

## Native Americans “Breaking Trail” for Green Power

“AN OVERNIGHT SUCCESS that took eight years” is a description often applied to the first Native American owned utility-scale wind turbine by people involved in the project. Officially dedicated in May, the 170 ft 750 kW NEG Micon turbine now stands on a hill above the Rosebud Hotel and Casino in south central South Dakota on the Rosebud Sioux reservation.

Wind energy has long been an attractive possibility for tribal communities partly due to simple geography – tribal lands in North Dakota, South Dakota and other Great Plains states happen to include some of the best wind resource areas in the world. However, motivations for pursuing a wind project were much more complex for the Rosebud Sioux Tribe. Concerns about how electricity generation affects the health of the air, land, water and people, the growing threat of global climate change, and a deep-seated interest in expanding economic opportunities for community members played major roles. And this project is only the beginning. The Rosebud tribe purposefully experimented with models and the planning process for this project with the intention of gaining enough knowledge and experience to make future wind projects, bigger, more efficient and more profitable.

The suggestion that this project was almost deliberately made into a long, challenging process is not hard to believe considering that the original groundwork was laid as far back as 1994, the year the

Rosebud Sioux established a Tribal Utility Commission (TUC) to expand their capacity to manage energy issues. At that time the most pressing issue was obtaining an allocation

for hydropower electricity from the Western Area Power Administration (WAPA). Part of the TUC’s job was to develop an integrated resource plan, which required studying all possible energy sources, both renewable and traditional. This led to the installation of the first wind-monitoring tower to measure what the tribe already suspected was a promising wind resource.

As many Missouri River basin tribes were facing similar energy at that time, a coalition of northern Great Plains tribes chartered the Intertribal Council on

Utility Policy (Intertribal COUP) to create a common forum for utility policy discussions. Over the next few years, Intertribal COUP focused on WAPA allocations, but also started exploring ways to integrate their own energy resources. Intertribal COUP and the Rosebud TUC began to grow their knowledge base by organizing and hosting a series of meetings and conferences to explore the feasibility of wind power and building connections with groups from other states with more wind experience.

During the process of learning about wind energy possibilities, the Rosebud TUC became a champion of bringing these opportunities home to the Rosebud reservation. Many members of the commission became tireless advocates for both the economic and environmental benefits of wind power. Particularly remembered are the contributions of the late Alex “Little Soldier” Lunderman, the first president of the utility commission for whom the turbine was named at the May dedication. Ronald Neiss, another former utility commission president, told Wind Powering America last year about Lunderman’s vision that continues to guide the commission today: “He believed we could use modern technology as well as our resources in a way that is compatible with our history, our philosophy, and our cultural and spiritual values. With the Rosebud Wind Project, we are trying to make his vision a reality by using the tremendous wind resource on the reservation in a good way.”

The current TUC President, Rod Bordeaux, sees the growing potential for tribal wind power as a positive direction for Great Plains Tribes. “Energy has a steep learning curve, but people are beginning to understand where this is going,” he said.

By the late 1990s, it was clear that the Rosebud Sioux had an excellent wind resource, and an interest in using a clean, renewable, native natural resource to generate power. However, the question of how to finance a large wind energy venture remained. Part of that question was answered in 1999, when Rosebud was the only tribe to receive funding (\$508,000, half the cost of the turbine) for

a utility scale wind turbine in the Department of Energy’s first round of Tribal Renewable Energy Grants. Soon after receiving the DOE award, the tribe began negotiations with the Rural Utilities Service to borrow money for the rest of the project, which, at the time, had never worked with either tribes or renewable energy. The effort paid off in 2002 when the Rosebud tribe secured a loan for the second half of the turbine installation costs and a little extra to set up some new wind monitoring stations.

While working on the financing, the TUC also began to tackle other hurdles



top: Students and teachers gathered at the turbine’s dedication.

above: Patrick Spears (left), Robert Gough (right) beneath the Rosebud wind turbine.

such as obtaining permission to interconnect the turbine to the power grid and finding a market for the electricity. They used this process explore many markets that could also be viable for future, larger wind projects. Among the considerations: working with the owners of the transmission and distribution lines, plugging into the federal market for renewable energy, and the possibility of selling wind energy as premium green electricity.

The result of the extensive negotia-

continued on reverse

**This first wind turbine is a demonstration project that’s breaking trail for future, bigger projects.**

tions is a multi-faceted arrangement for selling and transmitting the wind turbine's electricity (*see chart below*). A long-term deal was made to provide electricity directly to the Rosebud Casino, but the contract allows the tribe flexibility to explore other options. For example, for the first few years (up to 5) Rosebud is providing "green power" to Ellsworth Air Force Base near Rapid City, SD by coordinating with Basin Electric Power Cooperative, WAPA, and Nebraska Public Power. The tribe is also working with NativeEnergy, a Vermont based company that agreed to buy the remaining lifetime output of green tags from the project. Consumer demand for cleaner electricity has driven the development of a market for the environmental attributes of wind-generated electricity (referred to as green tags) and NativeEnergy has tapped this market by selling green tags from the Rosebud turbine to thousands of individuals and environmentally minded companies.

