

Tribes Building Sustainable Homeland Economies

P.O. Box 224, Ft. Pierre, SD 57532

Pat Spears, President - Lower Brule Reservation, SD

Terry Fredericks, Vice President - Ft. Berthold Reservation, ND

Bob Gough, Secretary - Rosebud Reservation, SD

Bill Schumacher, Treasurer - Flandreau Santee Reservation, SD Michael and Eddie Spears, COUP Youth Interns

www.NativeWind.org

INTERTRIBAL COUNCIL On Utility Policy

Council For Environmental Cooperation

September 24-25, 2007

"Indigenous Communities Renewable Energy Forum"

www.Intertribalcoup.org

www.NativeWind.org

www.NativeEnergy.com

Native Wind Powering America

WWW.ENERGYINDEPENDENCEDAY.ORG

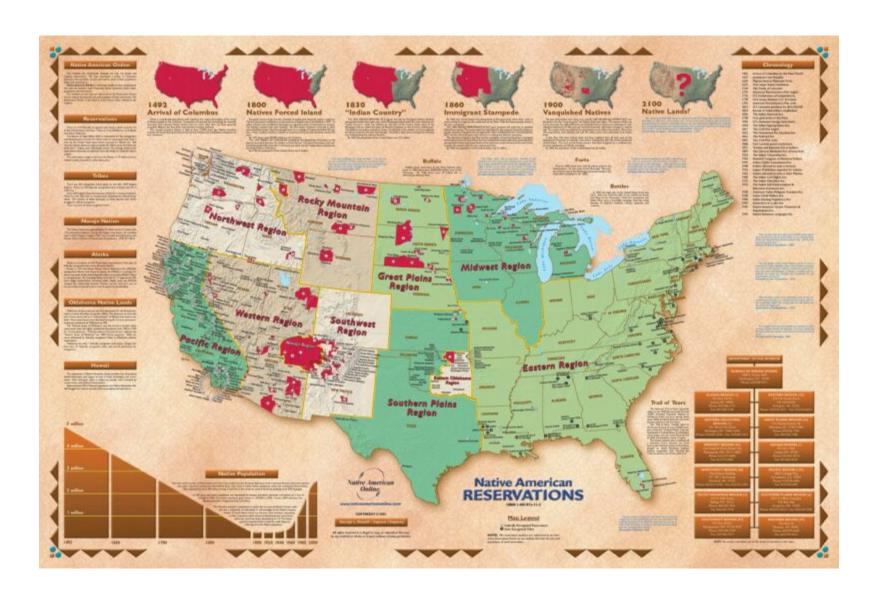
Tribal Renewable Energy

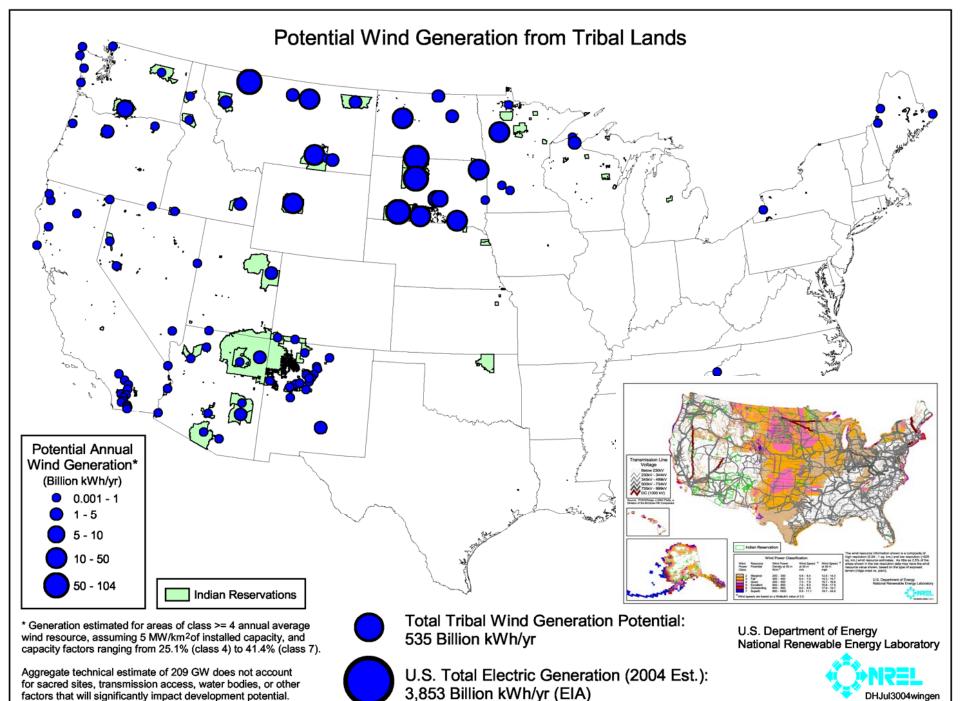
- Indian Reservations are the poorest communities in the U.S. and have the highest unemployment rates.
- Indian Tribes are the fastest growing populations in the U.S with half their members under 18 years of age, and <u>all growth</u> is natural, not immigration.
- Reservation homes are 10 times more likely (14.2%)
 to be without electricity than rest of U.S. (1.4%)
- Tribes have hundreds of gigawatts of renewable energy potential. Tribes could meet most of U.S. electric energy needs with clean green power.
- Federal Trust Responsibility to build Tribal
 Sustainable Homeland Economies/Federal Markets

