

Basin Electric's commitment to wind



By Erin Huntimer

TAKES ROOT

The strength of the cooperative model lies in the voice of the member. This is true from the distribution level to the generation and transmission cooperative. At Basin Electric, that voice gave rise to the cooperative's journey into renewable energy.

In 2005, the Basin Electric membership spoke up, asking their cooperative to provide 10 percent of their electricity demand from renewable forms of energy. Basin Electric has been working hard to meet that directive, and today, the cooperative is emerging as a national leader in renewable energy.

With the announcement of a new NextEra Energy project and progress in four other projects, Basin Electric is on track to exceed that goal in 2010: the cooperative has committed to renewable generation with an installed capacity equal to 22 percent of member load (see graph). Through direct investments and annual payments under renewable power purchase agreements, these projects represent a capital investment of more than \$1 billion in renewable resources.

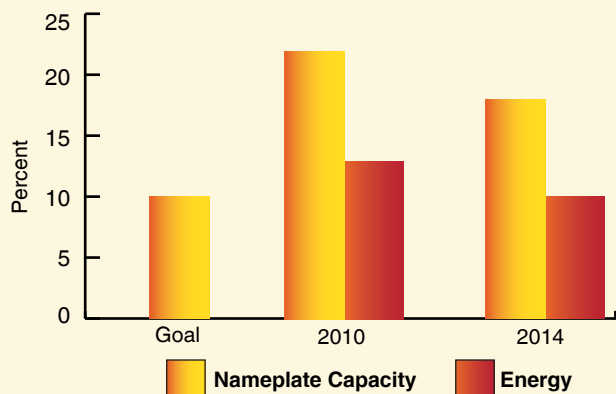
Let's take a look at the progress Basin Electric is making in wind energy development for the membership.

NextEra's Day County wind project

Basin Electric and Next Era Energy Resources (formerly FPL Energy) have signed an agreement to develop another wind farm. The project will be located in Day County near Groton, SD. East River Electric Power Cooperative, Madison, SD, will provide the transmission interconnection for the project.

This is the fifth agreement between Basin Electric and NextEra Energy with NextEra Energy building, owning and operating a large wind project and Basin Electric purchasing the electricity. The other four wind projects are located near Wilton (two phases) and Edgeley, ND, and Highmore, SD.

Meeting the Renewable Energy Goal





Dusty Johnson of the South Dakota Public Utilities Commission talks about the Day County wind project, which was announced at East River Electric's annual meeting.

Ron Harper, Basin Electric CEO and general manager, says this agreement is a perfect example of working together to accomplish goals. "As wholesale power suppliers, we are obligated to develop facilities that will keep electricity rates affordable, and working with NextEra Energy, we're able to accomplish that goal."

The 99-megawatt capacity Day County wind project will feature 66, 1.5-megawatt wind turbines, almost identical to the ones operating near Highmore, SD. Construction will begin as soon as all permits and approvals are received. It's anticipated the project will be ready for commercial operation by mid 2010.

John DiDonato, vice president of wind development for NextEra Energy says, "As the nation's leader in wind energy generation we're thrilled to once again be partnering with Basin Electric to bring the environmental and economic benefits of this renewable resource to the region."

For the first three years of commercial operation, Basin Electric has agreed to sell the output of the Day County project to the Western Area Power Administration, a Federal Power Marketing Administration.

Tim Meeks, Western's administrator, says while reservoir levels on the Missouri River are improving, Western continues to expect less-than-normal generation for the next

few years. "This short-term purchase from Basin Electric fits our strategic goals for purchasing replacement power, and we are excited this purchase is from a renewable resource. Western recognizes how valuable customer partnerships are as we seek to provide our customers with reliable, cost-based power and energy. This agreement is just one of many successful partnerships Western has with Basin Electric."

Western is also purchasing the output of the first phase of the Wilton Wind Energy Center – 49.5 megawatts – from Basin Electric in a short-term contract from Jan. 1, 2010, through Dec. 31, 2012.