While recognizing the pioneering efforts of other Great Plains tribes in smaller scale wind power, Patrick Spears, President of Intertribal COUP, said, "the Rosebud has taken the lead among tribal nations of the northern plains in realizing the potential of large scale wind energy development. And this turbine is only step one, the next phase of Rosebud's plan is a 30-50 MW project."

Rosebud and Intertribal COUP have also joined in developing a road map for an 80 MW project to be distributed in clusters across eight Great Plains reservations. "This project would provide a way for a number of tribes to share the risks and benefits involved of a large wind project to capture the economies of scale necessary to be economically feasible and secure each reservation a place on the WAPA grid as a clean energy generator," noted Gough. To date, four Intertribal COUP tribes have begun the necessary planning and data collection to participate in this effort.

The incentive for Great Plains tribes to pursue wind power goes beyond the great promise of economic development.

**USDA Grants Announced**

THE FIRST ROUND of grant awards for the U.S. Department of Agriculture Renewable Energy Systems and Energy Efficiency Improvements Program was announced August 25, 2003. Over \$21 million was awarded for 131 projects in 24 states. Minnesota lead all states with \$4,678,632, followed by New York, Illinois, and Ohio. Many grants will support wind projects, including small residential-scale turbines, farmer-owned utility-scale turbines, and rural electric cooperative wind projects. In Minnesota alone, 14 farmer-owned utility-scale wind projects were awarded grants. For more information: [www.windustry.org/resources/farmbill.htm](http://www.windustry.org/resources/farmbill.htm).

**Large Farmer Project Wins Bid**

IN AUGUST, Great River Energy announced that it will begin contract negotiations for 100 MW of wind power with Trimont Area Wind Farm, LLC. Trimont Wind is a coalition of local citizens from the project area (south central Minnesota) that answered Great River Energy's request for proposals to develop a renewable energy supply resource to be ready by 2005. It will be the largest locally owned wind project in the nation. According to GRE, the project was chosen for its competitive price, its access to transmission line interconnections, its location within the coop's service territory, and its appeal as a locally owned project.

**MN Community Wind Rebate**

THE MINNESOTA DEPARTMENT OF COMMERCE Energy Office announced a new Community Wind Rebate program available to non-taxable entities (such as schools, non-profit organizations, or government units) in Minnesota outside of the southwest portion of the state. Projects can receive rebates of up to \$150,000 by applying before the November 13, 2003 deadline. For more information, visit [www.windustry.org](http://www.windustry.org) or contact Mike Taylor at 651/296-6830 or [mike.taylor@state.mn.us](mailto:mike.taylor@state.mn.us).

**WINDUSTRY Updates**

**WindProject Calculator**

THE WINDUSTRY WindProject Calculator has been updated with new turbines and improved with a more user-friendly format. It is available at [www.windustry.org/calculator](http://www.windustry.org/calculator).

**Windustry Welcomes New Staff Member**

THE WINDUSTRY STAFF has expanded to include Wes Slaymaker, who is taking on the role of Windustry Project Engineer. He is a certified professional engineer with more than three years experience developing wind energy projects in the Midwest. He brings a new level of practical and technical expertise to Windustry. Welcome Wes!

**Green Power Markets: Sale of Electricity and Green Tags from Rosebud Wind Turbine**

		Rosebud Casino via Cherry Todd Cooperative	Ellsworth Air Force Base via WAPA
<b>SHORT TERM</b> <i>current</i>	<b>Electricity</b> <i>sold to Basin Electric (up to 5 years)</i>		
	<b>Green Tags</b> <i>(up to 5 years)</i>	NativeEnergy	Ellsworth Air Force Base
<b>LONG TERM</b> <i>life of the project</i>	<b>Electricity</b>	Rosebud Casino delivered directly	
	<b>Green Tags</b>	Native Energy remaining lifetime output of green tags is pre-sold	
		20%	40%
			60%
			80%
			100%

Wind is an opportunity for tribes to control their own energy resources and the impact of their energy use. Reservations are seen as permanent homelands for tribal communities, and the residents realize that depleting the natural resources is incompatible with that idea.

"The Lakota people have always had great respect for the power of the wind," said Spears, and now they can use that power to produce clean energy and economic development.

For more information on green power markets, visit [www.windustry.org/opportunities](http://www.windustry.org/opportunities).

Windustry is a non-profit organization that builds collaborations and provides technical support to create an understanding of wind energy opportunities for economic development. We are partnered with the Institute for Agriculture and Trade Policy. The Wind Farmers Network is now in development for landowners, communities and others interested in investing in wind energy to exchange information and experiences. Visit [www.windustry.org](http://www.windustry.org) or contact Windustry for more information or to join the network.

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