



MANDAN, HIDATSA, & ARIKARA NATION

Utility Wind Scale Turbine Demonstration
Project on the Fort Berthold Reservation in
North Dakota

DE-FC36-99GO10472/M001

August 13, 1999 to September 30, 2005



VISION

To empower the MHA Nation to become self-sufficient, while honoring our heritage and taking responsibility for our future, and promoting our sovereign nation by linking our cultural values with modern business practices for a strong and stable Tribal Government.



MISSION

The Renewable Energy Resources Department of the MHA Nation will provide to the tribe and people a repertoire, sanction by governing bodies evolutionary to energy supply and demand.



OVERVIEW

The MHA Nation is interested in exploring wind energy to determine how this renewable energy technology can be utilized to foster local economic development and contribute towards tribal energy independence by providing clean, renewable energy.



OVERVIEW

- The MHA Nation propose installing a new Atlantic Orient Corporation (AOC) 15/50 60 Hz, 66 kW wind turbine on tribal land to provide power to a tribal facility.
- This demonstration turbine will provide the tribe with an opportunity to gain valuable knowledge and experience in wind energy technology, allowing the tribe to make better-informed decisions in the future regarding how wind energy can contribute to economic development, energy independence, and self-reliance.



Location

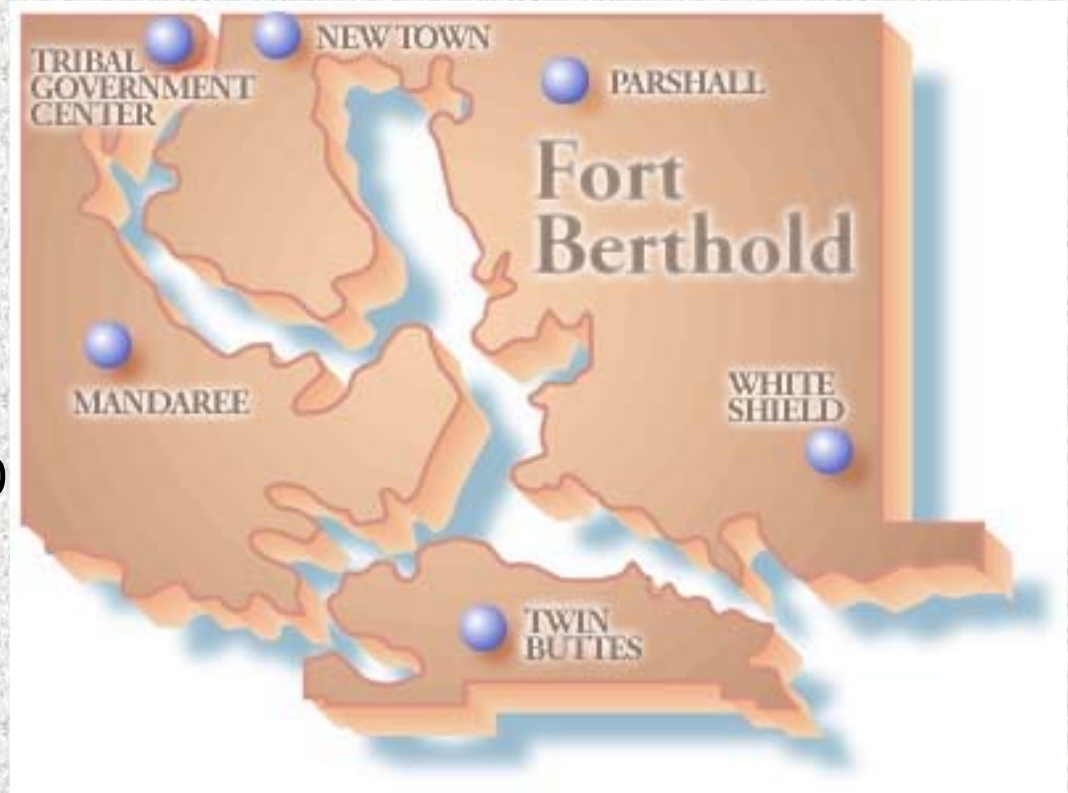


- Located in northwestern North Dakota, the Fort Berthold Reservation was originally established by the Fort Laramie Treaty of 1851.
- The current boundaries, as determined by an Act of Congress in 1891, encompass approximately 996,000 acres or about 1565 square miles.
- Portions of six counties are included within the reservation's exterior boundaries.