East River Electric is providing the transmission facilities necessary for the Day County project. "As part of the cooperative delivery system, we look forward to adding new sources of renewable energy to our portfolio. Just as we provided transmission delivery for the Hyde County wind project (near Highmore), East River will construct the necessary facilities to deliver power from this wind project," East River Electric General Manager Jeff Nelson says.

Harper expresses appreciation for East River Electric's participation in the project and is excited to build on Basin Electric's relationships with NextEra Energy and Western. "This really provides a quadruple benefit for Basin Electric, NextEra Energy, East River Electric and Western. Basin Electric has a new resource of renewable energy, NextEra Energy is able to develop the project because they have a buyer, East River Electric provided the transmission facility, and Western can purchase another portion of renewable energy to meet its drought-related replacement energy needs," Harper says.

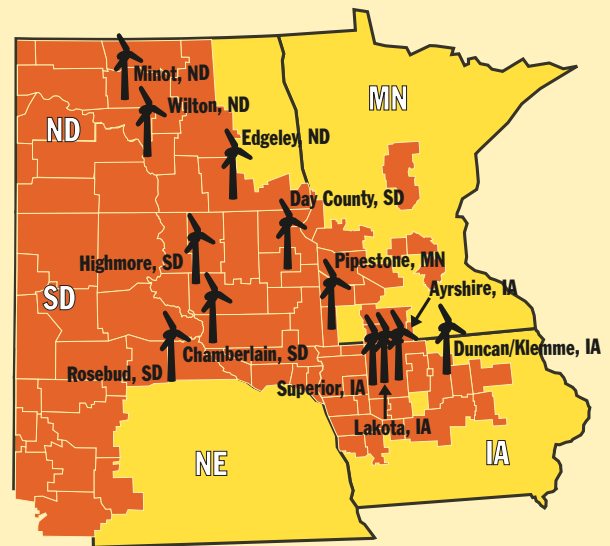
PrairieWinds projects

The hills are hopping with activity north of Max, ND. Construction crews are working hard and fast to erect 80 wind turbines – 77 for PrairieWinds 1, and three for the Minot Wind 2 project. All of the new turbines will be General Electric 1.5sle models. Both projects are being constructed and will be owned and operated by Basin Electric subsidiary, PrairieWinds ND 1.

When operational, the PrairieWinds 1 project will be the largest wind project owned and operated solely by a cooperative in the United States. Construction on the Minot Wind 2 project began Aug. 10 and on the PrairieWinds 1 project on Aug. 18. About 200 construction personnel are on site working on both projects.

Amanda Wangler, project engineer for Basin Electric, says as of mid September, about 20 percent of roads were complete, about half the foundation holes were excavated, and about 25 percent of the foundations were poured. "They're pouring concrete for foundations every day. Of the five feeder circuits in the collector system, feeder A is 70 percent complete, feeder B is 68 percent complete," she says.

Continued ▶



Did you know?



Basin Electric purchases the output from small wind and other renewable generators owned by the members of

Basin Electric's member co-ops. Basin Electric purchases more than 1,400 kilowatts of wind, biomass and solar power from about 76 small generators throughout Basin Electric's service territory. The one pictured here is owned by a member near Alexandria, SD.

Did you know?



The typical* Basin Electric distribution cooperative receives 20 percent of its energy needs

from hydropower. According to Wayne Backman, Basin Electric senior vice president of Generation, "This, coupled with Basin Electric's renewable resources, represents about 27 percent of the energy used by the member at the end of the line."

** Excludes members without Western allocations or all-requirements contracts.*



The PrairieWinds turbines have a "spread footer" foundation design. They are nine and a half feet deep and contain 318 yards of concrete poured in three lifts: a mud mat, the base, and the pedestal.

Turbine components including blades, tower sections and nacelles will arrive daily through the middle of November. In all, more than 600 semi-trucks worth of materials will be delivered to the site. RMT, the site contractor, started erecting turbines in late September.

Wangler says two large Manitowoc cranes are being used to erect the turbines. Up to four turbines can be erected over a 24-hour span in ideal conditions – two during the day, and up to two at night.

