



The following describes the status of wind energy in New York, the U.S., and the world.

Growth of the Wind Energy Industry

- Total worldwide wind capacity today is approximately 17,000 MW, enough to generate about 34 billion kilowatt-hours of electricity each year. This is about the same amount of electricity as 4.5 million average New York households (containing 12 million people) use.

- Wind energy was the world's fastest-growing energy source during most of the 1990s, expanding at annual rates ranging from 25% to 30%. Last year, about 3,000 MW of new wind capacity (\$3 billion investment) was installed around the world, but only 53 MW of that total was installed in the U.S. However, AWEA expects as much as 2,000 MW to be added in the U.S. alone during 2001.

- Leading states in terms of installed wind capacity today are California (1,646 MW), Minnesota (272 MW), Iowa (242 MW), and Texas (188 MW).

- U.S. wind potential is vast--many times the amount installed. New York's potential, for example, is conservatively estimated at 5,000 MW of wind capacity.

Market Drivers Behind Wind Energy's Growth

(1) **Federal government policy:** The federal government provides a tax credit of 1.5 cents per kWh (adjusted for inflation) for electricity generated by a wind plant during its first 10 years of operation. This credit is intended to "level the playing field" for wind, which must compete with other energy industries that receive billions of dollars in federal subsidies each year. **The wind energy credit will expire at the end of this year unless it is extended by Congress.**

(2) **State government policy:** Several states, as part of electric utility restructuring legislation, have enacted policies to encourage clean energy sources like wind. The state of Texas, for example, has passed a law requiring the construction of 2,000 MW of renewable energy generation by the year 2009, of which wind is expected to capture a major share. New wind projects of 160 MW, 208 MW, and 82.5 MW have been announced in Texas within the past few months.

(3) **Declining costs:** The cost of producing electricity from wind energy has declined by more than 80%, from about 38 cents per kilowatt-hour in the early 1980s to a current range of 3 to 6 cents/kWh (levelized over a plant's lifetime). In the not-too-distant future, analysts believe, wind energy costs could fall even lower than most conventional energy sources, reaching an unsubsidized cost of 2.5 cents/kWh.

(4) **The green power market:** As the electricity market becomes more competitive, utilities and other power suppliers are looking for ways to differentiate their products. One of the best ways to do that is to offer "green power"--electricity from clean energy sources like wind--at a premium price. Today, more than 190 utilities nationwide are selling wind-generated electricity as part of

green power programs, and consumer demand for green power (even though still very small) is beginning to result in the building of new wind power projects like the ones in New York and Pennsylvania.

Clean Energy Policy Options in New York

Renewables Portfolio Standard (RPS): Eight states, including Texas, Massachusetts, New Jersey, and Connecticut, have established RPS policies that gradually increase the amount of renewable energy in the electric power mix. Electricity retailers would satisfy this requirement by purchasing electric power generated by wind, solar, and biomass renewable energy generators. The RPS encourages renewable energy investment by reducing the uncertainty regarding growth in retail electric demand for renewables. **The New York legislature should enact an RPS.**

Small Wind Net Metering & Tax Credit: AWEA supports legislation to create net metering and a tax credit for small wind turbine owners. Net metering optimizes the value of wind for both the landowner and the electric system by providing landowners and farmers a reduction in their electric bills for wind energy supplied to the local power grid. The tax credit would help get a small wind industry started in New York by reducing the upfront capital costs during the early period of small turbine market development.

Benefits of Wind Energy Development in New York

- Wind energy provides both environmental and economic benefits.

- Windy counties in central and western New York can be expected to profit from wind development through:

(1) **Tax Payments:** Every 100 MW of wind development generates about \$1 million in property tax revenue. New York could see 2,000 MW by 2010 with aggressive RPS and SBF policies. This would mean \$20 million annually in tax revenues to rural communities.

(2) **Jobs:** Every 100 MW of wind development creates about 500 job-years of employment. Installation of 2,000 MW in New York would result in 10,000 job-years.

(3) **Payments to landowners:** The development of 2,000 MW in New York would mean annual payments of approximately \$4 million to farm and forest landowners.

(4) **Stable electricity prices:** A recent study (January, 2000) found Iowa's electric utility customers could save over \$300 million over a 25-year period if a proposal to meet 10% of the state's electric demand through wind energy is adopted. The savings result because the cost of fossil fuels is expected to rise over time, while wind's costs decline.

(5) **Reduced emissions of pollution and greenhouse gases:** A single 660-kW wind turbine will displace emissions of 1,100 tons of carbon dioxide (the leading greenhouse gas), 6 tons of sulfur dioxide (the leading component of acid rain), and 4 tons of nitrogen oxides (the leading component of smog) every year, based on the U.S. average utility fuel mix. 375 acres (more than half a square mile) of forest would be needed to absorb the same amount of CO₂.

Quotation

"The Public Service Commission's decision will continue to propel New York into a position of leadership in the eastern U.S. in the use of this clean, renewable energy technology. This is the kind of forward thinking that is needed to provide for a secure energy supply, support economic growth, and preserve the environment."—Tom Gray, AWEA Communications Director.