

DOE TEP 2004

INTERTRIBAL Council on Utility Policy COUP

Tribes Building Sustainable Homeland Economies

P.O. Box 25, Rosebud, SD 57570

Pat Spears, President - Lower Brule Reservation, SD

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

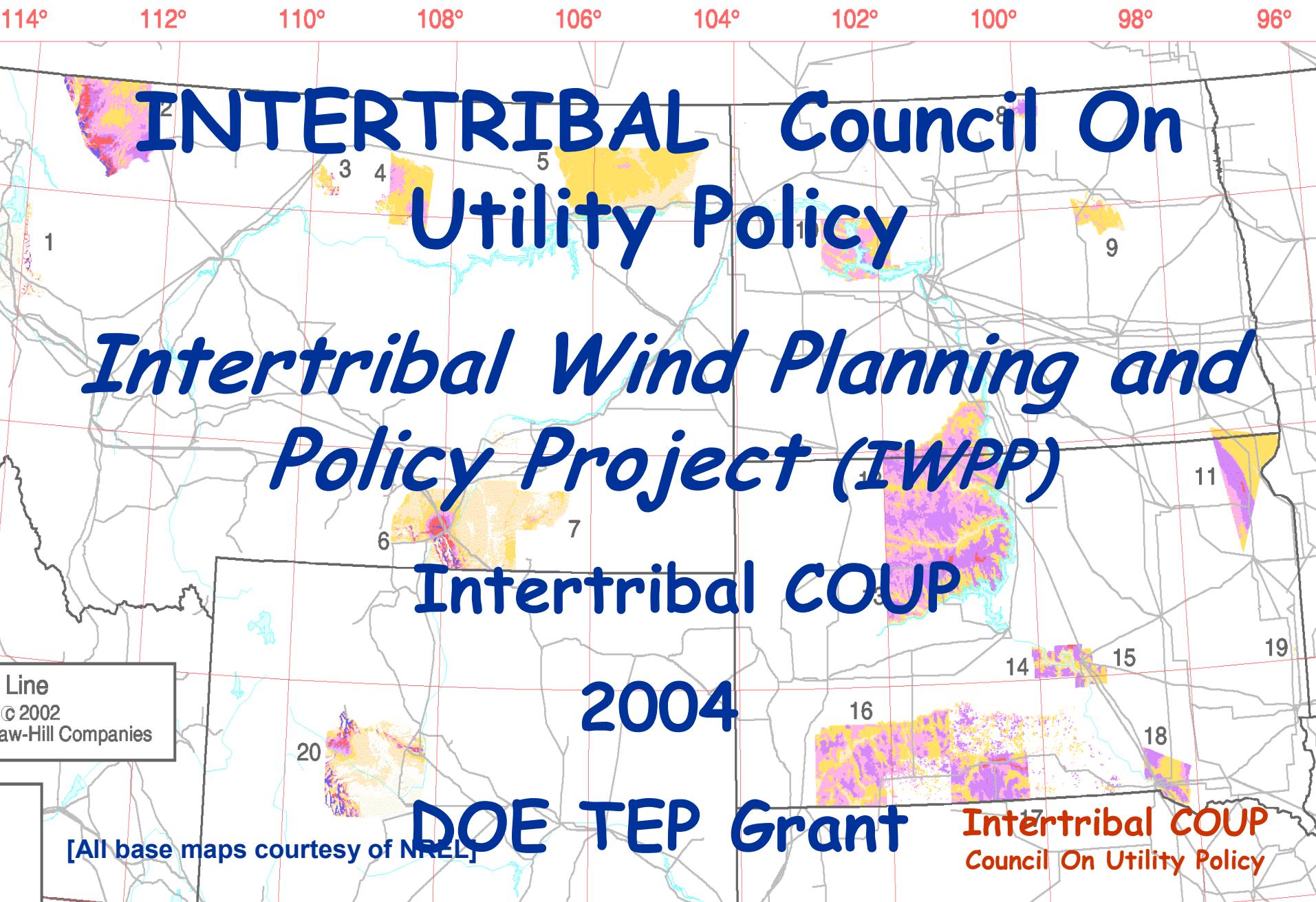
Bob Gough, Secretary - Rosebud Reservation, SD

Sam Allen, Treasurer - Flandreau Santee Reservation, SD

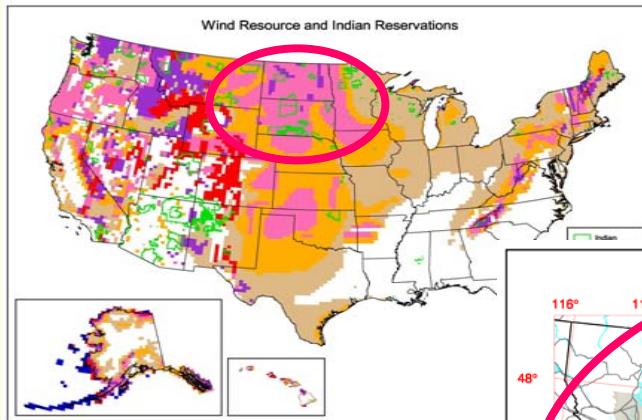
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www.EnergyIndependenceDay.org

