National Renewable Energy Laboratory
A national laboratory of the U.S. Department of Energy
Office of Energy Efficiency & Renewable Energy
Innovation for Our Energy Future

Wind Power on Native American Lands: Process and Progress

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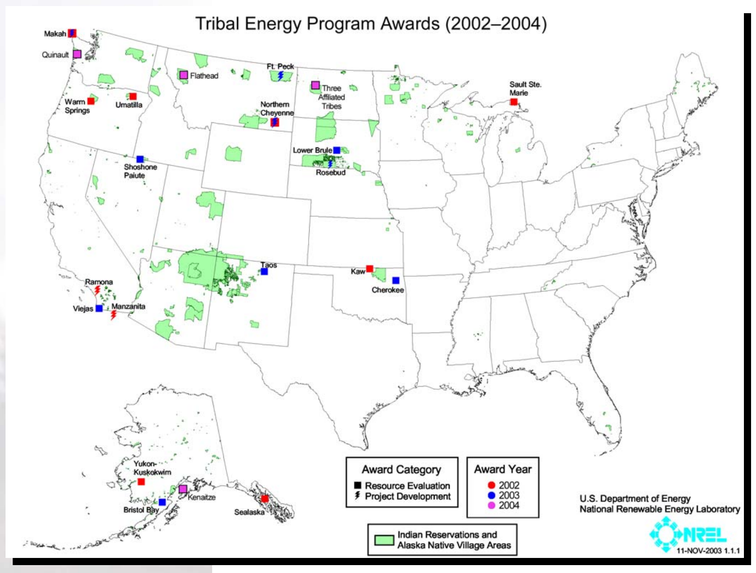
Tribal Energy Program

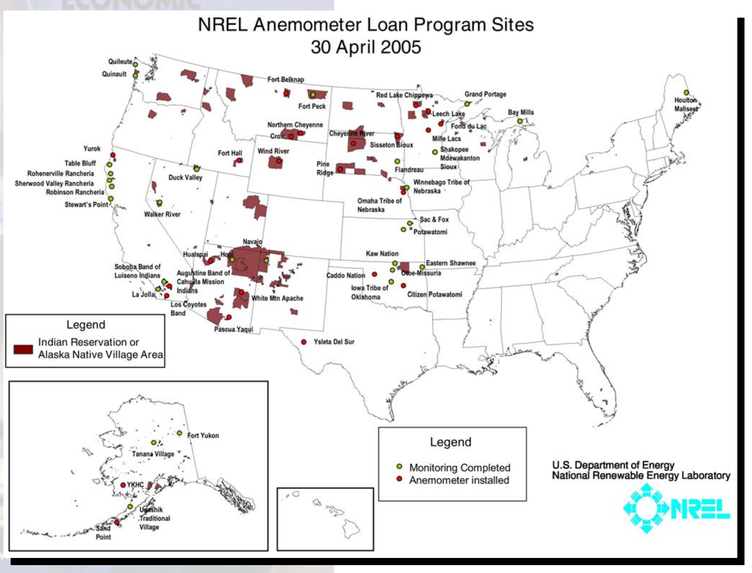
Funding for:

- Strategic planning
- Resource assessment
- Project feasibility studies
- Project development



Wind Powering America

- Anemometer Loan Program
- Wind Energy Applications and Training Symposium (WEATS)
- Native American Wind Interest Group (NAWIG)
- Wind Powering Native America video
- Presence at workshops and conferences
- Technical assistance



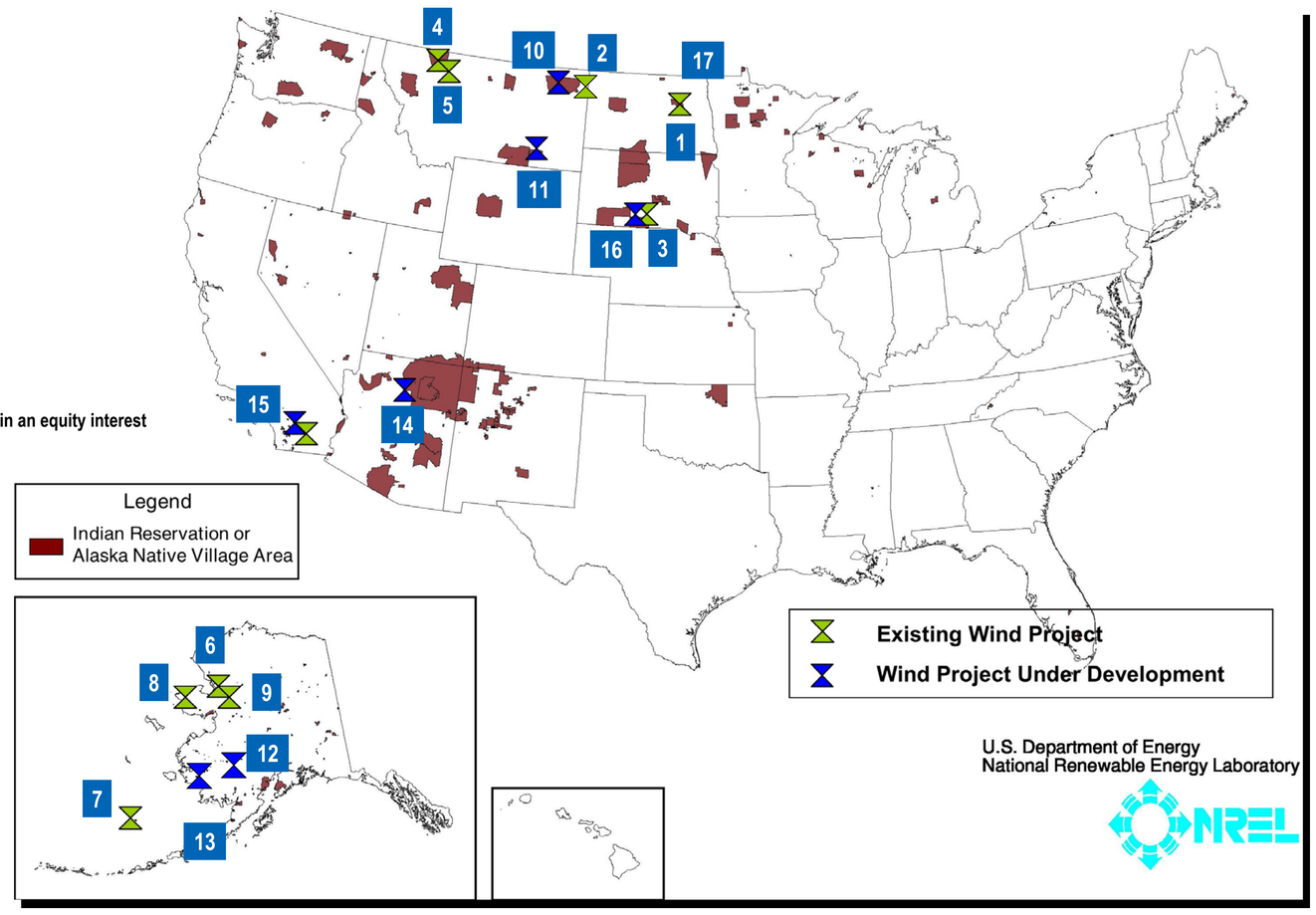
Existing and Pending Native American Wind Projects (April 30, 2005)

