

# CONSTRUCTION

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## MIDAMERICAN ENERGY COMPLETES CONSTRUCTION ON THREE IOWA WIND FARM PROJECTS TOTALING 511MW

*Massive Wind VIII project scheduled for completion expected this year*

MidAmerican Energy Company has completed work on four of the five wind farms that make up its 1,050-megawatt Wind VIII project — the largest economic development project in Iowa history.

The three wind farms completed in 2014 — Lundgren in Webster County, Macksburg in Madison County and Wellsburg in Grundy County — account for a total of 511.4 megawatts of wind generation capacity, to go along with the 44.6 megawatts of generation capacity at the Vienna II wind farm in Marshall County, which was completed in 2013. The final piece of the Wind VIII project — the 495-megawatt Highland wind farm in O'Brien County — will be finished by the end of 2015.

“With more than half the turbines in our Wind VIII project up and running, we’ve reached a major milestone in the development of another sustainable energy solution for our customers,” said Adam Wright, vice president, wind generation and development for MidAmerican Energy. “By 2016, we’ll be able to produce enough energy from wind to meet the equivalent of approximately half of the electricity needs of our retail customers.”

The Wind VIII project, announced in May 2013 during a joint press conference with Iowa Governor Terry Branstad, represents an investment by MidAmerican Energy of up to \$1.9 billion. With the addition of Wind VIII’s 448 turbines at the five wind farm sites, the company’s wind generation fleet will expand to 1,715 turbines, which can produce enough energy to power the equivalent of more than one million average Iowa homes.

“We are extremely proud of our progress over the last decade in the development of wind energy,” Wright said. “We constructed our first wind farm in 2004, and today MidAmerican Energy is a national leader in wind generation.”

Wright noted that wind energy offers many benefits for MidAmerican Energy customers, communities and the environment.

“Unlike many other forms of energy, wind generation has no fuel costs associated with it, so wind

energy helps keep electricity rates stable and affordable for our customers over the long term,” he said.

That’s music to the ears of Iowa officials charged with attracting new business and industry to the state. MidAmerican Energy’s investment in wind energy — by 2016 the company will have spent nearly \$6 billion on wind generation projects — has helped make Iowa the nation’s leader in the percentage of energy derived from wind. Both Iowa Governor Terry Branstad and Lieutenant Governor Kim Reynolds have championed wind as an integral component of Iowa’s energy future and a competitive advantage in attracting major tech companies such as Google, Microsoft and Facebook to build facilities in the state.

The economic benefits of wind energy are being felt in communities throughout Iowa. Wright noted that the Wind VIII project provides annual lease payments to the owners of land where wind turbines are constructed and will generate more than \$360 million in additional property tax revenues over the next 30 years, benefiting local schools, communities and county governments. Approximately 1,000 construction jobs are being added to the state’s economy during the two-year construction period, and approximately 40 new permanent jobs will be created by the project.

Tom Leners, executive director of the Madison County Development Group, said the Macksburg wind project has been a positive development for residents of the county. “Money spent here during the construction process has been a boon to local businesses, and the additional property tax revenues will benefit local government, schools and all residents in the years to come,” Leners said. “We’ve been pleased to partner with MidAmerican Energy to bring new economic opportunity to this area.”

Wright foresees a bright future for wind generation. “Our customers want more non-carbon energy sources,” he said. “Wind is a key element of MidAmerican Energy’s balanced approach to energy generation, and can be a factor in helping us reduce our carbon intensity and meet more stringent envi-

ronmental standards. Our decade of investment in wind projects has been good for our customers, good for the environment and good for the state of Iowa.”

MidAmerican Energy Company provides electric service to

739,000 customers and natural gas service to 719,000 customers in Iowa, Illinois, Nebraska and South Dakota. It is headquartered in Des Moines, Iowa. Information about MidAmerican Energy is available on the company’s

website, Twitter, Facebook and YouTube pages, which can be accessed via [www.midamericaneenergy.com](http://www.midamericaneenergy.com). ↗

— Source: *MidAmerican Energy*

## MINNESOTA POWER COMPLETES FOURTH PHASE OF BISON PROJECT

Minnesota Power has completed commissioning on the latest phase of its Bison Wind Energy Center. The 205-MW expansion makes it the largest wind farm in North Dakota and ranks Minnesota Power as one of America’s top-10 wind power-owning electric utilities.

All 64 turbines within the 35-square-mile boundaries of Bison 4 are now generating renewable energy, which is delivered to the company’s customers via a 465-mile direct current transmission line linking Center, N.D., and Duluth, Minn. In total, the nearly 500 megawatts produced by Bison’s 165 turbines rank it as North Dakota’s largest wind farm in terms of electric generating capacity.

“We’ve made significant strides over the last eight years to bring our energy generation into better balance,” said ALLETE Chairman, President and CEO Al Hodnik. “Development of renewable energy from wind and water is rapidly transforming our nation’s energy landscape and with the addition of nearly 500 megawatts of wind from the Bison development on our system, we are providing cleaner energy while maintaining the affordability and reliability of electric power our customers in northeastern Minnesota expect.”

Bison 4 is part of the company’s strategic EnergyForward plan for diversifying its energy supply while cutting carbon, adding renewables and reducing emissions at power plants.

Hodnik credited Minnesota Power Chief Operating Officer Brad Oachs and his team for completing the entire Bison project in a timely and cost-effective manner.

“With this substantial addition of wind to our portfolio, we are meeting Minnesota’s renewable standard of 25 percent renewable energy by 2025, a decade early,” Oachs said. “That’s a tremendous accomplishment by our employees. It reflects our commitment to cleaner energy and the execution of our EnergyForward plan to a more diversified energy mix of one-third renewable, one-third coal and one-third natural gas.”