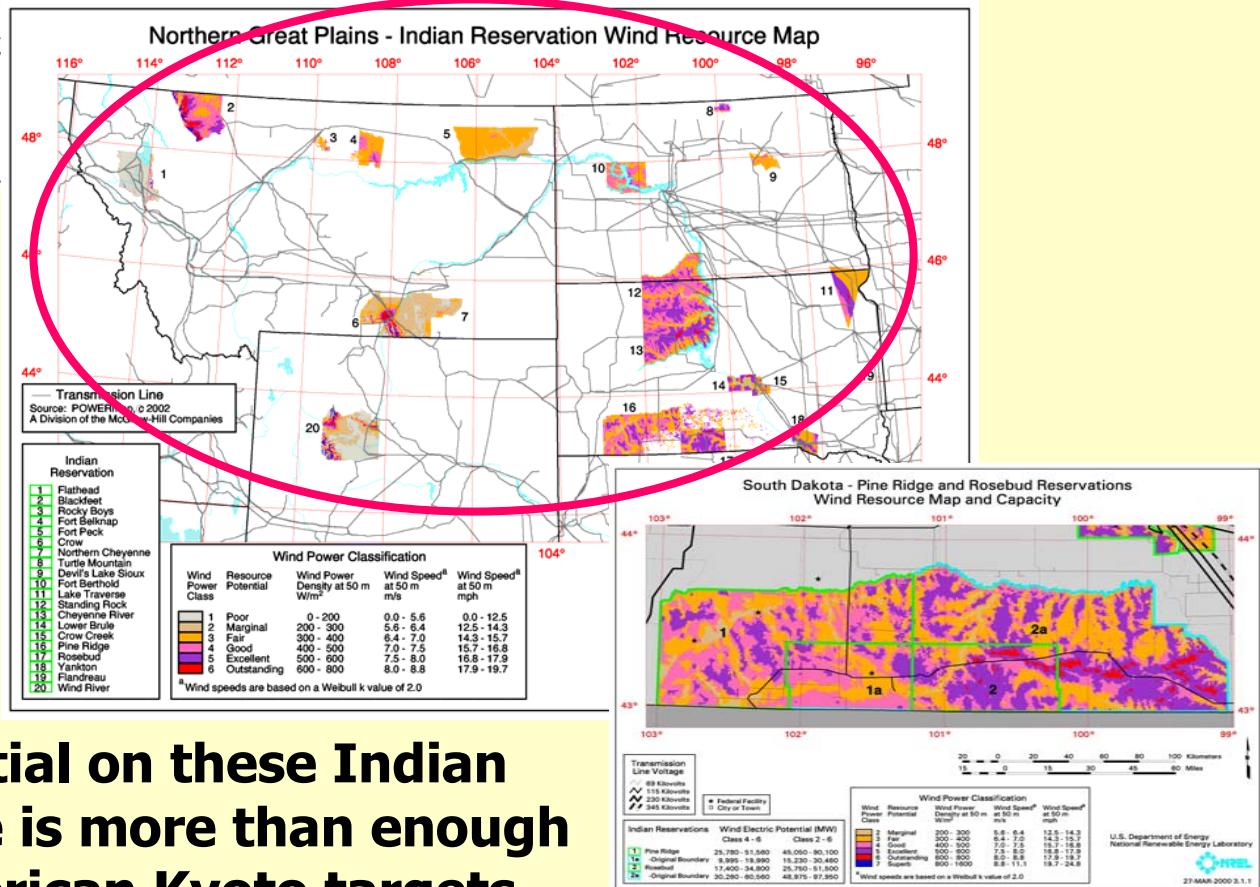
Northern Great Plains - Indian Reservation Wind Resource Map



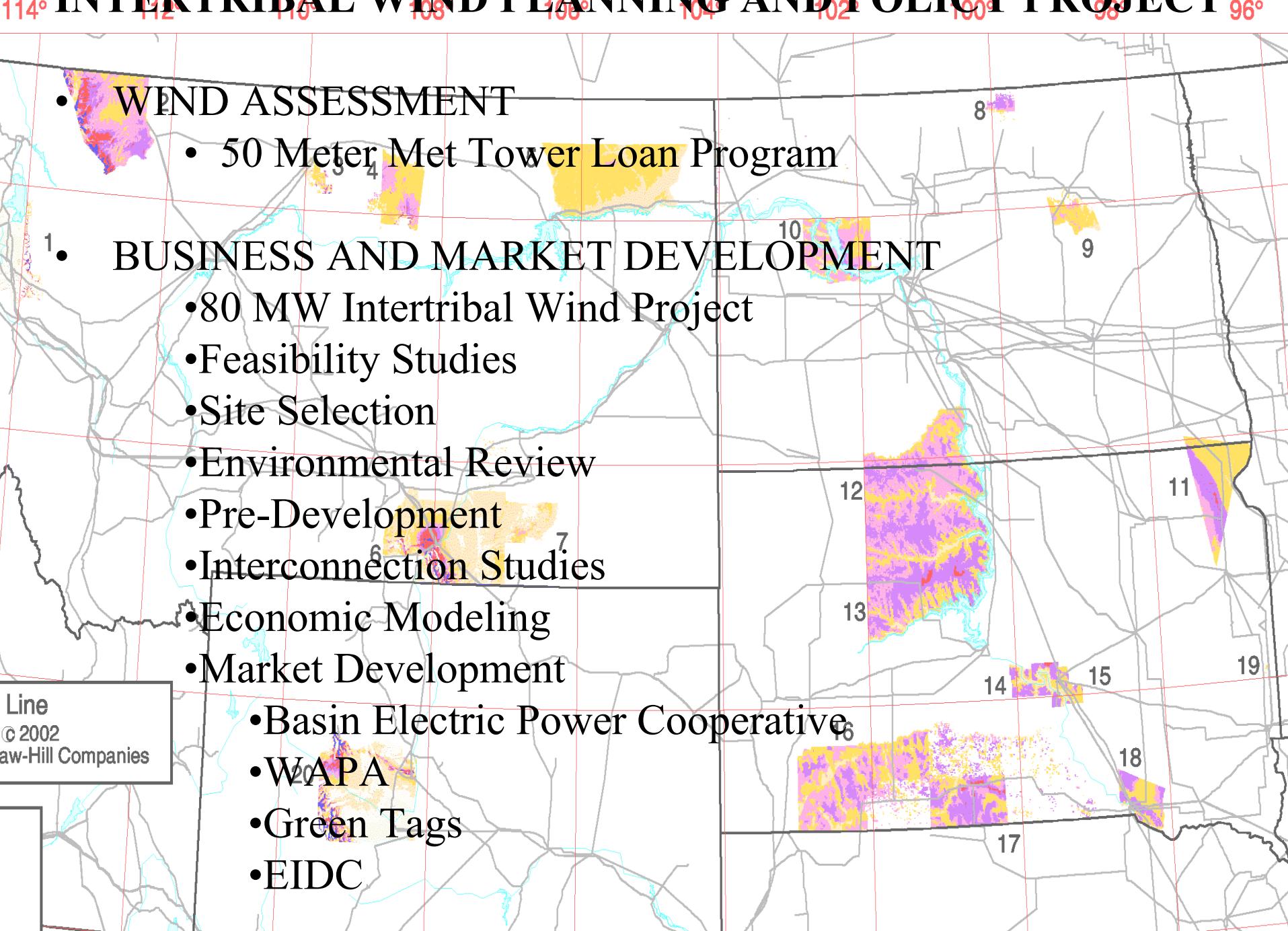
The TREMENDOUS WIND POWER RESOURCES Found on the NORTHERN GREAT PLAINS INDIAN RESERVATIONS:



