Since earliest recorded history, wind power has been used to move ships, grind grain, and pump water. Today, wind power is also being used to provide electricity to homes, schools, businesses, and entire communities. More than half the United States have wind resources that could support the development of utility-scale wind power plants.

As anyone that has hiked the Green Mountains can attest, there is often a strong wind blowing across Vermont. This wind is a great resource for the state and has the potential for generating a significant amount of electricity. The Department of Public Service together with Green Mountain Power Corporation, NRG Systems, and Vermont Environmental Research Associates conducted a wind resource assessment for Vermont. The goal of this project was to gather wind resource data that would further the development of wind energy projects in the state. This project measured wind speeds at four sites throughout the state—Mt. Mansfield, Burke Mountain, Grandpa's Knob, and Searsburg. The National Renewable Energy Laboratory (NREL) created a wind resource map from the wind data collected. This map can be viewed on the World Wide Web at: http://www.cit.state.vt.us/psd/ee/wind/ee-wind.htm

Throughout the state homeowners have installed wind turbines to power their homes and businesses. The state is also home to the Searsburg Wind Facility˜a 6-megawatt commercial wind project operated by Green Mountain Power.

Vermont has two different incentives to encourage the installation of small-scale wind turbines; net metering and a sales tax exemption.

Net Metering

The concept of net-metering programs is to allow the electric meters of customers with generating facilities to turn backwards when their generators are producing more energy than the customers' demand. Net metering allows customers to use their generation to offset their consumption over the entire billing period, not just instantaneously. This offset would enable customers with generating facilities to receive retail prices for more of the electricity they generate.

Any electrical utility customer in Vermont can net meter once they have obtained a Certificate of Public Good from the Public Service Board. Vermont's net-metering law caps the size of net-metering wind generators at 15 kW of generation.

Utilities must allow net-metered systems on a first-come, first-serve basis to all customers until the cumulative generating capacity of all the net-metering systems on its lines equals 1% of the company's peak demand during 1996.

You can download a net metering application from the web at: http://www.state.vt.us/psd/ee/wind/ee_wind.htm, or you can contact the Public Service Board at (802) 828-2358.

State Financial Incentives

As of July 1, 1999, all equipment purchased to construct and install a net-metered renewable energy system, including wind turbines, is exempt from the state's 5% sales tax. This 5% savings in the cost of a net-metered system provides

What is the installed wind energy capacity in the United States?

By January 2000, the total U.S. installed wind energy capacity was 2500 MW. (See http://www.awea.org/faq/instcap.html) That's enough electricity to meet the needs of 600,000 to 800,000 typical U.S. homes.

WIND POWERING AMERICA

Vermont

Additional Resources

National Renewable Energy Laboratory
National Wind Technology Center
1617 Cole Boulevard
Golden, Colorado 80401
(303) 384-6979
www.nrel.gov/wind

U.S. Department of Energy
Boston Regional Office
JFK Federal Building, Room 675
Boston, Massachusetts 02203
(617) 565-9712
fax: (617) 565-9723

U.S. Department of Energy
Wind Energy Program
Forrestal Building
1000 Independence Ave., S.W.
Washington, D.C. 20585
(202) 586-5348
www.eren.doe.gov/wind

American Wind Energy Association
122 C Street, NW, 4th Floor
Washington, D.C. 20001
phone (202) 383-2500
fax (202) 383-2505
www.awea.org

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Vermonters with an extra incentive to produce their own green power.

The Vermont Department of Public Service has compiled a directory of Vermont businesses that sell and install wind turbines. You can access the directory at: http://www.state.vt.us/psd/ee/wind.htm

Another good resource is the Department of Public Service's Energy Efficiency and Renewable Energy web site: http://www.state.vt.us/psd/ee/ee.htm

Green Power

"Green power" is power produced by renewable or environmentally friendly energy sources, as distinct from power produced by fossil fuel, nuclear, and other types of generators. Customers can arrange to purchase a certain amount of green power (actually energy, in kilowatt-hours [kWh]) per month, for which they commonly pay a small premium to completely or partly offset any higher cost of renewable power sources. The policy of transferring these costs to green power customers is called "green pricing."

In Vermont, the Green Mountain Power project at Searsburg will provide green power to more than 2,000 homes. The project consists of eleven 550-kW Z-40FS (full-span) turbines that are expected to generate about 14 gigawatt-hours (GWh) of electricity a year in normal wind conditions, thereby reducing greenhouse gas emissions by 22 million pounds a year.

State Summary

Installed—6 megawatts (MW)

Planned—5 MW

In-StateWind Energy Potential:
2,877 MW capacity after land use and environmental exclusions
5 billion kWh per year electric energy

Installed Projects

Searsburg—6-MW installed capacity, 13.3 million kWh annual energy output (1998), power purchased by Green Mountain Power, Zond turbines.

Key Contacts

Andrew Perchlik
Vermont Department of Public Service
Energy Efficiency Division
112 State Street, Drawer 20
Montpelier, Vermont 05620-2601
(802) 828-4072
perchlik@psd.state.vt.us