at 164 feet and will complement the anemometer data.

UMass owns the only SODAR machine in the state and there is a waiting list for its use, Ms. Amsler said.

The energy committee would like to approach the town with the results of its year-long study at the November town meeting but also plans to have meetings for residents to share comments and concerns, Ms. Amsler said.

Falmouth Hospital is taking a different approach to its feasibility study, which began in November.

It has hired Boreal Energy of Acton to assist in the hospital's study and will use computer modeling instead of a tower, said David T. Reilly, director of marketing and communications for Cape Cod Healthcare Inc.

Computer modeling uses meteorological history to determine wind speeds.

The hospital applied for a \$40,000 grant from Massachusetts Technology Collaborative to pay for the feasibility study. The grant was approved in September.

The hospital contributed \$5,000 to help with the study.

The 12-week study should be finished at the end of January or the beginning of February.

The Woods Hole Research Center, on Woods Hole Road, will try to take advantage of two natural resources for supplying energy. The center plans on adding solar panels on the roof, which will supply one-third of the energy needed for the center. In addition, a feasibility and an environmental impact study for the purposes of a wind turbine have been completed, said George M. Woodwell, director of the center.

The research center is looking to erect a 100-kilowatt wind turbine in front of the building, on the highest ground, Mr. Woodwell said.

"We are researching turbine prices and funding for the project and hope to sort out the details within the next month," said Mr. Woodwell.

Webb Research at the Falmouth Technology Park is also looking into wind energy.

The company applied for a grant to fund a feasibility study from the collaborative in September and received notification of the grant's approval in November.

The study has not begun, according to Daniel H. Webb, who said the company has been looking into wind energy for about a year.

"We are deciding on whether to use a tower or computer modeling," Mr. Webb said.

If it is economically feasible for the company to install a turbine, it will look to sell energy to three companies in the technology park.

Falmouth Academy was also looking into a feasibility study and applied for a grant in the fall of 2003 but its grant was not approved by the collaborative, said Richard A. Sperduto, director of maintenance at Falmouth Academy.

Mr. Sperduto will be looking