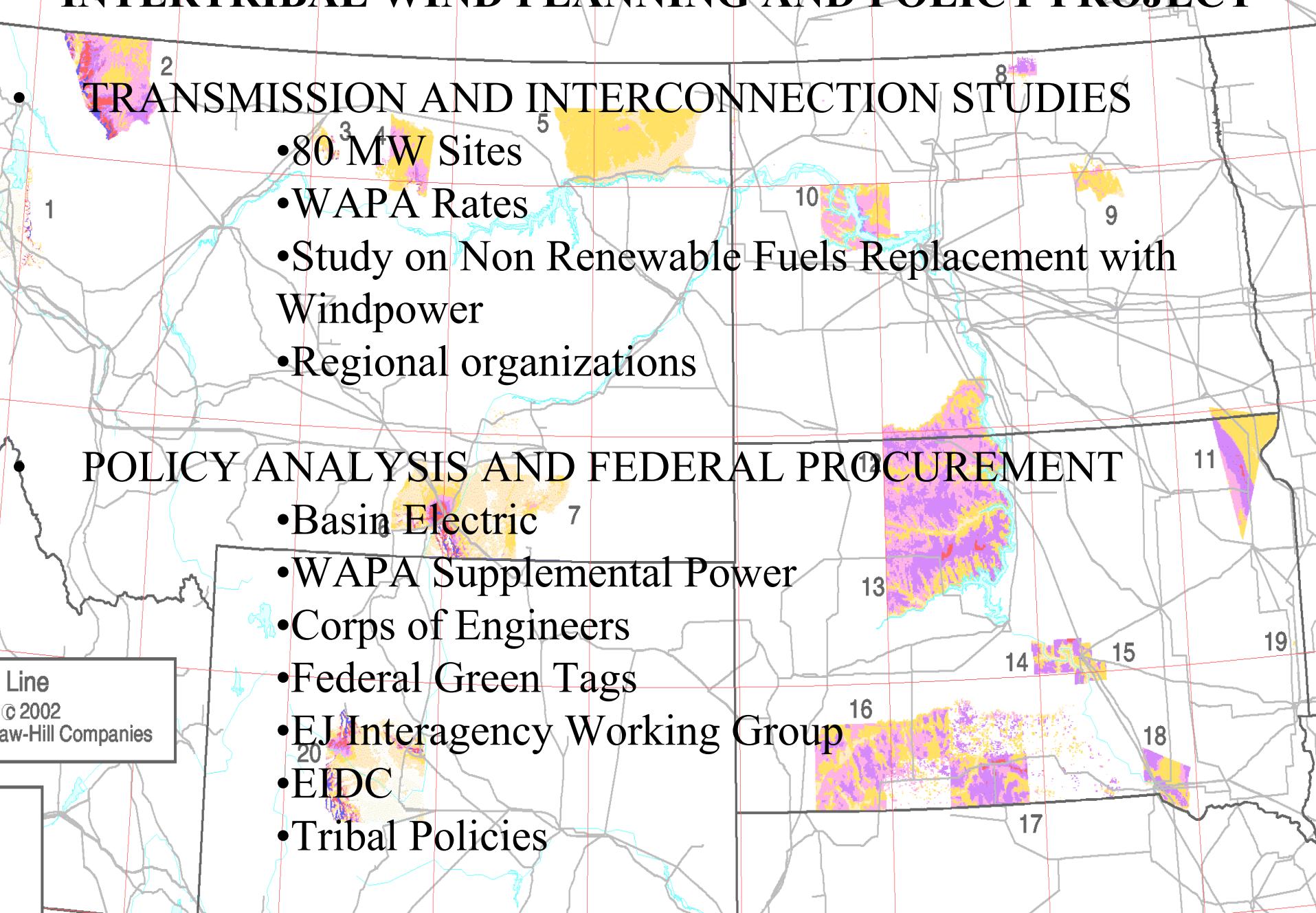
**Twenty Northern
Plains Indian
Reservations hold
several hundred
gigawatts of wind
power potential.**