Rosebud Sioux Turbine •

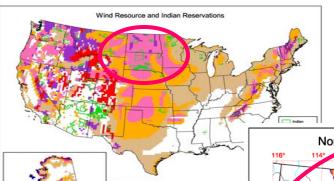
http://www.eia.doe.gov/cneaf/solar.renewables/page/pubs.html

www.NativeWind.org



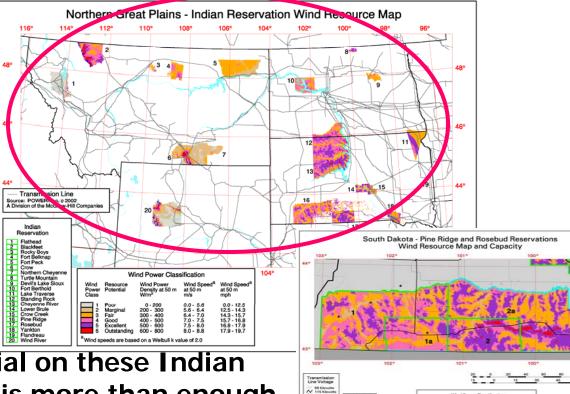


The TREMENDOUS WIND POWER RESOURCES



Found on the NORTHERN GREAT PLAINS INDIAN RESERVATIONS:

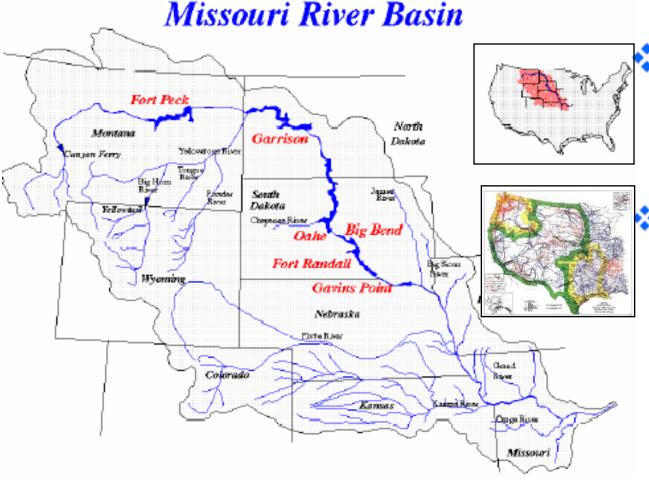
Twenty Northern Plains Indian Reservations hold several hundred gigawatts of wind power potential.



Wind power potential on these Indian Reservations alone is more than enough to meet North American Kyoto targets.

www.NativeWind.org



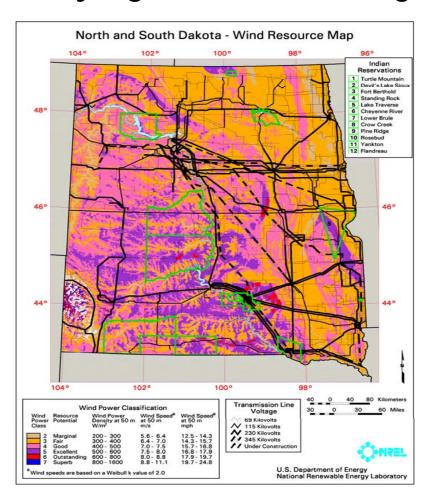


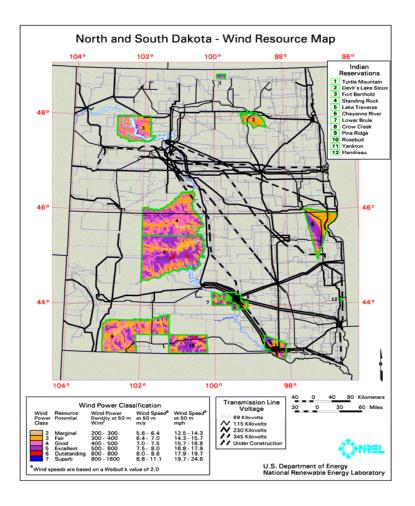
Six dams, 2500 MW capacity (nameplate)

Combined storage 75 million acre-feet (93 billion m³), about 3 times average annual runoff

- Operated by Corp of Engineers
- Marketed by Western Area Power Administration

Treaty Rights, Tribal Sovereignty, Tremendous Wind Resource





Tribal Regulation, Tribal Development, Treaty Partnerships

Rosebud Sioux & Intertribal COUP Environmental Justice Revitalization Plan:

3,000 MWs of Tribally Owned Wind Power Across the Northern Great Plains Financed with Sale of Energy & Environmental Attributes ("Green Tags")

Phase 1 (2003):

1st Tribally owned 750 kW Turbine on Rosebud Reservation
Commissioned March 4th, Dedicated May 1st, 2003
2nd Tribally owned 65 kW Turbine on Ft. Berthold Reservation
Commissioned Oct 4, 2005

Phase 2 (2004/5): 30 MW Wind Ranch on Rosebud Reservation

Phase 3 EJ Demonstration (2004/6): 80MWs: Eight 10 MW Wind Ranches on 8 Reservations

Phase 4 (2004-2008): Expand and Replicate across the Northern Great Plains

3,000 Tribal MW on Great Plains Reservations



750 kW Wind Turbine ~ Rosebud ~ 2003

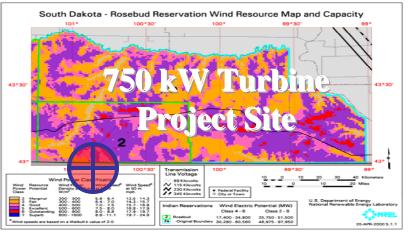
The first 750 kW utility scale NEG MICON wind turbine owned and operated by the Rosebud Sioux Tribe through partnerships:

- Department of Energy (DOE)
- Rural Utilities Service (RUS/USDA)
- DisGen, Inc. (Engineering)
- Basin/CherryTodd/ NPPD/ WAPA/ Ellsworth AFB
- Native Energy/Clean Air-Cool Planet (Green Tags)



