Wind & Hydropower Technologies Program

Harnessing America's abundant natural resources for clean power generation

NAWIG NEWS

THE QUARTERLY NEWSLETTER OF THE NATIVE AMERICAN WIND INTEREST GROUP

SPRING 2007

As part of its Native American outreach, DOE's Wind Powering America program has initiated a quarterly NAWIG newsletter to present Native American wind information, including projects, interviews with pioneers, issues, WPA activities, and related events. It is our hope that this newsletter will both inform and elicit comments and input on wind development in Indian Country.

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Photo credit: TDX

Blades are installed on new TDX Power turbines at St. Paul Island, Alaska.

TDX Power and St. Paul Island: Lessons Learned

Interview with Nicholas Goodman, Project Coordinator, TDX Power Corporation (conducted for NAWIG News in winter 2006/2007).

Tell us how TDX became interested in wind energy.

TDX's chairman, Ron Philemonoff, became interested in windpower during one of his annual trips to visit family in California. With all due respect to our brethren in California, the St. Paul Island wind resource has no equal in California, and he knew the technology had real potential on St. Paul Island. After extended exposure to Palm Springs wind farms, Ron and the TDX Board of Directors decided to invest in a turbine for the corporation's industrial complex on St. Paul Island.

What are the lessons learned from St. Paul Phase 1?

Alaskan logistics are always difficult, the first 2 years are really difficult, and never let the Vestas mechanic check his tools as baggage! TDX experienced two major mechanical breakdowns in the first two years, when the gearbox failed due to inadequate design for cold temperatures. On one of these occasions, Vestas sent a mechanic from Portland. When he got off the plane, he soon learned that his tools, which he checked as baggage, had been bumped and would not show up for several days on the bypass mail freight plane because of our location.

Tell us about St. Paul Phase 2.

After several years of smooth operations and demonstrated savings, TDX decided to invest in an expansion to the wind plant to support economic development on the island through low-cost energy and to generate enough power for residential consumption.

What is TDX' vision for St. Paul wind in the long term?

TDX hopes to further expand the wind farm to ensure all energy consumption on the island is supplied with wind power when the resources are available.

TDX has been pursuing some other wind-diesel projects. Can you tell us about them?

TDX Power is building a 1-MW wind farm in Sand Point, Alaska, with 50% project funding support from the Alaska Energy Agency. This will make Sand Point the largest high-penetration project in Alaska, and we believe it will reduce diesel consumption by 140,000 gallons per year. TDX Power also recently won a competitive solicitation with the U.S. Air Force to develop a high-penetration project at

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Tin City, a long-range radar site in northwest Alaska. The project will experience unprecedented rime ice, and TDX Power will deploy a new heating package on a remanufactured Vestas V27 wind turbine. Lastly, TDX Power will develop a small wind project in Nikolski, a small community at the end of the Aleutian Peninsula.

What makes a good wind-diesel opportunity?

A good wind resource, high fuel prices, and a community that wants to support such a wind project.

What are the remaining challenges for wind-diesel to be a mainstream solution for Alaska villages?

Wind turbine pricing and availability are the major hurdles in Alaska. Knowledgeable developers and vendors, and a lack of many integration and controls options are also significant challenges.

What role can the state and federal governments play in addressing these challenges?

Continued financial support to address the high cost of equipment and remote site costs will be critical.

Name one thing that TDX would like to change to have the greatest impact on wind-diesel applications in Alaska villages.

Product availability! Choices and better pricing for wind turbines would dramatically improve the economics of projects in Alaska.

Any final comments for our readers?

Wind-diesel projects in remote locations are difficult, but the technology is now proven. With current fuel prices, it is an attractive option for generating power.

Photo credit: TDX

Three wind turbines completed at TDX' St. Paul Island installation.

Students Celebrate National Climate Action Day

Sixth graders on the Rosebud Sioux Indian Reservation tour the Casino Wind Turbine site while also participating in a balloon release for National Climate Action Day.

Photo credit: R.Gough

Fort Peck Tribes Reduce Electric Bills

The Fort Peck Tribes of Poplar, Montana, are taking advantage of the ever-present prairie winds to reduce their electric bill.

Power from two 50-kW wind turbines began flowing into the Tribal and Bureau of Indian Affairs complex in Poplar recently, and tribal officials expect to cut their power bills by two-thirds, for an annual savings of $30,000.