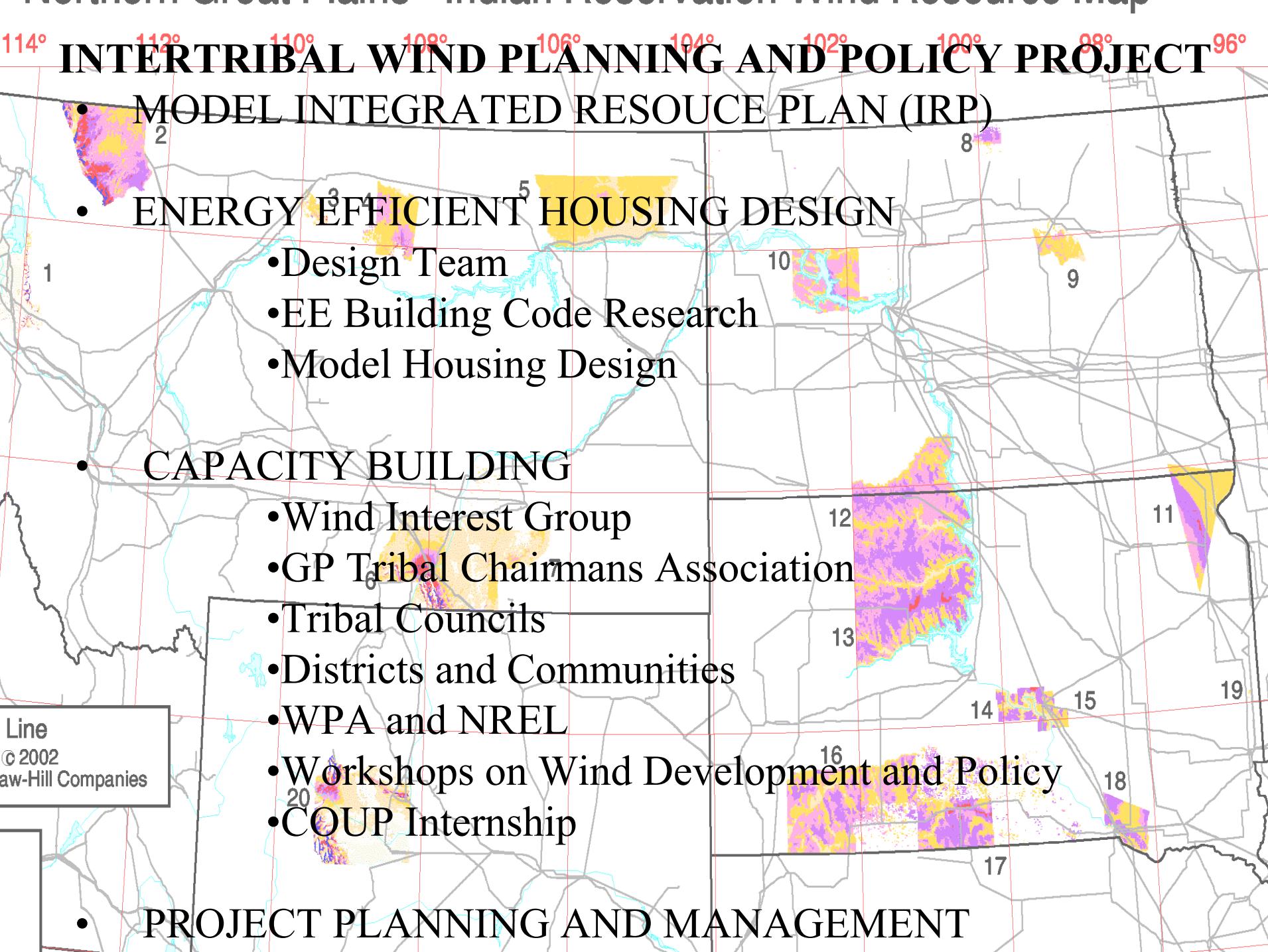


**Wind power potential on these Indian
Reservations alone is more than enough
to meet North American Kyoto targets.**



INTERTRIBAL WIND PLANNING AND POLICY PROJECT



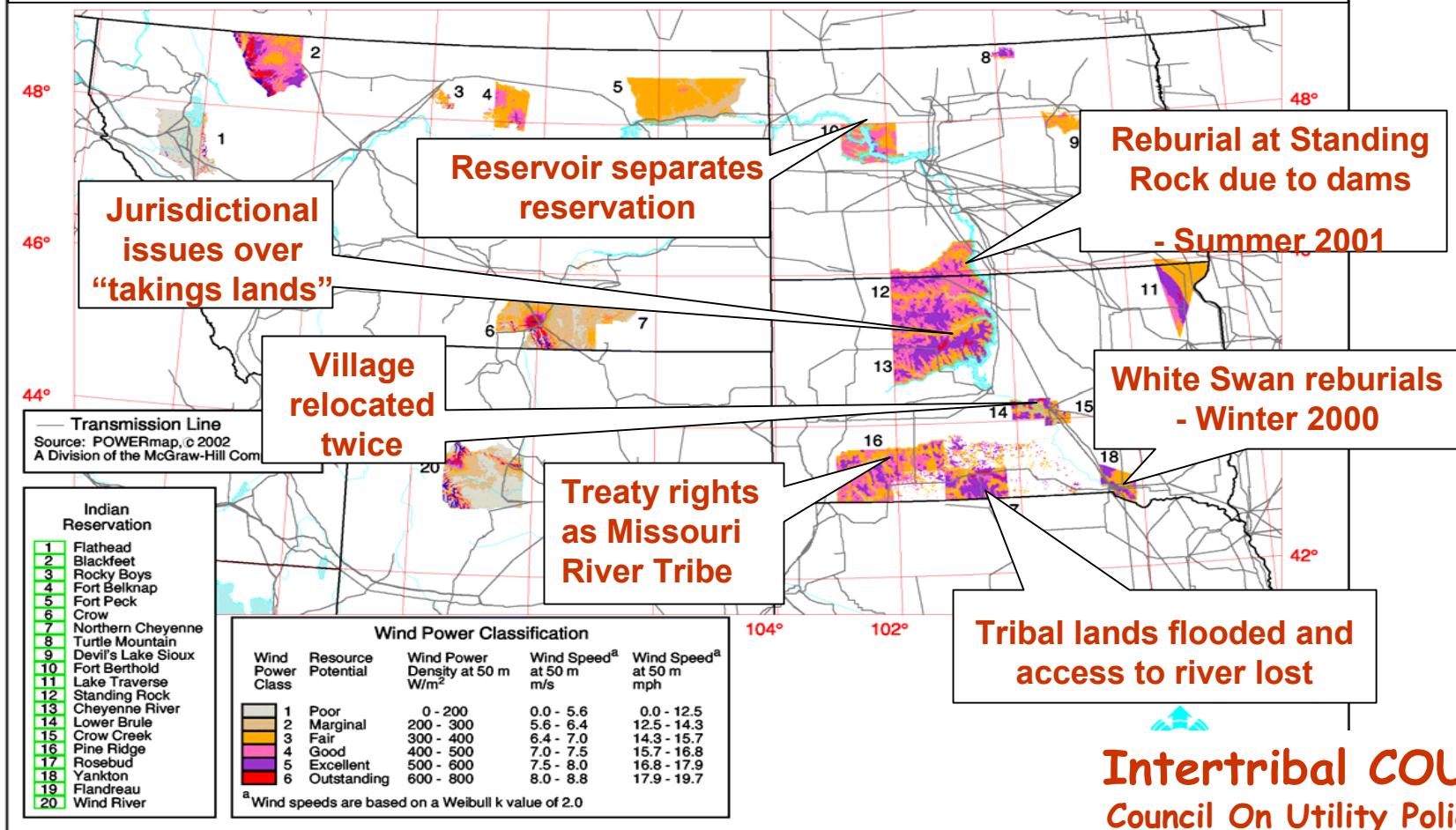


Intertribal Wind Planning and Policy Project

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

Past and ongoing Tribal Environmental Justice Issues Resulting from the Construction of Hydropower Dams



Rosebud Sioux & Intertribal COUP

Environmental Justice Revitalization Plan:

*3,000 MWs of Tribally Owned Wind Power Across the Northern Great Plains
Financed Through Sales of Energy and Environmental Attributes ("Green Tags")*

Rosebud/COUP EJ Revitalization Tribal Wind Power Plan

Phase 1 (Up and Running):

750 kW Turbine on Rosebud Indian Reservation

1st Tribally owned, large scale utility turbine

Commissioned March 4th, Dedicated May 1st, 2003

Phase 2 (2004/5):

30 to 50 MW Wind Ranch on Rosebud Reservation

Phase 3 (2004/5):

80MWs: 10 MW Wind Ranches on 8 Reservations

Phase 4 (2004-2007):

Replicate across the Northern Great Plains

Phase 5 (2010):

3,000 Tribal MW on Great Plains Reservations

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RST Resources Development

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Tribal Wind Power for Sustainable Homeland Economic Development

Intertribal COUP ©

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Intertribal Council On Utility Policy



FEDERAL-TRIBAL COLLABORATIVE PARTNERSHIP ENVIRONMENTAL JUSTICE REVITALIZATION Through RENEWABLE ENERGY DEVELOPMENT

- Grassroots Intertribal initiative to overcome environmental injustices and successfully realize Tribal aspirations for community revitalization and energy development
- Development of *Sustainable Tribal Homeland Economies* based upon renewable energy generation
- Long-term Tribal employment, development and capacity building in collaboration with federal departments and agencies

112° 110° 108° 106° 104° 102° 100° 98° 96°

IWPP Project”

Phases Two & Three

Strategically promotes explicit Tribal and Federal Policies
aimed at addressing:

- **Development of Sustainable Tribal Homeland Economies based upon renewable wind energy (Intertribal COUP, GPTCA)**
- **Native American Environmental Justice and Community Revitalization concerns (Interagency Working Group)**
- **Staged development of significant new renewable energy generation (White House /DOE/WAPA/Wind Powering America/RUS)**
- **Progress towards announced goals for sustainable economic /energy development and employment in Indian Country (White House /DOE/DOI/BIA)**

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Intertribal COUP
Council On Utility Policy