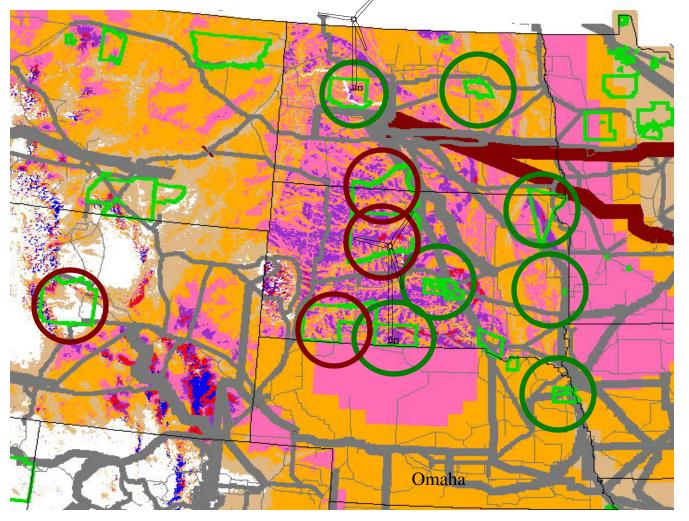
RST TRIBAL COUNCIL/COUP and *NativeEnergy*, *Inc*.





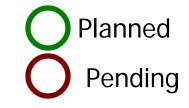
The Intertribal Council On Utility Policy

Intertribal COUP Wind Demonstration Project



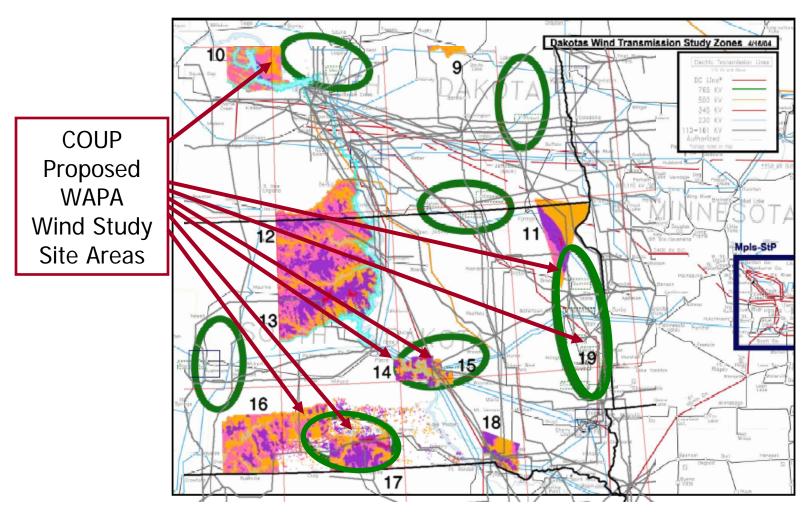
COUP Tribes have, by Resolution, signed on to participate in the Intertribal 80 MW wind development demonstration project, with several more pending.

This tribally-owned, multi-MW intertribal project is to be built in 10 MW clusters on each of the participating COUP Reservations.



WAPA / WIND INTEGRATION STUDY AREA

Includes Several Reservation Interconnection Sites



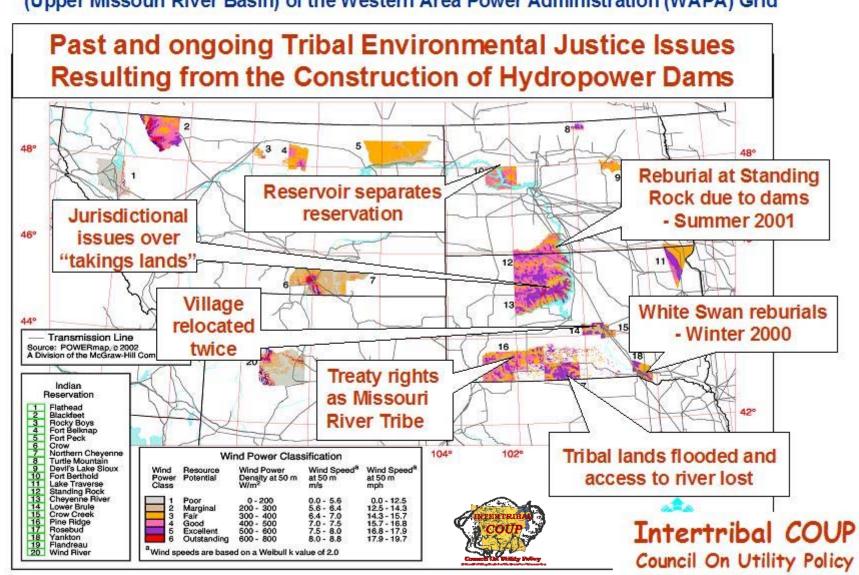
http://www.wapa.gov/ugp/study/DakotasWind/Zone%20Map.pdf



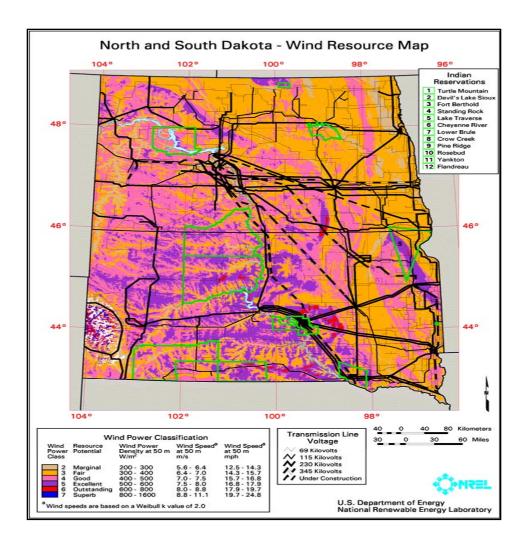
Intertribal Wind Planning and Policy Project

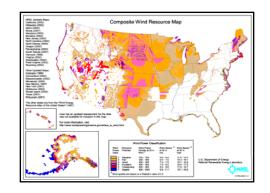
Intertribal Council On Utility Policy (COUP)