In-Place Projects

1. Spirit Lake Sioux (Fort Totten, ND)
   - 1x 100-kW turbine
   - Meets part of casino load
   - Installed 1996
   - Financing: TEP grant
2. Turtle Mountain Band of Chippewa (Belcourt, ND)
   - 1x 100-kW wind turbine
   - Meets part of wastewater treatment plant load
   - Installed 1996
   - Financing: TEP grant
3. Rosebud Sioux (Rosebud Reservation, SD)
   - 1x 750-kW wind turbine
   - Energy sold to Basin Electric and Ellsworth AFB
   - Green tags sold to Ellsworth AFB and Native Energy
   - Installed: 2003
   - Financing: TEP grant, RUS loan
4. Blackfeet (Browning, MT)
   - 1x 100-kW turbine
   - Energy sold to local utility
   - Installed 1996
   - Development supported by TEP
   - Financing: TEP grant
5. Blackfeet (Browning, MT)
   - 4x 10-kW turbine
   - Meets part of wastewater treatment plant load
   - Installed 1999
   - Financing: Field Verification Program
6. Kotzebue Electric Association (KEA) (Kotzebue, AK)
   - 10 x 66-kW turbines
   - 1x 100-kW turbine
   - Initial installation: 1997, subsequently expanded
   - Low-penetration wind-diesel system
7. TDX Power, Inc. (St. Paul Island, AK)
   - 1x 225-kW turbine
   - High-penetration wind-diesel system for TDX industrial area
   - Installed 1999
   - Financing: Totally commercial financing
8. Alaska Village Electric Cooperative (AVEC) (Wales, AK)
   - 2x 66-kW turbines
   - High-penetration wind-diesel system
   - Installed 2000
9. Alaska Village Electric Cooperative (AVEC) (Selawik, AK)
   - 2x 66-kW turbines
   - High-penetration wind-diesel system
   - Installed 2000

Near-Term Projects

10. Assiniboine and Sioux Tribes (Fort Peck, MT)
    - 1x 660 kW wind turbine
    - Energy will be used within the reservation
11. Northern Cheyenne (Lame Deer, MT)
    - 30 MW
    - Installation expected in 2006
    - Development (pre-construction) work financed with TEP grant
    - Tribe will retain an equity interest
12. Alaska Village Electric Cooperative (AVEC) (Kasigluk, AK)
    - 3x 66 kW wind turbines
    - High penetration wind-diesel system
    - Under development: Installation expected in 2005
13. Alaska Village Electric Cooperative (AVEC) (Toksook Bay, AK)
    - 4x 66 kW wind turbines
    - High penetration wind-diesel system
    - Under development: Installation expected in 2005
14. Hopi
    - 15 MW
    - Installation expected in 2005
    - Privately owned project: leasing land from the Tribe
    - Hopi planning to follow up with a wind project in which the tribe will retain an equity interest
15. Kumeyaay
    - 50 MW
    - Installation expected in 2005
    - Privately owned project: leasing land from the Tribe
16. Rosebud Sioux (St. Francis, SD)
    - 30 MW
    - Installation expected in 2006
    - Development (pre-construction) work financed with TEP grant
    - Tribe will retain an equity interest
17. Three Affiliated Tribes (Fort Berthold, ND)
    - 1x 66 kW
    - Will sell energy to local utility
    - Installation scheduled for 2005
    - Financing: TEP grant



Challenges

- Inability to access Production Tax Credit (PTC)
- Higher development costs (NEPA)
- Local utility resistance
- Lack of knowledge about wind development process
- Tribal policies / Native American law

Opportunities

- Wind resource
- Transmission access
- Wind-hydro
- Federal green energy initiatives
- Renewable energy and climate change concerns
- Environmental justice
- Tax advantages/preferences
- Federal outreach programs

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