112° 110° 108° 106° 104° 102° 100° 98° 96°

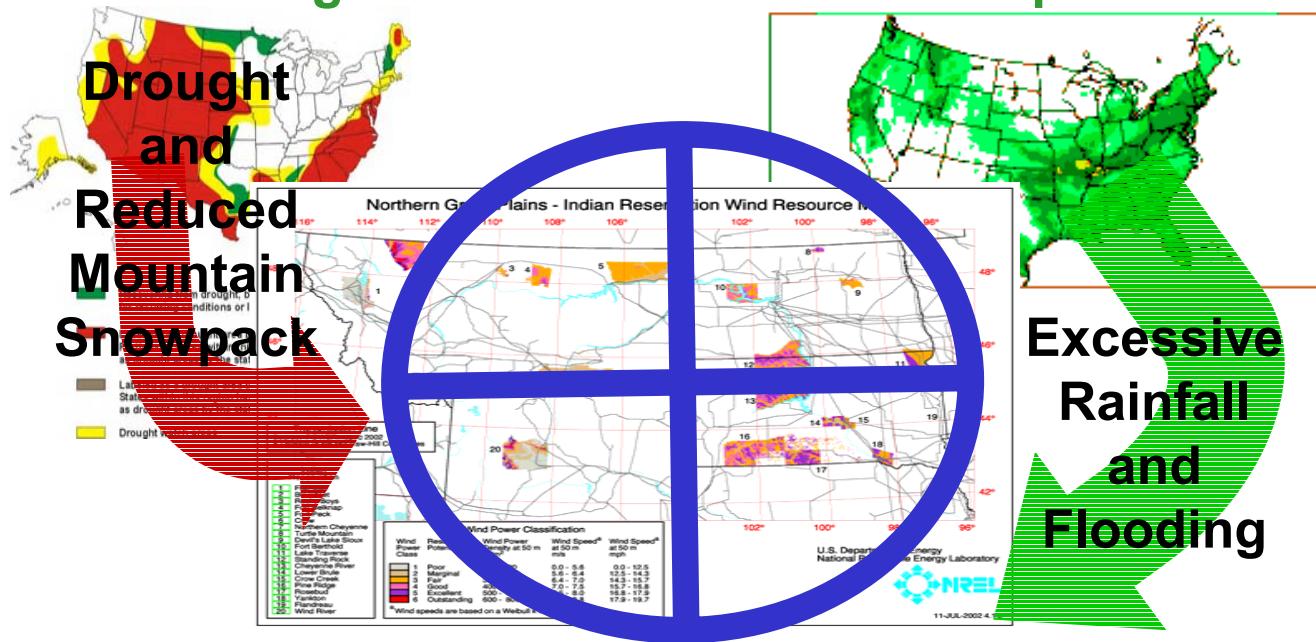
The “IWPP Project” Phases Two & Three

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TRIBAL WIND - FEDERAL HYDROPOWER:

Breaking the Positive Feedback Loop in the CO₂ Energy Cycle

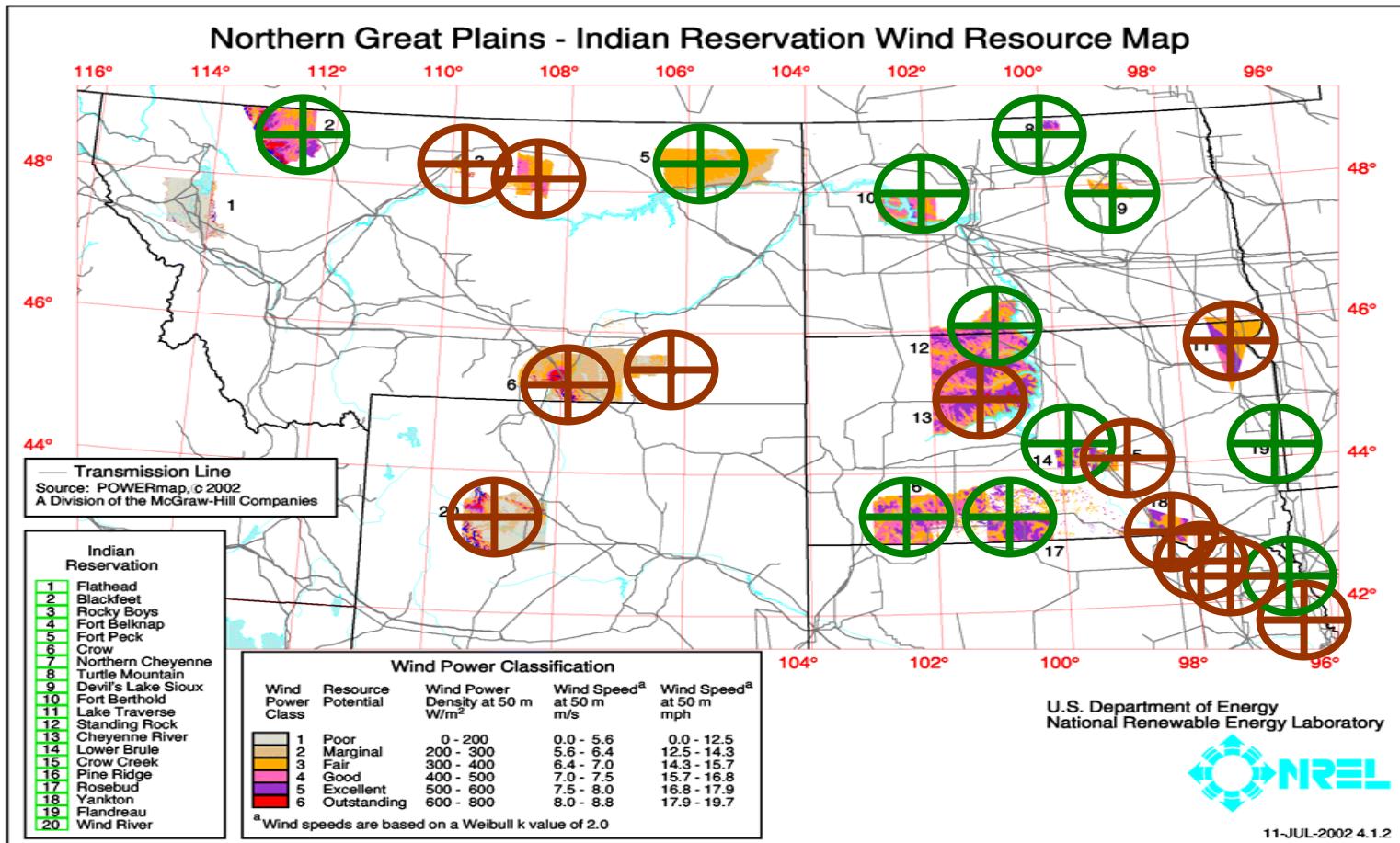


Tribal Wind
can replace
diminishing
Federal
Hydropower
on Federal
Transmission
Grid.