Wind Resources on Northern Plains Reservations located in the Eastern Pick-Sloan Region (Upper Missouri River Basin) of the Western Area Power Administration (WAPA) Grid



PROTECTING CULTURAL RIGHTS



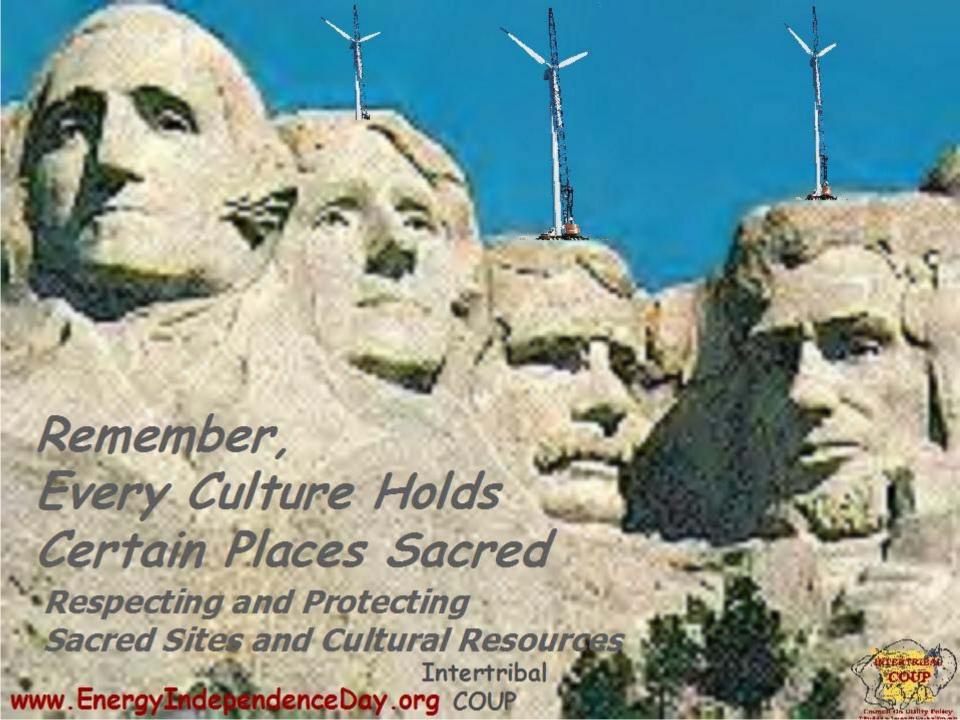


Sacred Sites and Cultural Resource Protection

In the Dakotas, some of the best winds are found in the Black Hills. But the Black Hills are sacred to the Lakota.

Tribes are not likely to promote wind projects there. However, we have found some previously disturbed federal land there ...

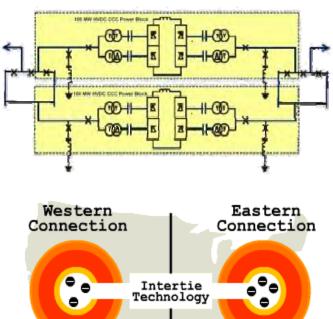




Rapid City DC Tie

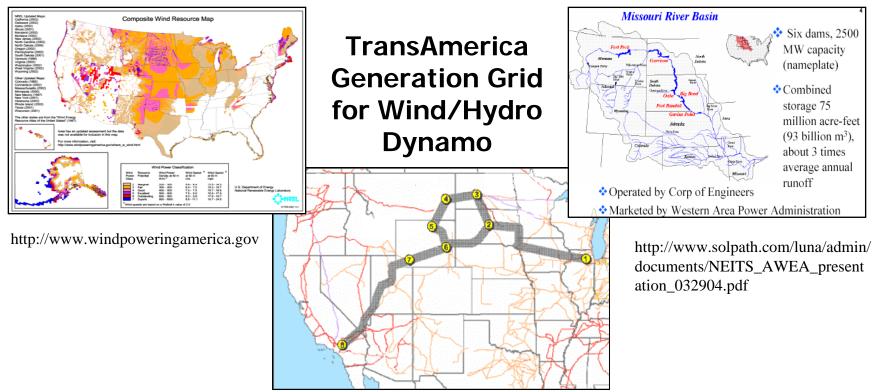
The 200 MW Rapid City DC Tie, South Dakota, owned by Basin Electric Power Cooperative interconnects the power system of eastern USA with the western system. The North American continental divide in electricity runs through western South Dakota.





Tribal Wind / Federal Hydropower Renewable Energy Dynamo

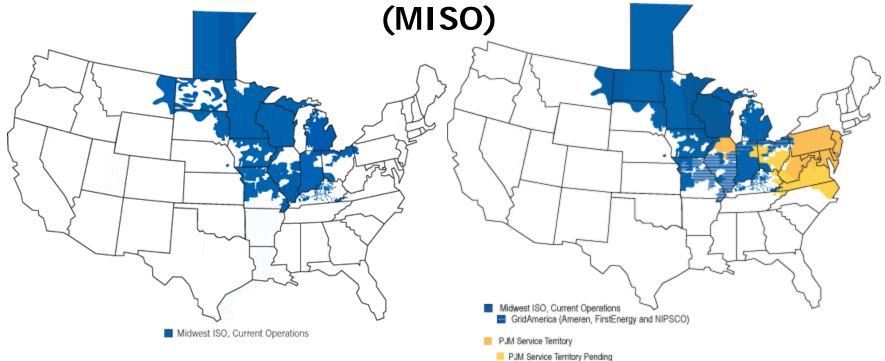
World's Largest Hydropower Storage System Could Operate as a Wind Storage Battery



New and Upgraded Transmission Needed To Deliver Clean Abundant Wind Power to Load Centers