OVERVIEW

- Fort Berthold is home to members of the Mandan, Hidatsa, & Arikara Tribes. While approximately 12,000 members are enrolled on the reservation, only 5,600 reside on the reservation
- 5,800 non-Indians living within the exterior boundaries augment this population.
- The economic base of the reservation has been largely agriculture, with Independent and Tribally owned professional business's now becoming primary.





PROJECT PARTICIPANTS

- Department of Energy (DOE), Golden, Colorado – Grant Project Manager
- Mandan, Hidatsa, & Arikara Nation (MHAN), Fort Berthold Reservation, North Dakota – 1999 Recipient
- Distributed Generation Systems Inc. (Disgen), Lakewood, CO. – Consultant
- Architects/Engineers (EAPC), Grand Forks, ND – Consultant
- Energy & Environment Research Center, Grand Forks, ND – Wind Feasibility Study



PARTICIPANTS

- Atlantic Orient Corporation (AOC),
Charlottetown, Prince Edward Island, Canada –
Developer
- Material Testing, LLC, Minot, ND – Soil
- Dakota Engineering, New Town, ND – Tribal
Member
- Fort Berthold Development Corporation
(FBDC), New Town – Sub-Contractor



PARTICIPANTS

- McKenzie Electric Co-op, Watford City, N.D.
McKenzie County – Utility Service (Basin Electric)
- Greystone Environmental Consultants,
Denver Co. – Environmental Assessment
- MHAN Cultural Dept. & State Historical
Society, Bismarck, ND – Cultural/Historical
- Native Energy, LLC – Green Tag Sales
- Intertribal Council On Utility Policy



TRIBAL PARTICIPANTS

MHA Nation Team Members

- Legal Department
- Contracting Office
- Contracting Specialist
- Natural Resources Department
- Cultural/Historical Department
- Renewable Energy Office
 - Tribal Council
 - Chairman's Office



OBJECTIVES

- Turbine Demonstration Project to be Commissioned and Operational by the end of December, 2004.
- To gain a better understanding of wind energy technology in order to evaluate its potential for creating economic opportunities as well as a means to achieve some level of energy independence.



OBJECTIVES

- To provide actual performance data and hands-on experience for students, instructors, political leaders, and tribal planners, with regard to the development of large-scale wind energy projects on the MHA Nation.
- To perform preliminary economic assessments of a large-scale wind farm site on MHA Nation



OBJECTIVES

- To increase the awareness and acceptance of wind energy development on the MHA Nation and to provide a working example of current wind energy conversion technology.
- To provide a focus and a platform for educational programs on the Fort Berthold Community College campus through technical training, Business training, and environmental studies.



OBJECTIVES

- To provide a forum to initiate and strengthen the essential working relationships among tribal members and state, federal, utility, energy research, and commercial energy development people.
- Obtain or create financing for 100MW



OBJECTIVES

- Establish hydropower and wind by 2007.
- Establish the market for Fuel Cells by 2009.
- Any other renewable energy available to the MHA Nation



Turbine Installation

- Tower Erected on September 29, 2005
- Tower Commissioned on Oct 21, 2005
- Green Tags sold to Native Energy, LLC





Lessons Learned

1. Team learned how to market and sell Green Tags, PPA, Distribution, Project management.
2. Local planning is heart of getting projects off the ground.

Continued education and knowledge.