- ... Present drought and precipitation shifts that are consistent with changing climate scenarios associated with increased levels of CO₂ from coal fired power plants-- the “New Normal”!
- Missouri River dam operations are managed by the Corps of Engineers based upon the last 100 years of flow -- Hydropower production for WAPA based on the “Old Normal”.
- Hydropower is only an incidental responsibility of the Corps of Engineers which holds back water due to drought and flood conditions, resulting in less hydropower production.
- Hydropower marketing administration (WAPA) buys lignite coal power to offset hydropower shortfalls, which only increases the atmospheric CO₂ intensity, resulting in greater drought and precipitation shifts, leading to ...

Northern Plains Reservations in WAPA-PS Service Territory:

Eleven of 23 Reservations with anemometer wind data in 2002



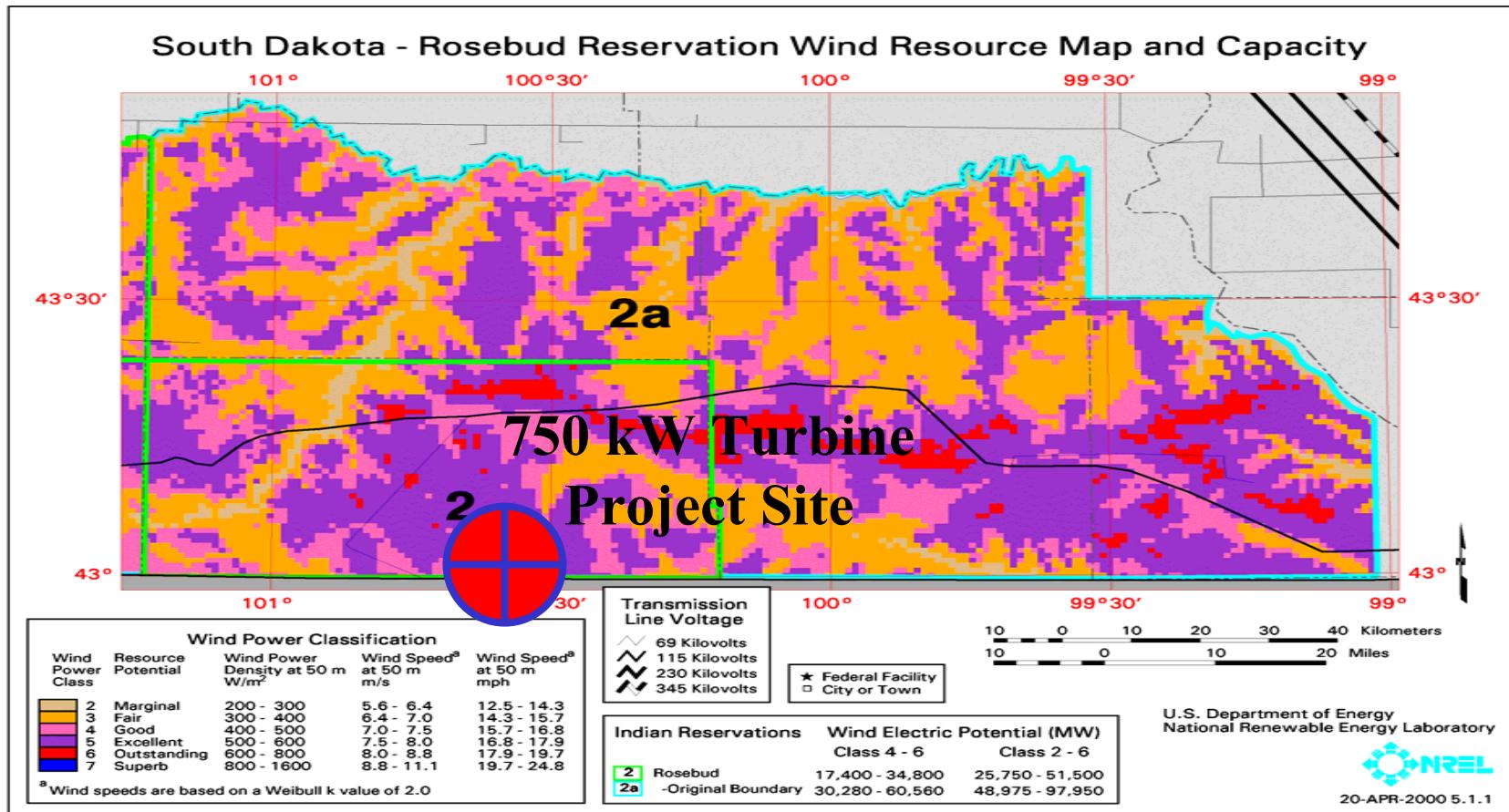
Reservations with available wind data: 4 in North and 4 in South Dakota, 2 in Montana, and 1 in Nebraska.



Reservations with no wind data available: 4 in Montana, 4 in South Dakota, 3 in Nebraska and 1 in Wyoming.

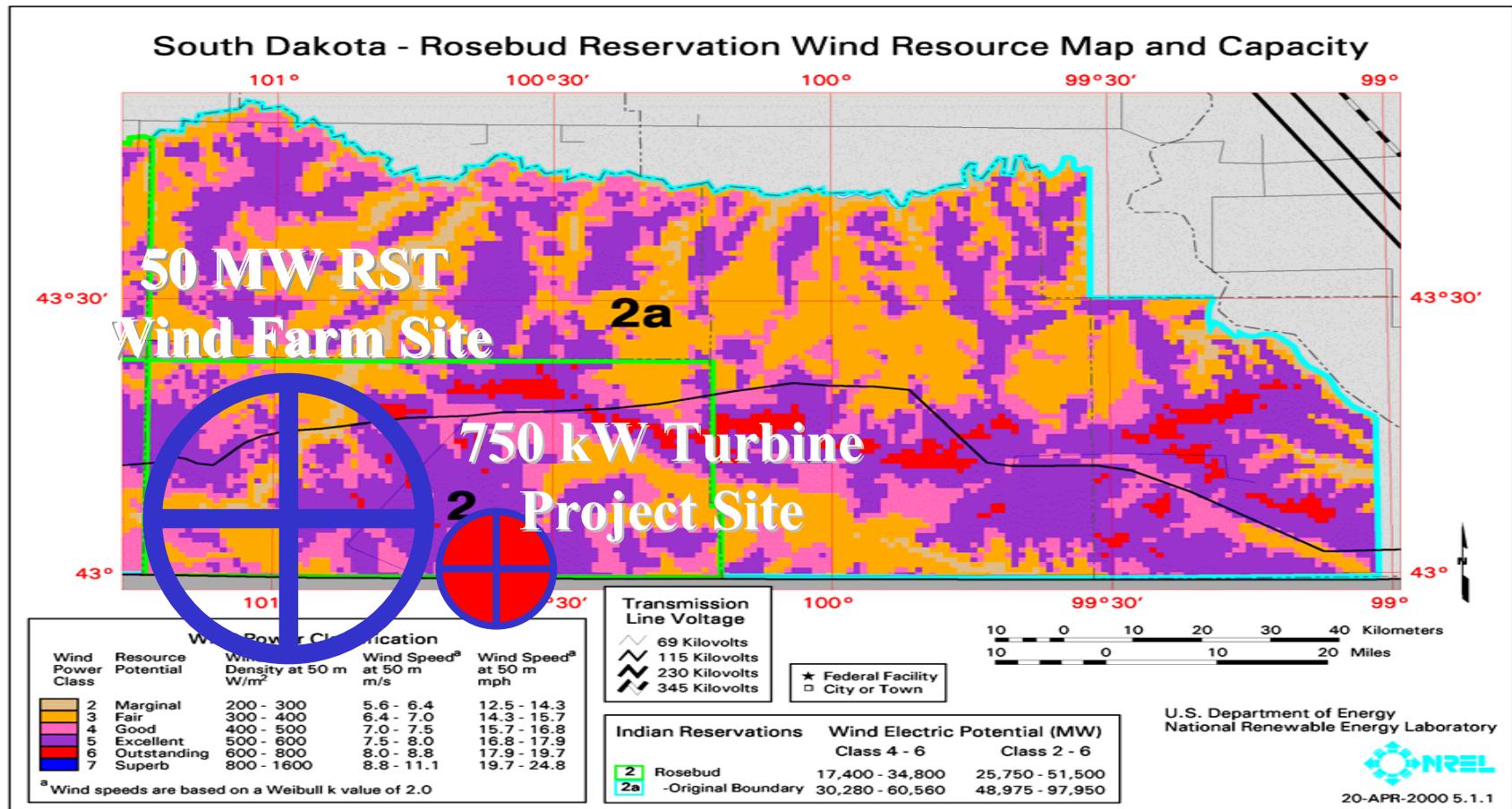
PHASE ONE: 750 kW Wind Turbine - Rosebud - 2003