Midwest Independent Transmission System Operator



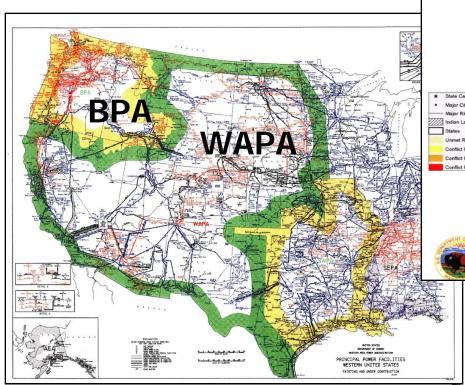
The Midwest Independent Transmission System Operator, Inc. and PJM Interconnection are working together to develop complementing system operations and one robust, non-discriminatory wholesale electricity market to meet the needs of all customers and stakeholders in 23 states, the District of Columbia and the Canadian province of Manitoba. The market is being developed through an open stakeholder process and is being designed to serve residents regardless of whether they reside in states with bundled or unbundled retail rates.

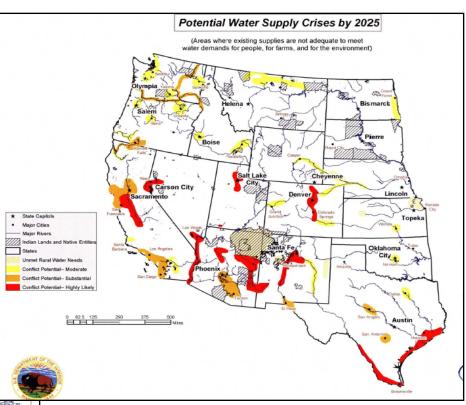
WWW.NativeWind.org

National Renewable Energy Grids

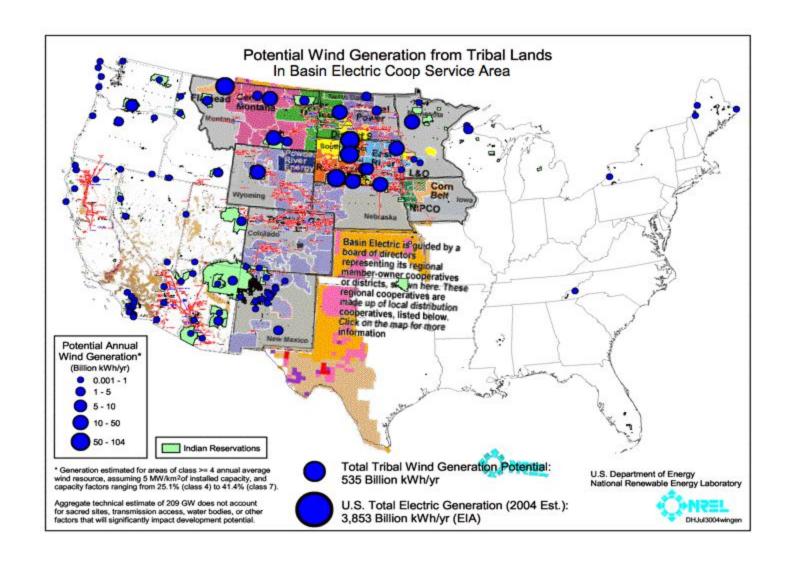
BPA and WAPA Renewable Hydropower Grids (in red)
Are The Backbone of the U.S. Western Transmission Grid

But WAPA hydropower is diminishing under drought





... and with regional growth and conventional generation.



Western Area Power Administration's Goals for 2007:

"three key areas covered In the Energy Policy Act"

Face to face with Western's new Administrator

(Editor's note: As we look toward Western's future, the Closed Circuit sat down with Western's new Administrator, Tim Meeks, Jan. 9, to gain his perspectives on Western's future, as well as his goals and expectations for 2007.)

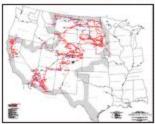
CC: What goals do you have for Western and its employees this year?
Tim: As I shared with our customers at the MidWest Electric
Consumers Association meeting, there are three key areas covered in the Energy Policy Act that we will be focusing on externally.

First is our duty as a transmission owner and provider. I think of transmission as being the ultimate key to our future. When you look at power marketing, we're here to deliver Federal hydropower. When you look at our long-term future, transmission and operations are services that are growing. Right now, the percentage of Federal hydropower we're providing our customers is decreasing, because our resources aren't growing and the customers' load requirements are. ...

Another area we are focusing on is integrating wind into the existing transmission system. Wind energy is here. It's a renewable resource that is getting a lot of attention both from consumers and politicians. Wind energy is the world's fastest-growing energy technology. We need to do what we can physically to make it easier for wind generators to connect to the system.

Thirdly, I anticipate expanding our partnership with Native American tribes to foster economic development on reservations. I know that's a very hard thing to quantify for success tracking, but we're going to continue to reach out to the tribes. They are our customers and we need to ask them, "What do you value from us and how can we help you develop and grow economically?"

Transmission



Wind



Native American Tribes



Want to see America's new ghetto? Follow the Rockies northwards towards the Great Plains

The poorest part of America ~ Not here, surely?

The Economist ~ Dec. 8, 2005



No place so demonstrates the shaky economic state of rural America as the northern Rockies and western Great Plains. Virtually all of the 20 poorest counties in America, in terms of wages, are on the eastern flank of the Rockies or on the western Great Plains.

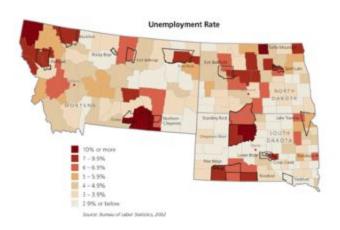
There are two unusual things about the deprivation in this region. First, it is largely white. The area does include several pockets of wretched Native American poverty, but in most areas the poor are as white as a prairie snowstorm. Second, most people do not think of themselves as poor.

