

# CASSELMAN Wind Power Project



## Project Overview

The Casselman Wind Power Project, located in Somerset County, Pennsylvania, is putting land reclaimed from a former coal mining site to productive use. The 23 turbines at this wind power project will generate 34.5 megawatts (MW) of clean, renewable energy and contribute jobs and tax revenue to the local community. Typically a 34.5 MW wind project can generate power for more than 10,000 homes, according to the American Wind Energy Association's calculation.



Eight of the project's 23 wind turbines sit atop a rehabilitated surface mine. To encourage the productive use of this land, the Pennsylvania Energy Development Authority supported the Casselman project with a \$500,000 grant to offset increased development costs. In addition, the former mining site will also host the wind farm's operation center, collector transformer and interconnection facility.

The project supports the local economy through lease payments to local landowners and property tax payments to Somerset County. Numerous jobs were created during the project's construction period, which concluded when the project became operational in early 2008. While the project spans approximately 2,000 acres, the actual footprint is less than two percent of the total acreage.

## Project Details

**Project Capacity:** 34.5 MW

**Number of Wind Turbines:** 23 GE Energy 1.5 MW turbines

**Project Location:** About 60 miles southeast of Pittsburgh near the towns of Meyersdale and Rockwood in Somerset County, Pennsylvania.

**Developer and Owner: IBERDROLA RENEWABLES**

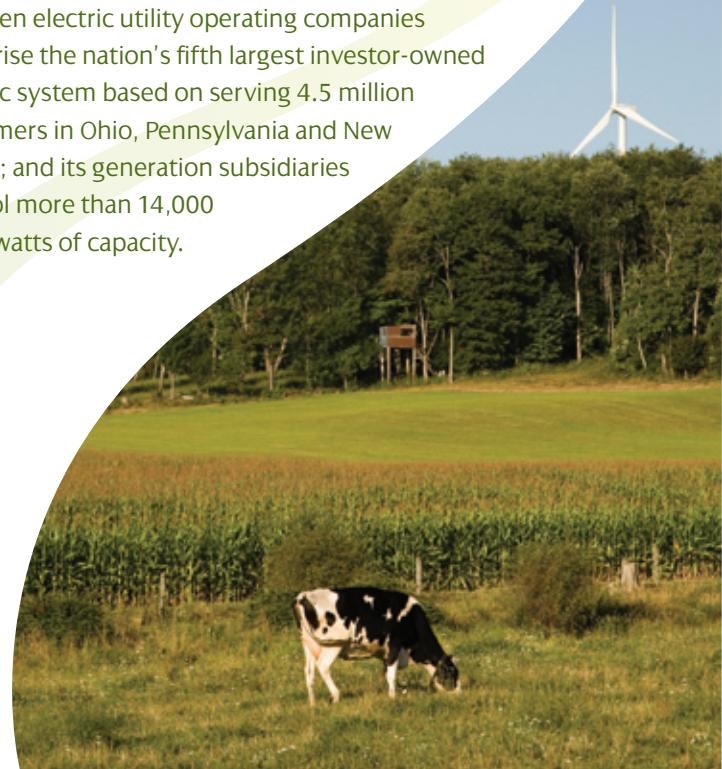
IBERDROLA RENEWABLES is one of the leading wind energy providers in the world with more than 8,000 MW of wind power online worldwide and with a pipeline of more than 42,000 MW of wind power.

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**Customer: FirstEnergy Solutions Corp.**

FirstEnergy Solutions Corp., the competitive subsidiary of FirstEnergy Corp., signed a 23-year agreement to purchase the power output of the Casselman project. FirstEnergy is a diversified energy company headquartered in Akron, Ohio. Its subsidiaries and affiliates are involved in the generation, transmission

and distribution of electricity, as well as energy management and other energy-related services. Its seven electric utility operating companies comprise the nation's fifth largest investor-owned electric system based on serving 4.5 million customers in Ohio, Pennsylvania and New Jersey; and its generation subsidiaries control more than 14,000 megawatts of capacity.



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## Turbine Supplier: GE Energy

The GE 1.5 MW machine is a variable speed, constant frequency design with aerodynamically designed airfoils on a 77-meter rotor.

## Technology

**Turbine Height:** 389 ft. (118.5 meters) from the bottom of the tower to the tip of the highest blade or about as high as a 30-story building.

**Turbine Weight:** Approximately 235 tons (470,600 lbs.)

**Tower:** Three-section tubular steel

**Height:** 263 feet (80 meters)

**Foundation:** Each wind turbine foundation consists of a concrete octagonal spread footing 48 feet in diameter, with a tower pier 18 feet in diameter, and a total depth of 7.5 feet. Micropiling and additional foundation work were required for the eight turbines located on the former coal mining site.

**Footprint:** Turbines are spaced from 500 to 3,000 ft. apart.

**Concrete:** 270 cubic yards per turbine (27 truckloads)

## Engineering and Construction

**Project Site Workforce:** Average 75 on site with a peak of 150. Construction began in May 2007.

**Total project man-hours worked:** 101,872

**Civil and installation contractor worked:**  
60,929 man-hours.

**Electrical and substation contractor worked:**  
28,880 man-hours.

**Equipment supplier worked:** 8,063 man-hours

**Construction:** Civil – Walbridge-RB and Nicholson;  
Electrical – WR Casteel and Somerset  
Rural Electric; Installation – Walbridge-RB;  
Equipment Supply – General Electric;  
Met Towers – Boulevard Properties, LLC;  
O&M Building – Walbridge-RB



## Project Benefits

**Households Served:** The project will meet the annual energy needs of more than 10,000 homes served by FirstEnergy in Pennsylvania.

**Number of Landowners:** 8

**Approximate Acreage:** 2,000 – The footprint of the turbines covers less than 2% of the project's total acreage.

**Ongoing O&M Jobs:** 3

## Local Economic Benefits

In total, the project is expected to generate approximately \$375,000 annually in direct economic benefit to the local economy through a combination of taxes, easement payments and landowner revenue participation payments.

- Approximately 150 jobs at the peak of construction activity.
- Property tax revenues for the area are expected to range from \$20,000 to \$82,000 annually.
- Traditional landowners' easement payments for the project are expected to total approximately \$18,000 to \$37,000 annually.

## Environmental Stewardship

Casselman benefited from a Pennsylvania Energy Development Authority grant that enabled the project to be built on several hundred acres of a reclaimed surface coal mine, putting the infill area to productive use. In keeping with IBERDROLA RENEWABLES' excellent track record and longstanding commitment to wildlife at its projects, the company is conducting industry-leading studies with third-party conservation scientists to collect data about bat interactions with wind turbines and mitigation options at this project.



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