

# Success Stories – Siting Renewable Energy on Contaminated Land

## Steel Winds, Lackawanna, New York

### Development of Wind Power Facility Helps Revitalize Rust Belt City



EPA is encouraging the development of renewable energy by identifying current and former contaminated land and mining sites that present opportunities for renewable energy development. This site demonstrates the benefits of siting renewable energy on contaminated land.

#### Site Description

The former Bethlehem Steel Company (BSC) facility in Lackawanna, New York, sat idle for over 20 years. The closure of this steel mill, situated on 2.2 miles of lakefront property on Lake Erie approximately six miles south of Buffalo, symbolized the area's economic downturn.

#### Property History

For almost 80 years, Bethlehem Steel operated on the shores of Lake Erie. Lackawanna was the center of U.S. steel production in the early 20th century. At the height of steel production, the steel mill employed over 20,000 people. By the second half of the century, the massive decline of U.S. steel production led to the mill closing in the mid-1980s—leaving thousands unemployed and a 1,600-acre, blighted and contaminated site in its wake. The entire site became the subject of an EPA Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) in the 1990s.

Concerns regarding environmental liability and financing hindered the site's cleanup and redevelopment for nearly two decades. In the early 2000s, changes in New York State and federal environmental laws provided financial and legal incentives to investigate and remediate contaminated sites and return them to productive use. These legislative changes, coupled with a study published by the University of Buffalo identifying the waterfront surrounding the mill site as a potential source of wind energy development, created interest in a 30-acre tract along the waterfront within the RCRA site by two energy companies, BQ Energy and UPC Wind (now Apex Wind Energy, Inc. and First Wind, respectively). In 2006, EPA declared the 30-acre tract clean enough for wind development, pending further investigation and cleanup, if needed. The tract was removed from the RCRA program and placed under the New York State Brownfields Cleanup Program (BCP), allowing developers to benefit from the Program's financial and technical assistance. Collaborating through the BCP, developers and the state removed several inches of contaminated soil, placed a protective soil cap, and installed ground water monitoring wells over the entire 30-acre tract. Additional protective design measures included planning the wind turbine locations to accommodate both the monitoring wells and future ground water cleanup, if needed.



Steel Winds I – generating 20 MW

#### QUICK FACTS:

<b>Location:</b>	EPA Region 2, Erie County, NY
<b>Property Size:</b>	30-acre tract within 1,600-acre property
<b>Site Ownership:</b>	Tecumseh Redevelopment Inc.
<b>Former Use:</b>	Steel mill
<b>Cleanup Type:</b>	RCRA Corrective Action/Brownfields
<b>Contaminants:</b>	Steel slag and industrial waste
<b>Type of RE:</b>	Utility Wind
<b>RE Capacity:</b>	35 MW (Steel Winds I and II)
<b>Project Cost:</b>	\$34 million (Steel Winds I)
<b>Key Partners:</b>	EPA, New York State Department of Environmental Conservation, City of Lackawanna, Town of Hamburg, BQ Energy (now Apex Wind Energy, Inc.), UPC Wind (now First Wind), Clipper Wind
<b>Current Status:</b>	Operational

#### PROJECT HIGHLIGHTS:

- 30-acre tract on Lake Erie now houses 14 wind turbines with a capacity of 35 MWs.
- Winner of Power Engineering Magazine's 2007 Best Renewables Project of the Year award.
- The project's state-of-the-art, 2.5 MW wind turbines were domestically manufactured by Clipper Liberty Wind in Cedar Rapids, Iowa.
- Financed through a partnership among private investors, an electric utility, and local and state governments.
- Created five permanent green jobs and 140 construction jobs in an area with high unemployment.

# Success Stories – Siting Renewable Energy on Contaminated Land

## Steel Winds, Lackawanna, New York

### Development of Wind Power Facility Helps Revitalize Rust Belt City



#### Renewable Energy Development

Teaming up with developers, the City of Lackawanna designed a two-phased project, called “Steel Winds,” to transform the 30-acre tract along Lake Erie into a progressive, renewable energy landscape. The project’s first phase, Steel Winds I, was completed in June 2007—creating eight operational wind turbines with a capacity of 20 megawatts (MWs). In lieu of property taxes, First Wind will make a \$100,000 annual payment to the City of Lackawanna and Town of Hamburg’s general funds—helping them to provide a solid economic foundation for residents.

The project’s second phase, Steel Winds II was completed in February 2012. During this phase, First Wind installed six additional, 2.5-MW wind turbines—four in the Town of Hamburg and two in Lackawanna—bringing the project’s total capacity to 35 MWs. Along with creating approximately \$190,000 in annual tax revenues for local communities and school districts, the 14 wind turbines will generate enough electricity to power approximately 15,000 homes in western New York. The power generated at Steel Winds is sold as renewable energy certificates to local utility Constellation New Energy, to help meet its renewable energy obligation under New York’s renewable portfolio standard, which mandates that 30% of New York’s electricity be generated from renewable energy sources by 2015.

Harnessing the wind along the shores of Lake Erie, Steel Winds is a symbol of economic renewal of a long-dormant industrial region and a source of great pride for local communities. Steel Winds is driving the transformation of the entire former industrial waterfront along Lake Erie—most of the former 1,600-acre steel mill site has now been redeveloped. A community center, commerce center, a 1,100 MW clean burning power plant, and a 110-acre greenway and bike trail are in place; and other redevelopment projects, including a solar facility, are being considered—bringing businesses, local residents, tourists and recreational enthusiasts back to the area’s waterfront.



Construction of Steel Winds II



Steel Winds II – generating 15 MW



Greenway and bike trail surrounding Steel Winds

*“Fifty years ago Western New York set ourselves apart by taking advantage of our natural resources and building the Niagara Power Project. Today, with the addition and expansion of Steel Winds, we again demonstrate our ability to embrace the region’s unique characteristics and harness the power of the wind to create clean energy. Here, on land at the water’s edge that has sat dormant for too long, we again have people working as we take what was old and make it new again to build a stronger tomorrow.”*

—U.S. Congressman Brian Higgins, Buffalo, NY