The planning for the two towers started 10 years ago when site feasibility analysis showed the average wind speed on some areas on the reservation averaged 15 mph, said Tribal Councilman Stoney Anketell, who pushed for the project since 1996. Twelve months of wind data were collected at five sites: Cameron Point, Cameron Ridge, Wall Ridge, Scout Mesa, and Poplar Bluff. The data indicate average wind speeds within the U.S. Department of Energy (DOE) classes 5 and 6 (considered an excellent resource).

"These wind conditions out here are ideal for this," Anketell said. "But it's only the first step of where we want to go."

Anketell said his goal is to eventually obtain the resources to build a wind farm on the reservation to provide power for all of the 12,000 Assiniboine and Sioux tribal members. Extra power, he said, could be sold to power companies for a profit.

The initial assessment showed Fort Peck is able to support a utility-scale wind farm.

"The neat thing about wind is that it can go 24 hours a day, seven days a week," said Allan Hardtke, a wind energy expert from Billings hired by the tribe to help install the turbines and help with the project.

The Fort Peck Tribes and Fort Peck Community College obtained a $350,000 grant from DOE 5 years ago to build

one larger tower on the reservation. The larger tower would have cost $965,000; however, the tribes didn't have the money to complete the project.

In danger of losing the grant in 2005, Anketell and Hardtke came up with a plan to save the project through a smaller price tag. The tribe decided to try two smaller towers, instead of one large one.

"We changed the scope of the grant and resubmitted it. When we got the green light, it set everything in motion," Anketell said.

The tribe had to match the grant by providing labor and construction costs for both towers. Hardtke's Billings company, with the help of tribal workers, installed the towers.

As soon as the wind turbines were erected, they got a workout during some mild storms. For the turbines to turn, the wind must blow at least 8 miles an hour to generate electricity.

"If we had a third turbine, we'd bring our power bill down to nothing. But that's in the future," Hardtke said.

For more information, contact Robert Gough at Rpwgough@aol.com, or (605) 441-8316.