First 750 kW utility scale wind turbine to be owned and operated by the Rosebud Sioux Tribe through a Tribal partnership with Department of Energy (DOE), the Rural Utilities Service (RUS/USDA), DisGen, Inc. (Engineering) and NativeEnergy, Inc. (Green Tags)



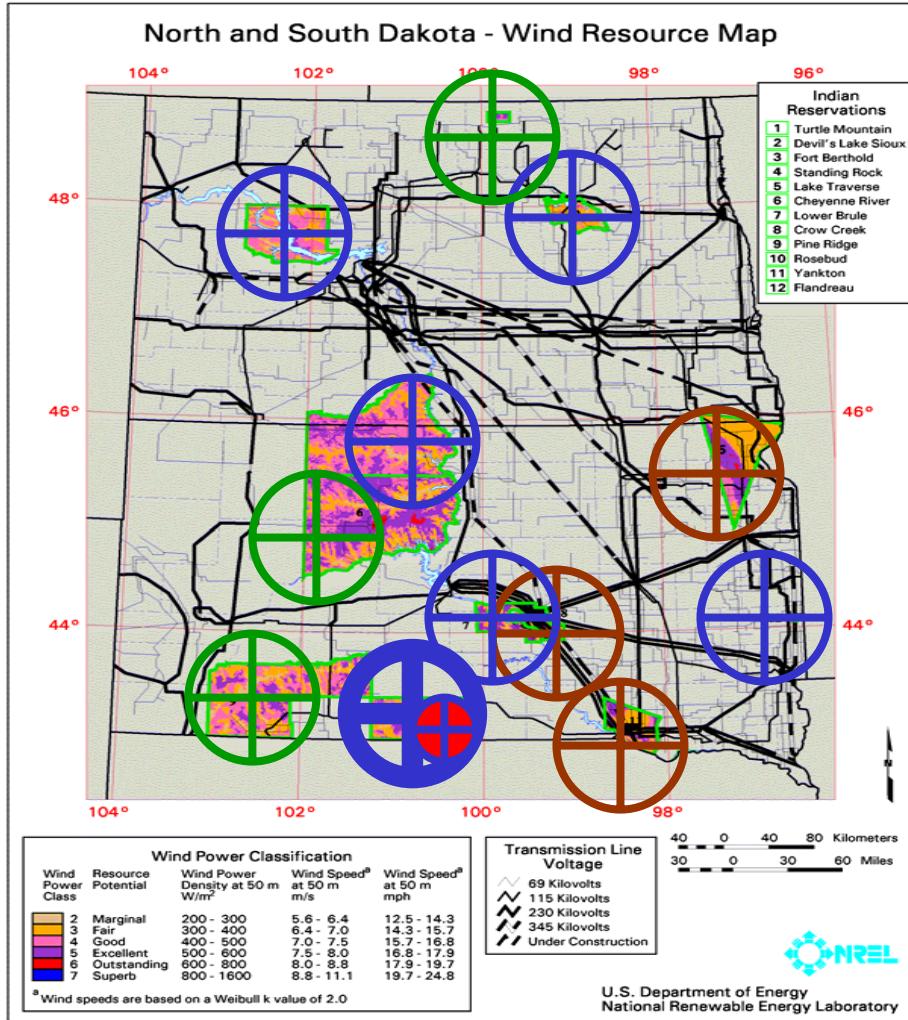
PHASE TWO A: 30-50 MW Wind Ranch - Rosebud - 2004

First Tribal Utility Scale 50 MW Wind Ranch to be owned and operated by Rosebud Sioux Tribe through a Tribal partnership with Department of Energy, Rural Utilities Service w/ other federal / private partners for Green Power & Tag sales.



PHASE TWO B: Distributed Intertribal Wind Ranch - 2004-5

All COUP Reservations Will Have Commercial Anemometer Wind Data



GOAL 2005:

- 50 meter tower anemometer wind data for ALL COUP Tribes
- Intertribal Wind Development Plan among Interested COUP Tribes