PERSONAL INCOME, UNEMPLOYMENT AND INDIAN COUNTRY

Per Capita PERSONAL INCOME By County



UNEMPLOYMENT RATE By County



Final Report –Nancy G. Maynard, Editor

CIRCLES OF WISDOM



U.S. Global Change Research Program

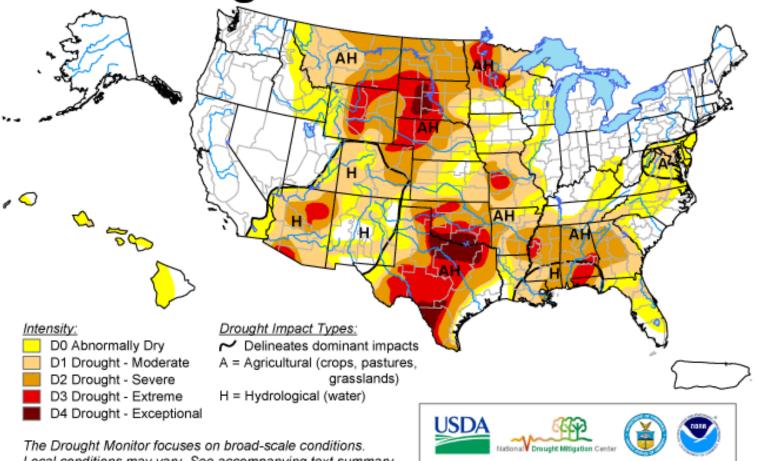
OCTOBER 28 – NOVEMBER 1, 1998 Albuquerque Convention Center Albuquerque, New Mexico

Sponsors: The National Aeronautics and Space Administration American Indian Chamber of Commerce of New Mexico City of Albuquerque "Entering the 21st century, a prime Native strategy encourages the development of sustainable homeland economies to ensure survival as Nations and for the restoration of a more balanced climate for Mother Earth. The Strategy includes the protection of naturally diverse ecosystems and the use of renewable energy technologies."

www.usgcrp.gov/usgcrp/Library/nationalassessment/native.pdf

U.S. Drought Monitor

August 22, 2006

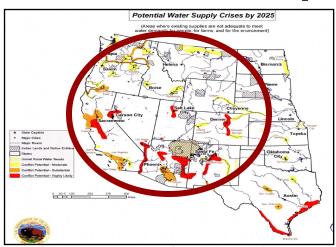


The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://drought.unl.edu/dm

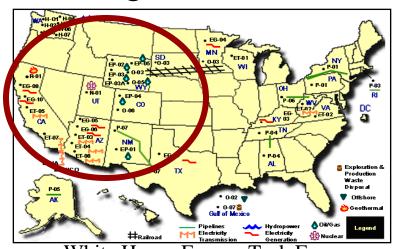
Released Thursday, August 24, 2006
Author: Brian Fuchs, National Drought Mitigation Center

Predicted Western Water Crises Areas Do Not Consider Proposed Energy Development Projects



U.S. Bureau of Reclamation

Potential Water Supply Crises Areas Where existing supplies are not adequate to meet water demands.



White House Energy Task Force

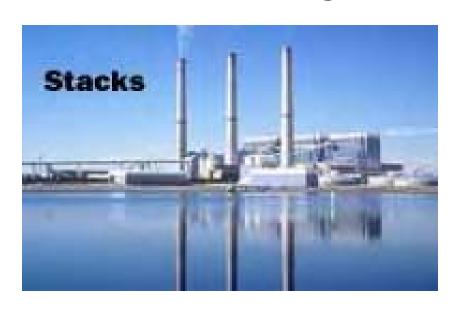
Proposed Electricity Generation and Associated Transmission Projects Depend on adequate water supplies.

Rights to Water Supplies: Single Greatest Constraint on Future Energy Development and Greatest Threat to Tribal Water Rights.

Wind produces lower cost utility scale electricity without consuming water!

www.NativeWind.org

Conventional electricity generation consumes thousands of gallons of water per minute!!



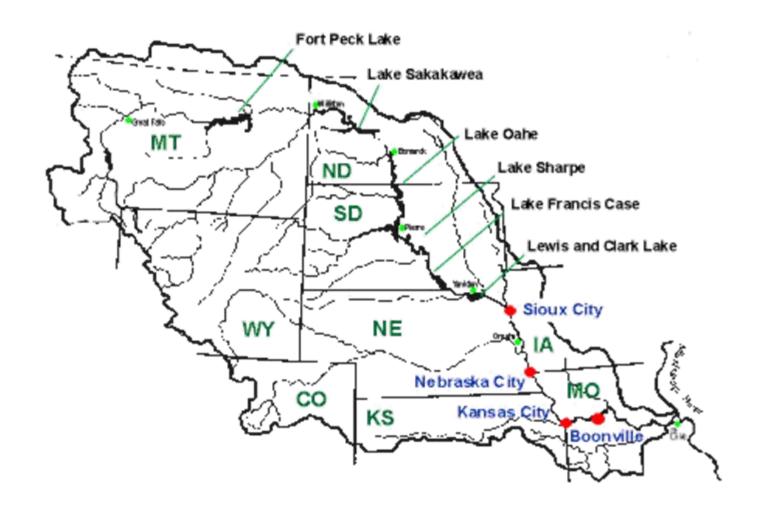


Induced-draft fans, located near the stack, pull the exhaust gases through the environmental equipment and send it up the stack. On cold days, the white plume from the stack of this type of plant is actually just water vapor condensing. On hot days, even though the plant is operating, stack emissions are clear.

Source: Basin Electric website

The hot water is pumped from the condenser to the top of the cooling tower. It cascades to the bottom against cool air being forced up by two dozen 22-foot diameter fans at the base of the cooling tower. Cooling takes place by evaporating thousands of gallons of water per minute from each tower. Not all plants use cooling towers; some pump water from a lake or river and return it.

