

Nominator Contact Information

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Nominee Contact Information

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Nominee Communications/Public Relations Contact

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Why are you nominating this organization? (In 500 words or fewer, please describe how this electric cooperative has demonstrated corporate leadership with wind power; any innovative marketing or customer education associated with wind power at this cooperative; how customers have benefited from the cooperative's involvement in wind power; and any creative solutions to barriers the cooperative faced in securing wind power. Please include information regarding the year the cooperative started considering wind power and the percentage of contribution wind provides to the cooperative's total power supply.)

Adams Electric Cooperative began to consider the purchase of a wind turbine in 2007. The Co-op's manager and board of directors are strong advocates of renewable energy and recognize the importance of utilizing renewable resources. Being located in Illinois which is ranked 16th in the nation for wind potential and belonging to Prairie Power, Inc., a G&T Cooperative with a progressive renewable generation and energy policy, made exploring wind energy a viable option.

Although Adams Electric is relatively small, the Co-op has never shied away from new technology as long as it could benefit members. The Co-op has been utilizing automatic meter reading for years and recently installed a state of the art mapping/outage management system. The development of Co-op owned wind generation is simply the latest venture into utilizing technology to benefit the membership.

After thoroughly exploring the pros and cons of owning and operating a wind turbine, the decision was made in 2007 to move forward. The Cooperative leased land and purchased a 900 kW direct drive unit from Emergya Wind Technologies. After a few delays, the first utility-scale wind turbine in Adams County, Illinois, the Pigeon Creek Wind Turbine, was in operation.

As this project neared completion, opposition to a proposed wind farm in the county began to grow. Concerns about setbacks, environmental issues, and flicker seemed to be in the news on a weekly basis. Meanwhile, representatives from Adams Electric were spreading the news about the new turbine. Staff spoke to over 30 different organizations including schools, service clubs, Boy Scout troops, and college students, among others. An open house was held in October 2009 so members and the general public could see a

turbine up close and possibly dispel some of the myths they were seeing in the headlines about wind turbines. The overwhelming majority of visitors expressed their support for the project and commended the Cooperative for developing wind energy.

With the success of Pigeon Creek, the decision was made to build a second turbine in Brown County. A 1.5 MW direct drive Vensys unit was erected in August 2011 and was producing electricity less than a month later. Another open house was held with nearly 300 people in attendance. Reaction to the turbine was, again, extremely positive.

Although the proposed wind farm project for Adams County has stalled, the two turbines owned by Adams Electric Cooperative continue to perform well, exceeding expectations for projected output. Together, the two wind turbines provide approximately 3 percent of the Cooperative's total energy needs, serving approximately 700 households. More importantly, the two turbines serve as beacons for the potential of wind energy in West Central Illinois.

The Cooperative continues to provide tours of the turbines. Adams Electric has become self-appointed ambassadors for wind energy in the area and hopes to continue its role of educating members and the general public about the benefits of wind energy for many years to come.

Optional additional information (not counted against 500-word limit):

A. Location of wind generation and year installed:

The Pigeon Creek Turbine is located six miles south of Quincy Regional Airport near Payson, IL. It was installed in the fall of 2009.

The Brown County Turbine is located two miles east of Mt. Sterling, IL just off Highway 24. It was installed in the summer of 2011.

B. Project budget, including a short description of any innovative financing methods:

The budget for the Pigeon Creek Turbine was approximately \$1.9 million. The Cooperative received a grant from DCEO for \$250,000 and another grant from the Illinois Clean Energy Community Foundation (ICECF) for \$150,000. The remaining \$1.5 million was financed through Clean Renewable Energy Bonds (CREBs). This money has to be paid back, but the interest rate is minimal.

The budget for the Brown County Turbine was approximately \$3.0 million. A \$450,000 grant from the U.S. Department of Agriculture and \$1.75 million in CREB financing made the project possible.

C. Challenges of the development or purchasing process (e.g., market interruptions, internal hurdles, buying a new technology):

The Cooperative had delayed commissioning with the Pigeon Creek turbine due to manufacturing issues with the generator. A new generator had to be installed which is why the commissioning was delayed. To ensure the continued success of the generator and to protect its investment, the Cooperative was able to leverage the generator issue to secure a ten-year service and maintenance agreement with the manufacturer.



