

Wind Farming

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Wind Farming

"What I miss most is the morning."

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Harvesting the Wind

Current Installed Wind Power Capacity (MW)

- NYS gov't. supports the production of energy using non-carbon emitting processes.
- NYS ranks 10th in the nation in existing capacity to produce energy and 13th in the nation in potential to produce energy. (Texas and California lead the nation.)
- In 2011 just over 2% of all NYS power was produced by wind.

http://www.windpoweringamerica.gov/wind_installed_capacity.asp

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Average Annual Wind Speed

New York Annual Average Wind Speed at 50 m

Source: Wind resource estimates developed by AWS Truepower, LLC for windpoweringamerica.com. ©2012. Data provided by wind resource data 2.5 km. Projection: UTM Zone 18 WGS84.

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Maple Ridge Wind Farm Tug Hill Plateau

Tug Hill Plateau

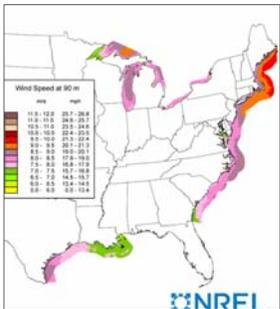
Wind turbine towers are 260 ft high and have three 130 ft long blades.

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Maple Ridge Wind Farm

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Offshore Wind Power Potential



NYS has the coastal zones of both the Atlantic Ocean and Great Lakes as sites to create power from wind.

Its area of greatest potential is off the south shore of Long Island.

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Buffalo's Lake Erie Waterfront



Unimpeded westerly winds off Lake Erie provide a steady source of wind power.

Buffalo Waterfront

An Old Steel Mill Retools to Produce Clean Energy



Giant windmills at a farm known as Steel Winds turn on an old slag pile at the Bethlehem Steel site in Lackawanna, N.Y., south of Buffalo. Largest wind farm to be built within an urban area.

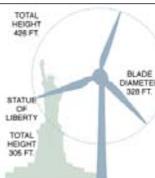
Source: NY Times May 22, 2007

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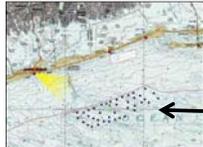
Cancelled Offshore Long Island Wind Farm Proposal

Power From Wind

The Long Island Power Authority plans to put 35 to 40 windmills between 2.5 and 6 miles off the coast of Long Island. It has identified a recommended siting area of 52 square nautical miles, within which the 5-square-nautical-mile project would be located. The windmills, which would dwarf the Statue of Liberty, would be visible from shore under many weather conditions.



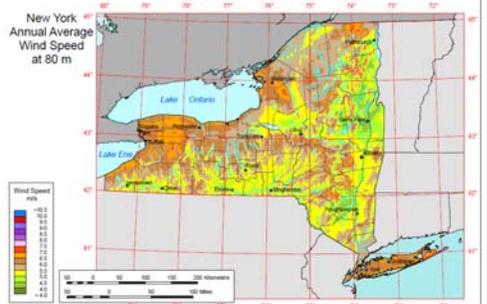
Plan was to place up to 40 windmills 3-6 miles offshore.



Source: NY Times 5/2/04

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Average Annual Wind Speed



New York Annual Average Wind Speed at 80 m

Source: Wind resource estimates developed by AWS Truepower, LLC for windenergy.com. Data resolution of wind resource data: 2.5 km. Prepared: 12/26/2008.

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Wind Potential Calculator

- <http://nyswe.awstruepower.com/>
- Choose any location in NYS.
- Click "Generate Report".
- Select Customer Report.
- Add made up landowner name/location.
- Click "I agree" and click "Submit".
- Chart shows wind speed and energy potential.
- Wind rose shows predominant wind direction.
- **Exercise 9 (extra credit) focuses on wind energy.**

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