Intertribal Council On Utility Policy



http://www.nwo.usace.army.mil/html/Lake_Proj/hydropower.html



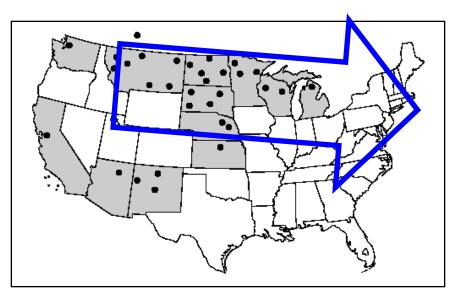
Western Area Power Administration

- One of four power marketing administrations within the U.S. Department of Energy
- Markets and transmits federally produced hydroelectric power
- Approximately 3300 MW of load and 2000 MW thermal generation

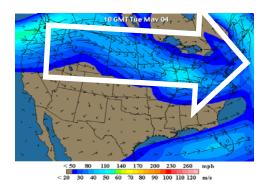


Western's 636 wholesale power customers include cooperatives, municipalities, public utility districts, and project use customers.

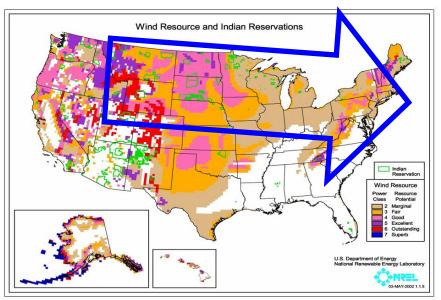
Tribal Colleges and Wind Resources



- Climate/Natural Resource monitoring training/projects
- Meteorological Data Centers
- Wind Development Training courses for Reservation job creation and employment
- Wind Forecasting along the Windshed for value-added firm power sales into the market



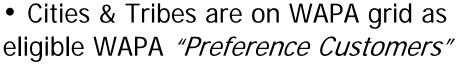
Prevailing Windshed



Restoring and Recharging "The Federal Renewable Energy Grid"





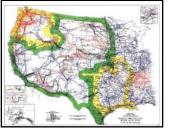


- Federal trust responsibility to Tribes
- Sustainable Homeland Economies
- Great Wind/Hydro Dynamo Potential
- Diminishing Hydropower Resource
- Clean Air Quality and Attainment
- The grid, once 100% renewable, is now only 20% hydropower and 80% coal
- Federal Renewable Energy Grid 20% hydro & 30% wind / 50% coal-gas









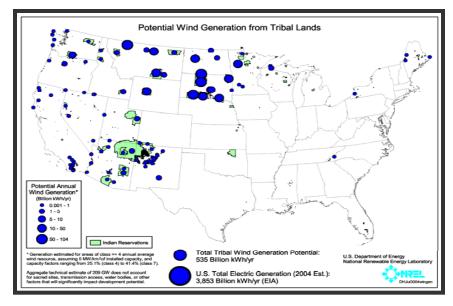
Intertribal COUP Plan For Partnership: 200 US Cities for Climate Protection

(ICLEI ~ International Council for Local Environmental Initiatives)

American Indian Tribes and Nations

Coupling Urban Kyoto Commitments with Tremendous Tribal Renewable Resources



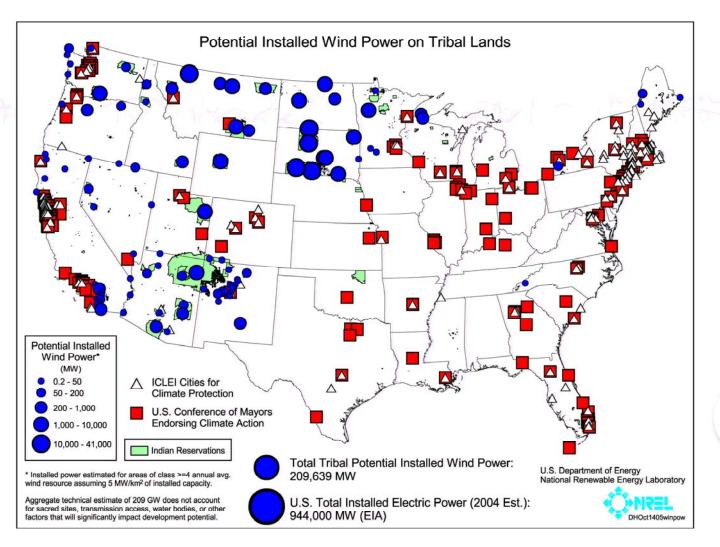




American Leadership Energy Independence Day. org Local Government/Tribal Partnership Signers to Date



COUP/ICLEI ~ Tribal City Partnership ICLEI and U.S. Conference of Mayors









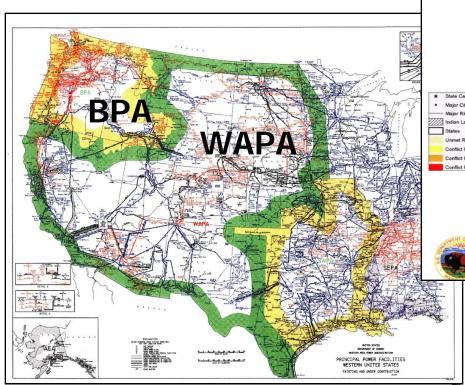


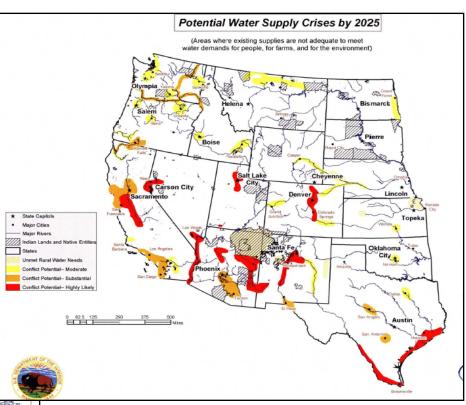


National Renewable Energy Grids

BPA and WAPA Renewable Hydropower Grids (in red)
Are The Backbone of the U.S. Western Transmission Grid