The main transformer for the 77-turbine project arrived on site on Sept. 16 following a trip half way around the world that started in June in South Korea. Five feeder circuits will bring power from the turbines via 30-plus miles of underground conductor to the main transformer, which will step up the voltage to 115 kilovolts (kV). From there, the power goes to the Western Area Power Administration's Nelson Tap, then onto the transmission grid via a line owned by Western.

Ron Rebenitsch, Basin Electric manager of alternative technologies, says the project's interconnection with Western's 115-kV transmission line highlights value of the



The first tower for PrairieWinds 1 was stacked on Oct. 1 despite the rainy weather.

long-standing partnership with Western on the Integrated System. "Interconnecting the project to the 115-kV line, which crosses the project site, avoided the need for a couple miles of interconnection line and a 230-kV interconnection substation. Western's engineering support is critical to the success of this project," Rebenitsch says. (The Integrated System includes transmission facilities owned by Basin Electric, Western and Heartland Consumers Power District.)

The wind projects are expected to need about eight full-time operations and maintenance employees. The three Minot Wind 2 turbines will be online by the end of the year. Depending on weather conditions, the remaining 77 turbines of PrairieWinds 1 will be ready for commercial operation by late 2009 or early 2010.

PrairieWinds SD 1, a Basin Electric subsidiary, also continues planning and permitting for a 151.5-megawatt wind project in central South Dakota. "We're currently in the environmental permitting process. We're also working on engineering for the roads, substation and collector system, and micro-siting the turbines," Wangler says.

Wangler says they hope to begin construction on the South Dakota project in mid 2010 and have it online by the end of 2010 or early 2011.



Crews lift one of the last rotors into place at NextEra's Wilton Wind Energy Center on Sept. 23 as members on tour from Crow Wing Power, a Class A member of Basin Electric, look on.

NextEra's Wilton Wind Energy Center expansion

Late last year, NextEra Energy announced the expansion of its Wilton Wind Energy Center from 49.5 megawatts to 99 megawatts. Construction crews started work to install the 33, 1.5-megawatt turbines on June 26.

Basin Electric has a long-term contract to purchase the generation output from the first phase of the Wilton Wind Energy Center, and will do the same for the generation from the new phase of the project.

Dick Rausch, construction project manager for NextEra Energy, said the project is moving along says well. "We plan to energize the substation October 13. We have 30 of the 33 turbines installed as of mid September. All of the underground electrical system has been installed," he says.

Rausch says they're on track to have the project complete by Nov. 6.

Rosebud and Pipestone



Basin Electric purchases the output from two 750-kilowatt turbines. One is owned by a school district at Pipestone, MN (pictured here). The other is a tribal-owned turbine located on the Rosebud Sioux Indian Reservation in southern South Dakota.

Cow power



Basin Electric buys cow power, too. The cooperative purchases the output of a 375-kilowatt methane digester owned by the Midwest Dairy Institute near Milbank, SD, served by Whetstone Valley Electric Cooperative.

Community Wind Initiative

In cooperation with Basin Electric, efforts are under way by East River Electric and its members to explore the potential of a "locally owned" wind project using new tax provisions contained in the stimulus bill.

Having worked for a number of years to create local opportunities for wind energy development, initiatives have fallen victim to the tax code that has historically favored large equity investors with big tax appetites and benefitted foreign investors while neglecting opportunities for local landowners and other local investors.

Development of wind projects has traditionally been dependent upon production tax credits (PTCs). However, the economic downturn has adversely affected taxable income, thereby deterring the ability to obtain PTCs. As a result, a new grant option in line with PTCs was created in the American Recovery and Reinvestment Act (ARRA).

These new provisions may resolve some of the limitations local wind initiatives have faced in developing competitively priced wind projects. Developed from the ARRA, Section 1603 provides cash payment in lieu of the PTC for 30 percent of qualifying project costs. The payments improve project viability and enhance liquidity for projects which may provide opportunity for local investment by local investors that have no ability to use PTCs.