Wind Powering America

Clean Energy for the 21st Century

Deregulation of the utility industry, improvements in the cost and reliability of wind turbines, and the existence of a favorable wind resource has placed New York on the threshold of a substantial increase in wind development activity. To foster increased wind development, the New York State Energy Research and Development Authority (NYSERDA) and the Public Service Commission, are aggressively encouraging the development of wind through a multi-faceted program. The program includes: using a state-of-the-art model to characterize New York's wind resources, developing forecasting and mapping tools to maximize the value of wind energy, sharing the risk with wind power plant developers on site evaluation and wind power plant development, and investigating barriers facing wind development.

Potential for Wind Energy in New York

New York State has a tremendous potential for wind development. Excluding environmentally sensitive areas, it is estimated that New York has a wind resource that can support the installation of 5000 MW of wind capacity at sites

with Class 3 or better wind resources (>14.3 mph at 165 ft above ground).

A web-based map of New York's wind resources should be available in late summer 2000 at www.truewind.com. This wind map will be generated using MesoMap, the most sophisticated wind resource mapping model available today.

Wind Prospecting

There are many sites across the state ready for active development. The cost of locating desirable sites, collecting site-specific wind data and conducting preliminary environmental impact reviews can be prohibitive to some developers. Through a competitive solicitation, NYSERDA will share the risk of early site development to bring a project to the point of financing and commercialization.

Wind Resource Characterization and Forecasting

NYSERDA is co-funding a project to develop a wind forecasting service (eWind) and a computer program to generate wind maps (MesoMap). Both eWind and MesoMap are based on MASS, a state-of-the-art numerical weather model, customized to increase resolution and account for important meteorological phenomena affecting near-surface winds.

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.

New York

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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The eWind forecasting service will provide accurate, dependable and convenient short-term wind forecasts for wind plants. MesoMap is already being used to produce state-of-the-art wind atlases around the world.

Power Plant Development

NYSERDA is working with three firms to support the construction of grid-connected wind power facilities. The Town of Madison on U.S. Route 20 (see the simulated picture) near Utica, will be home to the first merchant wind power plant in the East. Being built by PG&E Generating, this 11.5 MW facility on a farm in central New York, illustrates the value of wind energy to not only the green power market but as an asset to keep the small farm profitable. Two additional projects are under development in cooperation with NYSERDA: a 7.5 MW, or greater, facility will be built on a farm in central New York and a 10 MW facility is planned for a location in the western part of the state.

In an additional project, Niagara Mohawk Power Corporation is partnering with Western New York Wind Corporation to construct a 6.6 MW wind facility in Wyoming County, also located in the western part of the state. The plant will be constructed and operated by Vestas-American Wind Technology, and will consist of 10 Vestas V47 turbines. Following construction, which is planned for summer 2000, the plant will be owned by Western New York Wind Corporation.

Transmission Access

NYSERDA is co-funding a study to investigate and evaluate transmission solutions for interconnecting wind power plants in areas of New York State with inadequate electric transmission grids. The study will address permits required for installing transmission lines, required interconnection procedures, contractual arrangements with transmission owners, and transmission and capacity pricing options.

Wind for the Consumer

NYSERDA will be partnering with firms to install high-value photovoltaic and wind power generation systems. High-value applications are those where the intrinsic benefits of the systems justify their installation over other energy sources. Specific program objectives include demonstrating photovoltaic and wind systems to serve user needs where grid electricity is limited or not available, and promoting the development of customer or cooperative-controlled wind systems for local use or grid support.

WINDPOWER NEW YORK

Wind Power New York is a project of the American Wind Energy Association (AWEA) working in New York and surrounding states to promote wind energy development through public education, legislation, and changes to state agency rules and electric utility policies.

State Summary

Total—18.1 MW

Planned—17.5 MW

In-State Wind Energy Potential: 8400 MW capacity after land use and environmental exclusions

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