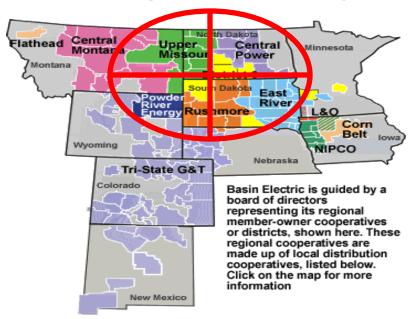
But WAPA hydropower is diminishing under drought



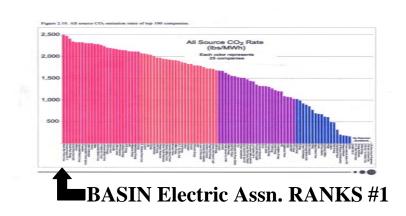


... and with regional growth and conventional generation.

BASIN ELECTRIC G&T RANKS #1



Highest Output of CO₂/MWh in the U.S



A recent study ranked the companies based on the amount of pollution produced relative to their power output. By that measure, Basin Electric Power Cooperative, a relatively small utility in Bismarck, ND, that relies primarily on coal-fired power plants to supply over 100 rural electric co-ops, was identified as producing the *highest output of* carbon dioxide per megawatt-hour of electricity. But the company contends that its plants are among the cleanest coal-burning plants in the nation.

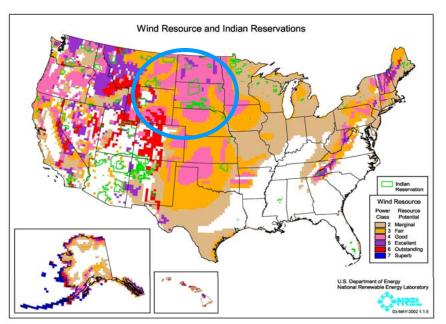
"Bench marking Air Emissions of the 100 Largest Electric Generation Owners in the U.S. - 2000." Natural Resources Defense Council and

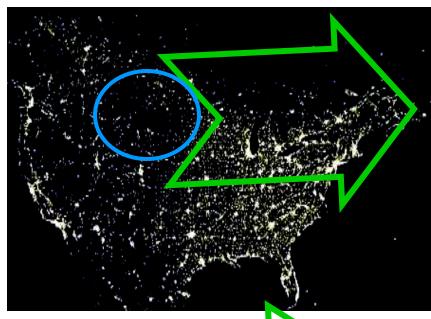
Coalition for Environmentally Responsible Economies, and Public Service Enterprise Group (a Newark NJ utility). From "Study Ranking Utility Polluters Aims to Sway Emissions Debate", By NEELA BANERJEE, NYT, March 21, 2002

Intertribal Council On Utility Policy

Learning That We Live in A WINDSHED!

The Richest Renewable Energy Regime in the World is Just Upwind from the Region of Greatest Energy Consumption and Acid Rain Impacts in North America!!





Sustainable Homeland Economic Development based on Tribal Wind Energy Generation Downwind communities support and benefit from Tribal Wind Energy

www.NativeWind.org

Fighting Climate Change with Renewable Energy:

Tribal Business Opportunities in the Emerging Green Tags Market

April 26, 2005

Renewable Energy Sources Create Two Commodities: **Pollution** Reductions (pounds per kWh) **Green Tags** Environmental / Marketing Rights **Energy - kWh Generic Electricity**

power local grid,

rights

no environmental

GREEN TAGS – the rights to claim the pollution reductions from a certain quantity of renewable electricity, also known as "renewable energy credits" or "green certificates"

Native Energy is now Native-Owned!



Intertribal COUP Executive Council and the founders of NativeEnergy

Intertribal COUP acquires majority stake in leading renewable energy marketer, on behalf of its member tribes.

Rosebud, SD and Charlotte, VT (August 16, 2005) – *Native*Energy, a leading national marketer of Renewable Energy Credits (RECs) and greenhouse gas offsets, and the nonprofit **Intertribal Council On Utility Policy** (COUP), announced today that COUP has acquired a majority interest in *Native*Energy...

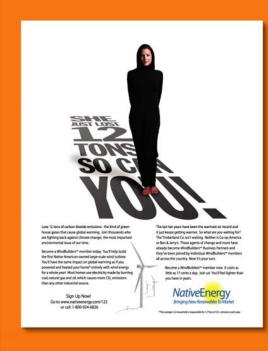
www.NativeWind.org

About *Native*Energy...

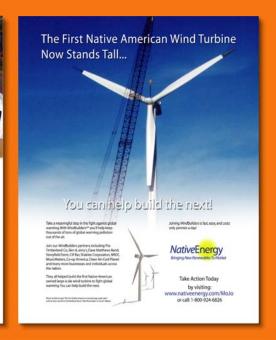
- Renewable energy marketing company
- Native American ownership 2005
- Business Focus:
 - Fighting Global Warming
 - with simple, effective and low cost services
 - Driving Construction of Renewable Energy Projects
 - wind, biogas and solar
 - Supporting Special Projects
 - Native American
 - Farmer-owned, or
 - charitable-purpose

Marketing Tribal Green Tags

Reaching out to the marketplace...







...fighting global warming!



www.NativeEnergy.com



Our business customers and/or marketing partners include









































The Intertribal COUP Wind Energy Plan receives a World Clean Energy Award for "Courage"





Sitting Bull

So ...

"Let Us Put Our
Minds Together and
See What Life We
Will Make for Our
Children."



ALLIANCE OF SCIENCE, BUSINESS, GOVTS, AND NATIVE LEADERS:

NATIVE
RENEWABLES:
ENERGY SOLUTIONS
FOR TRIBES AND
AMERICA

WWW.NATIVEWIND.ORG