**Adams Electric
Cooperative**

and Sustainable Energy Corporation

Brown County Wind Turbine



Powered by Clear Wisconsin
Energy Rents through Culture

Project made possible
with funding by







 **Adams Electric Cooperative**
Your Touchstone Energy® Cooperative 

 **Local Clean Renewable Energy**

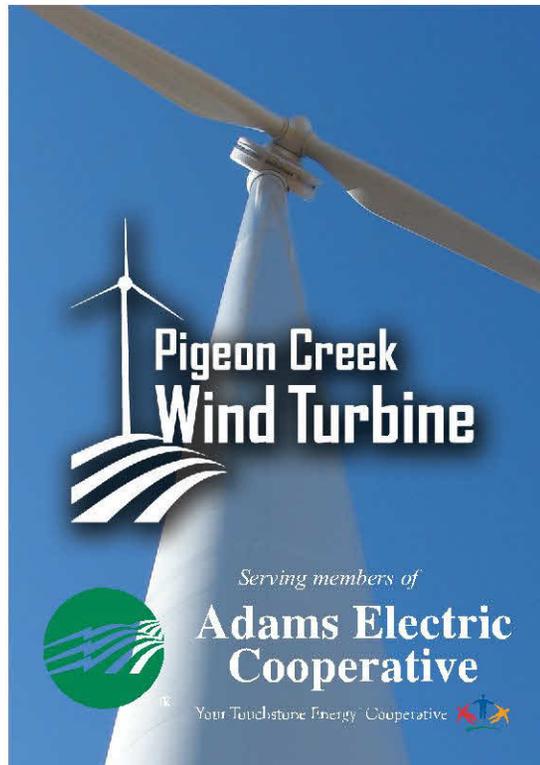
 **Pigeon Creek Wind Turbine**

Financed by Clean Renewable Energy Bonds through CoBank

Project made possible with funding by:

dceo
Illinois Department of Commerce and Economic Opportunity

 **Illinois Clean Energy**
COMMUNITY TRANSDUCER



- *First utility-scale wind turbine in Adams County*
- *900 kW direct drive wind turbine*
- *Supplies about 2,500,000 kWhs of electricity/year (enough power for about 200-300 homes)*
- *Starts producing in winds as light as 6 miles/hour and reaches full capacity in winds of 31 miles/hour*
- *246 feet tall (335 feet counting the blade)*
- *Each blade is 89 feet long*
- *Each blade weighs 3,000 lbs.*
- *The hub weighs 20,000 lbs.*
- *The generator weighs 69,000 lbs.*
- *Manufactured by Emergya Wind Technologies*
- *Financial support provided by:*

\$250,000 grant from Department of Commerce and Economic Opportunity

\$150,000 grant from Illinois Clean Energy Community Foundation

\$1,500,000 Clean Renewable Energy Bonds, an interest-free loan for renewable energy projects

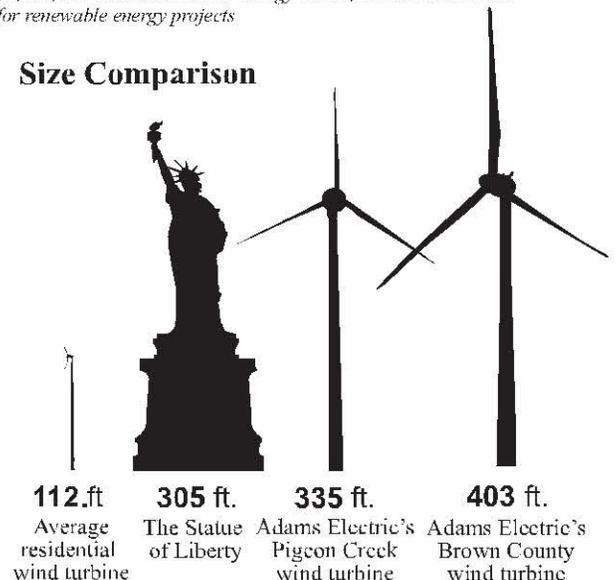


Pigeon Creek Wind Turbine

- First utility-scale wind turbine in Adams County
- 900 kW direct drive wind turbine
- Supplies about 2,500,000 kWhs of electricity/year (enough power for about 200-300 homes)
- Currently all energy used through nearby substation
- Starts producing in winds as light as 6 miles/hour and reaches full capacity in winds of 31 miles/hour
- 246 feet tall (335 feet counting the blade)
- Each blade is 89 feet long.
- Each blade weighs 3,000 lbs.
- The hub weighs 20,000 lbs.
- The generator weighs 69,000 lbs.
- Manufactured by Emergya Wind Technologies
- The blades were made in America.
- The tower was made in Mexico.
- The generator was made in China.
- The nacelle and converter were made in the Netherlands.
- 360 yards (=720 tons or 1.5 million pounds) of concrete used in the base for support
- The parts arrived in Payson by semis and were assembled on site using a massive crane.
- Expected life: Depreciated over 25 years
- Total cost: Approximately \$2 million
- Cost per kWh: 7.5¢/kWh
- Financial support provided by:

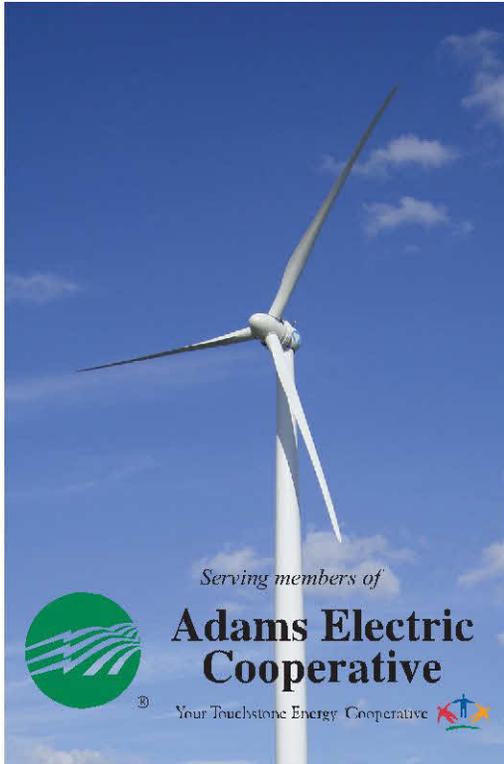
\$250,000 grant from Department of Commerce and Economic Opportunity
 \$150,000 grant from Illinois Clean Energy Community Foundation
 \$1,500,000 Clean Renewable Energy Bonds, a low interest loan for renewable energy projects

Size Comparison



**Adams Electric
Cooperative**

Your Touchstone Energy® Cooperative 



Brown County Wind Turbine



- *First utility-scale wind turbine in Brown County*
- *1.5 MW direct drive wind turbine*
- *Supplies about 4,000,000 kWhs of electricity/year (enough power for about 300-400 homes)*
- *Starts producing in winds as light as 6.7 miles/hour and reaches full capacity in winds of 24.6 miles/hour*
- *281 feet tall (403 feet counting the blade)*
- *Each blade is 122 feet long*
- *Each blade weighs about 6 tons.*
- *The hub weighs 16 tons.*
- *The generator weighs 45 tons.*
- *Manufactured by Vensys*
- *Financial support provided by:*
 - \$450,000 grant from U.S. Department of Agriculture*
 - \$1,750,000 Clean Renewable Energy Bonds, a low-interest loan for renewable energy projects*

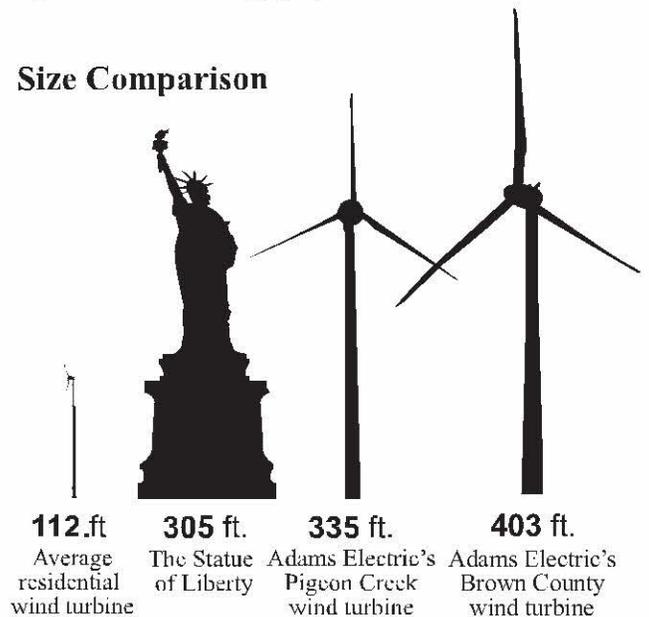
Brown County Wind Turbine



- *First utility-scale wind turbine in Brown County*
- *1.5 MW direct drive wind turbine*
- *Supplies about 4,000,000 kWhs of electricity/year (enough power for about 300-400 homes)*
- *Currently producing more energy than needed by substation; excess is net metered and sold to Ameren*
- *Starts producing in winds as light as 6.7 miles/hour and reaches full capacity in winds of 24.6 miles/hour*
- *281 feet tall (403 feet counting the blade)*
- *Each blade is 122 feet long and weighs about 6 tons.*
- *The hub weighs 16 tons.*
- *The generator weighs 45 tons.*
- *Manufactured by Vensys, located in Germany*
- *The blades were made in Grand Forks, North Dakota.*
- *The tower was made in Chattanooga, Tennessee.*
- *The generator, nacelle and convertor were made in Germany.*
- *The parts arrived in Mt. Sterling by semis and were assembled on site using two massive cranes.*
- *Expected life: Depreciated over 25 years*
- *Total cost: Approximately \$3 million*
- *Cost per kWh: 7.5¢/kWh*
- *Financial support provided by:*
\$450,000 grant from U.S. Department of Agriculture
\$1,750,000 Clean Renewable Energy Bonds, a low-interest loan for renewable energy projects



Size Comparison



Adams Electric Cooperative

Your Touchstone Energy® Cooperative



**Wind
Energy**

Advisory
Committee
Meeting
Roundtable I

