

Question of the Day

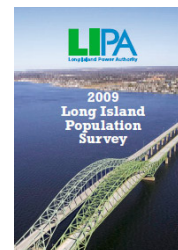
Proving Long Island with Power

Local generation?
Non-traditional generation?

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LIPA Population Survey

- <http://lipower.org/pdfs/company/pubs/popsurvey/popsurvey09.pdf>



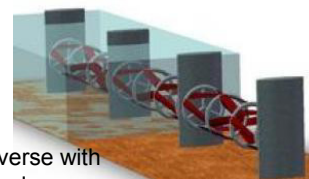
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Solar Energy



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Tidal Power



Generators reverse with
tidal flow. Placed across
a narrow channel.

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Wave Power

- **Point absorbers** are buoy-like cylinders that bob on the ocean's surface. The motion of the waves moves a piston inside the cylinder, which creates hydraulic pressure that drives a turbine.

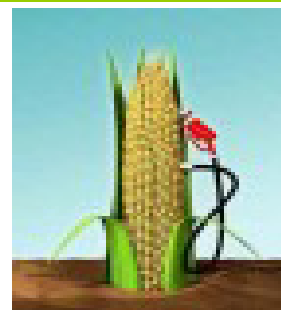
Overtopping devices generate electricity in the same way as a traditional hydropower dam: by collecting water in a reservoir and then releasing it through Wave Power Generation turbines. Resembling a letter C floating on the ocean's surface, the overtopping device consists of a concrete ramp and two steel wave-reflecting arms, which direct a maximal amount of seawater up the ramp and into a holding tank. The water then flows down through turbines as it is released from the holding tank back into the ocean.

Attenuators, or "heave-surge" devices, are long, segmented structures (resembling a snake) that float parallel to the direction of the waves. The motion of the waves causes the joints between segments to flex, driving internal hydraulic pumps that, in turn, power a turbine.

Oscillating water columns consist of partially submerged, nearly vertical tubes with openings at the top and bottom. As waves enter the underwater opening at the tube's base, they compress the air inside the tube, forcing it up through a turbine at the top. As the waves retreat, air is sucked back into the tube's upper opening and down through the turbine, generating more electricity.

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Biofuels



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Wind Farming

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Wind Farming



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Wind Power on Long Island

- Historically windmills on Long Island played a significant role in graining grain for both the Dutch and the English



Bebe Windmill



Gardiner's Island windmill

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Harvesting the Wind

- NYS supports the production of energy using non-carbon emitting processes.
- NYS ranks 11th in the nation in existing capacity to produce energy and 15th in the nation in potential to produce energy. (Texas and California lead the nation in both categories.)
- Long Island has the potential to produce energy from the wind.

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Maple Ridge Wind Farm

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



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Buffalo, NY Waterfront

An Old Steel Mill Retools to Produce Clean Energy

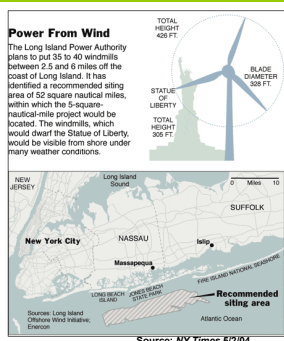


Giant windmills at a farm known as Steel Winds turn on an old slag pile at the Bethlehem Steel site in Lackawanna, N.Y., south of Buffalo. Largest wind farm to be built within an urban area.

Source: NY Times May 22, 2007

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Offshore Long Island Wind Farm Proposal



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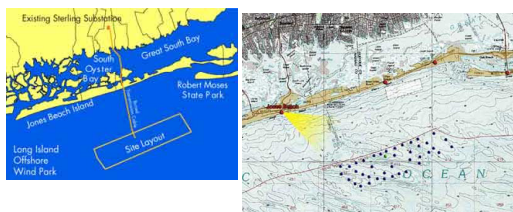
Line of Offshore Wind Turbines



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Proposed Offshore Windmills (now cancelled)

Offshore of Jones Beach and Long Beach Island



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Wind Potential Calculator

- <http://nyswe.awstruepower.com/>
- Zoom in on Long Island to see town names.
- Choose any location on Long Island.
- Click "Generate Report".
- Select Customer Report.
- Add a made-up landowner name/location.
- Click "I agree" and click "Submit".
- Chart shows wind speed and energy potential.
- Wind rose shows predominant wind direction.

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