WEATS 2007

Date: August 28 to 31, 2007

Location: Boulder, CO

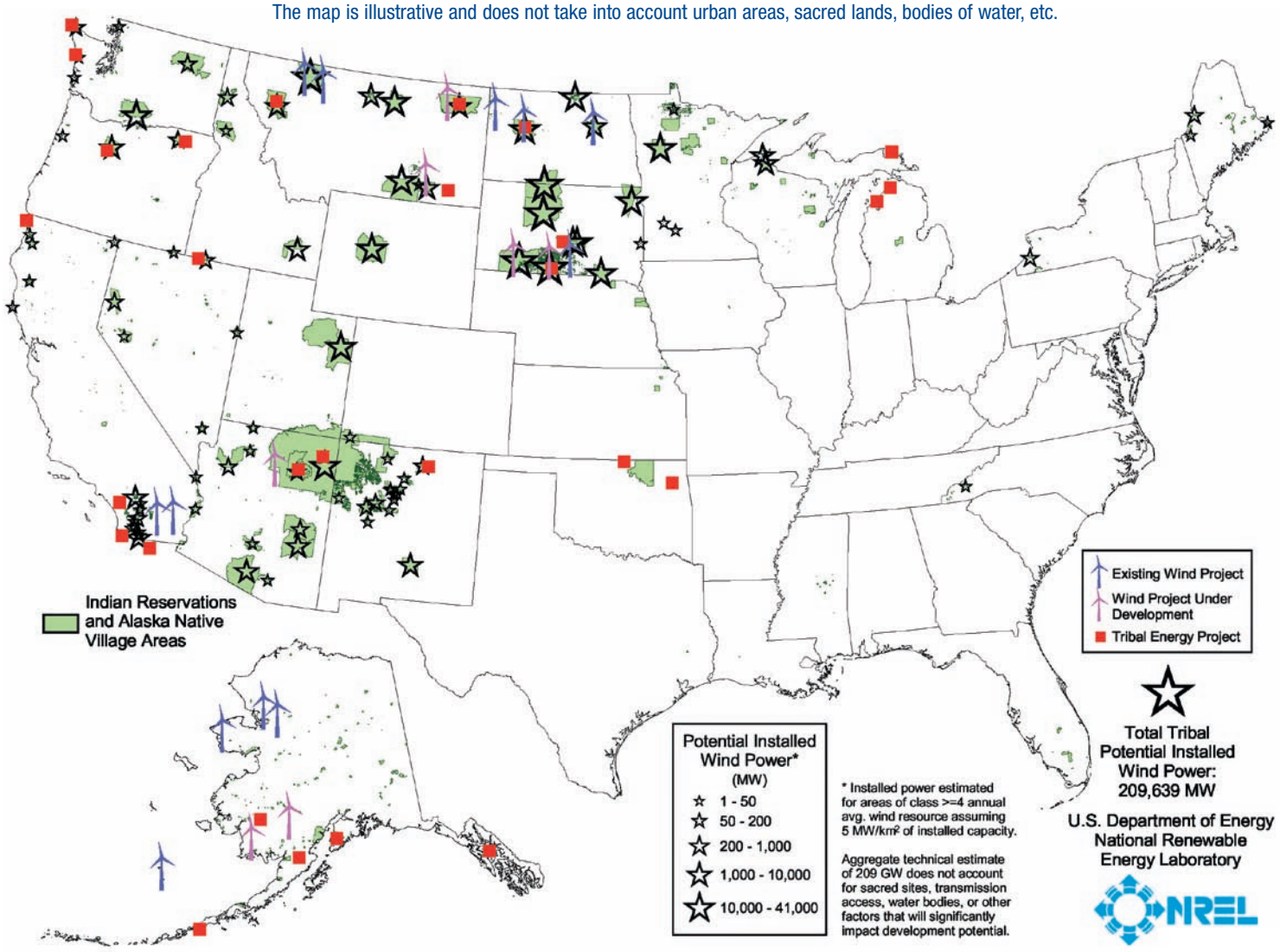
Contact: Robi Robichaud

Phone: 303-384-6969

The Wind Energy Applications Training Symposium (WEATS) is an internationally-acclaimed hands-on workshop on wind energy first launched in 1988. Participants observe large and small wind systems in operation in the field and meet with leaders in the U.S. wind energy industry and get acquainted with Native American tribal members and participants from other countries. They develop useful contacts and practical expertise that will help them bring a wind energy project to fruition and ensure it operates successfully and profitably for years.

Native American Tribal Outreach (2007)

This map depicts the maximum potential installed wind capacity on tribal lands (Class 4 winds and above).
The map is illustrative and does not take into account urban areas, sacred lands, bodies of water, etc.



NAWIG Calendar of Events

June 3 – 6, 2007 **WINDPOWER 2007 Conference & Exhibition** — Los Angeles, CA.
www.eshow2000.com/awea/

June 10 – 13, 2007 **National Congress of American Indians Mid-Year Conference** — Anchorage, AK
www.ncai.org/Mid_Year_Session_2007.216.0.html

June 11 – 15, 2007 **Sharing Indigenous Wisdom: An International Dialogue on Sustainable Development** — Green Bay, WI
www.sharingindigenouswisdom.org/

Aug. 25, 2007 **American Renewable Energy Day** — Aspen, CO
www.areday.net/

Aug. 28 – 31, 2007 **Wind Energy Applications Training Symposium/WEATS** — Denver, CO
www.eere.energy.gov/windandhydro/windpoweringamerica/calendar.asp

Nov. 11 – 16, 2007 **64th Annual Convention of the National Congress of American Indians** — Denver, CO
www.ncai.org/64th_Annual_Convention.219.0.html

June 1 – 4, 2008 **National Congress of American Indians Mid-Year Conference** — Reno, NV
www.ncai.org/Event_View.154+M5a617a60665.0.html?&tx_ttnews%5bbackPid%5d=22&tx_ttnews%5btt_news%5d=204

Sept. 19 – 24, 2008 **65th Annual Convention of the National Congress of American Indians** — Phoenix, AZ
www.ncai.org/Event_View.154+M56785fbd954.0.html?&tx_ttnews[backPid]=22&tx_ttnews[tt_news]=20

Current Native American wind events can also be found on the Wind Powering America Web site at *www.windpoweringamerica.gov/native_americans.asp*

Useful Links

Wind Powering America • *www.windpoweringamerica.gov*
American Wind Energy Association • *www.awea.org*
U.S. Department of Energy Tribal Energy Program • *www.eere.energy.gov/tribalenergy*
National Wind Coordinating Committee • *www.nationalwind.org*

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For more information contact:
EERE Information Center
1-877-EERE-INF (1-877-337-3463)
www.eere.energy.gov

A Strong Energy Portfolio for a Strong America
Energy efficiency and clean, renewable energy will mean a stronger economy, a cleaner environment, and greater energy independence for America. Working with a wide array of state, community, industry, and university partners, the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy invests in a diverse portfolio of energy technologies.

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