On September 25, 2013, the North Dakota Public Service approved the Bison 4 site permit allowing construction to commence. The Minnesota Public Utilities Commission approved on Jan. 17, 2014, Minnesota Power’s petition seeking cost recovery from customers for Bison 4 investments. The total project investment for Bison 4 is estimated at \$345 million.

Bison 4 uses larger, more powerful Siemens wind turbine generators than those installed in earlier phases of the project. Because the generators are more powerful, it takes only 64 turbines to produce about the same amount of cost effective electricity produced by the 70 turbines installed for Bison 2 and 3.

Wind tower sections in Bison 4 were manufactured in Manitowoc, Wis., using steel produced from Minnesota taconite. With a portion of the generator units now manufactured at a Siemens plant in Hutchinson, Kan., and the turbine blades fabricated in Fort Madison, Iowa, Bison 4 incorporates more American-made components than the earlier Bison phases.

Minnesota Power was ranked eighth among all U.S. electric utilities for ownership of wind power capacity, according to statistics from the American Wind Energy Association (AWEA) compiled at the end of 2013. With the additional 205-MW capacity of Bison 4, the Duluth-based utility could soon be ranked among the nation’s top five wind power owners.

A strong partnership with Bison 4 project landowners was forged as more than 70 wind and transmission easements were developed and executed ahead of construction activities. Construction of Bison 4, which began in the fall of 2013, included about 14 miles of new roads, upgrades to about 11 miles of existing roads and installation of about 55 miles of collector cable in addition to the turbine erection that began early last summer. A new electric substation was built to serve the western side of Bison 4 and an existing substation was expanded. The project also includes a new meteorological tower

and 11 miles of new 230-kilovolt transmission line.

Minnesota Power's first wind farm, the 25-MW Taconite Ridge, in Mountain Iron, Minn., was

constructed on the property of its largest customer, U.S. Steel, going online in June of 2008. The first three phases of Bison were built in 2010-12. Minnesota Power also

buys all the output of a 98-megawatt wind farm adjacent to the Bison site in Oliver County, N.D., which was built in 2006-07 by NextEra Energy. ↲

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## SAMSUNG AND PATTERN ENERGY INAUGURATE ONTARIO PROJECT

Ontario's newest wind facility is now up and running. Samsung Renewable Energy, Inc. (Samsung) and Pattern Energy Group Inc. recently announced that the Grand Renewable Wind project has completed construction and reached commercial operation. The 149 MW Grand Renewable Wind facility has the capacity to produce clean power for approximately 50,000 Ontario homes each year.

"Wind provides clean, emission-free electricity for Ontarians while creating thousands of jobs and economic opportunities," said Bob Chiarelli, Minister of Energy. "Collaborative projects like this one will help wind reach 15 percent of the province's installed capacity by 2025."

"The Six Nations Elected Council is committed to ensuring we enter into sustainable development projects that not only enrich our economy but are also socially and environmentally responsible," said Chief Ava Hill, Six Nations Elected Council. "Both Samsung and Pattern Energy committed to developing an equity partnership with Six Nations, the way they approached the partnership with Six Nations set the bar on how we want to work with businesses to enable us to generate resources for our future generations."

"Samsung is proud to be part of the Haldimand community and excited about our historic equity agreement with Six Nations Elected Council," said Mr. Steve Cho, Vice President, Samsung C&T. "The Grand Renewable Wind facility along with our other projects in the Province are creating thousands of high-skilled jobs that will benefit real people in this community and across Ontario."

"We are honored to be able to further expand our presence in Ontario through this partnership with the Six Nations," said Mike Garland, CEO of Pattern Energy. "The commissioning of the Grand Renewable Wind facility by the end of 2014 brings our number of Ontario facilities to two in operation, two in construction and two in late stage development, totaling 1,269 megawatts to be installed in the province by 2018. We would like to thank the Six Nations and the community of Haldimand for their support."

"We're proud to bring our proven technology to the Grand Renewable Wind project and to continue to provide Ontario with jobs, economic growth and

affordable and sustainable wind energy," said Jacob Andersen, Head of Wind Power Renewables, Siemens Canada Limited.

Grand Renewable Wind utilizes 67 Siemens 2.3 MW wind turbines with blades and towers that were made in Ontario. Siemens' turbine blade facility in Tillsonburg manufactured the blades for the project and CS Wind's facility in Windsor used Ontario-made steel to manufacture the turbine towers.

The Grand Renewable Wind facility had more than 500 workers on site during peak construction and created 12 full-time permanent positions for ongoing operations and maintenance. Over 98 percent of the workforce was comprised of workers from Ontario, which were involved in every aspect of the project – from manufacture and assembly of the wind turbine components to site construction, installation work and project operations. Altogether, Samsung and Pattern Energy's wind power projects in Ontario are creating thousands of manufacturing and construction jobs, contributing significant property taxes in host communities, and providing millions of dollars for schools and important community projects.

In a historic first for Ontario, Samsung and Pattern Energy have entered into an equity partnership with Six Nations of the Grand River. The Six Nations community owns 10% of the Grand Renewable Wind project. Samsung and Pattern Energy also provided a \$400,000 donation to the Grand River Post-Secondary Education Office, which will increase opportunities for Six Nations students.

Acting on their commitment to make a positive impact in their project communities, Samsung and Pattern Energy have introduced the more than \$15 million Community Vibrancy Fund for Haldimand County. The fund will support local community, environment, health and wellness initiatives. The fund will provide a stable source of support over the next 20 years.

The electricity from Grand Renewable Wind, which is helping Ontario reach its clean energy goals, is committed to the Independent Electricity System Operator (IESO) under a 20-year power purchase agreement.

— Source: Pattern Energy