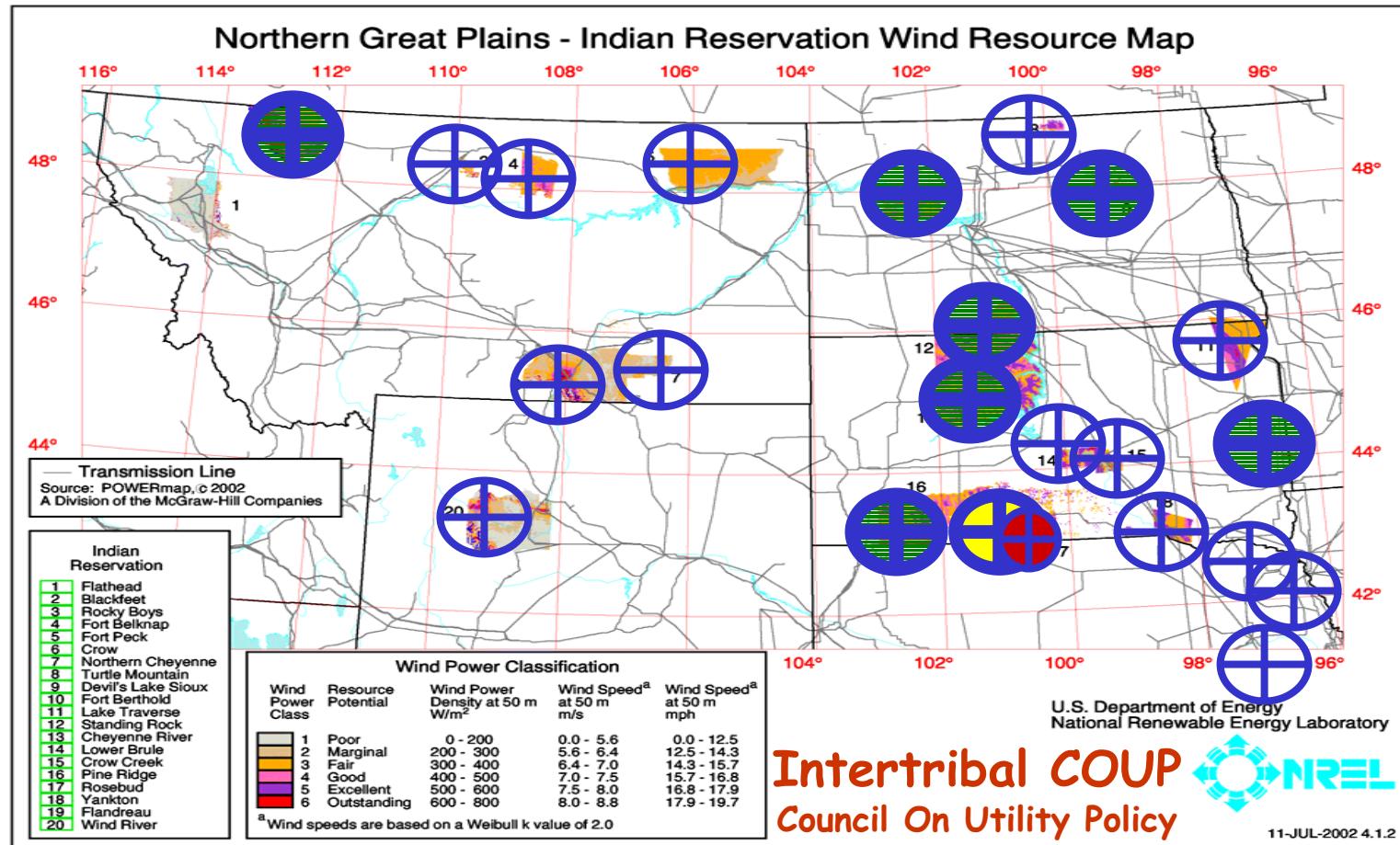
Intertribal COUP Tribes
in North and South Dakota:

- Without Wind Data
- With Wind Data
- Commercial Data
- 30-50 MW Ranch
- .75 MW

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Council On Utility Policy

PHASE TWO C: Commercial Wind Data by 2004

Commercial Data for All Northern Great Plains Tribes



By end of the 2004 Wind Season

Tribes with commercial wind anemometer data:

Tribes with operational 100 to 750 kW wind turbines:

Tribes with commercial wind clusters/ ranches: 10 MW

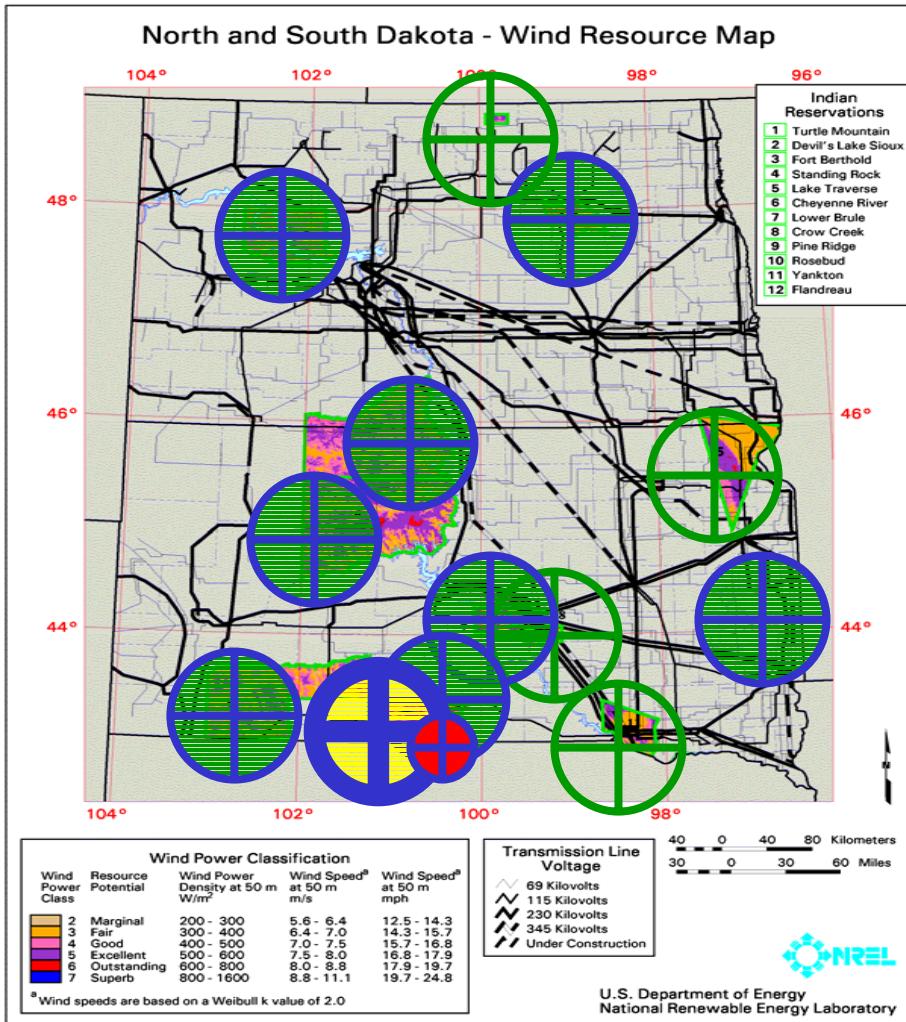


50 MW



PHASE THREE: Distributed 80 MW Intertribal Wind Ranch

10 MW Clusters Distributed Across 8 COUP Reservations - 2004-5



GOAL 2004-5: 130.75 MW of COUP Tribal Wind Developed in the Dakotas

First Intertribal Wind Ranch to be owned and operated by the COUP Tribes through federal and private collaboration and partnerships for Green Power and Green Tag sales. Intertribal COUP will encourage and support data collection for all Tribes.

Intertribal COUP Tribes in North and South Dakota:

With wind data

.75 MW



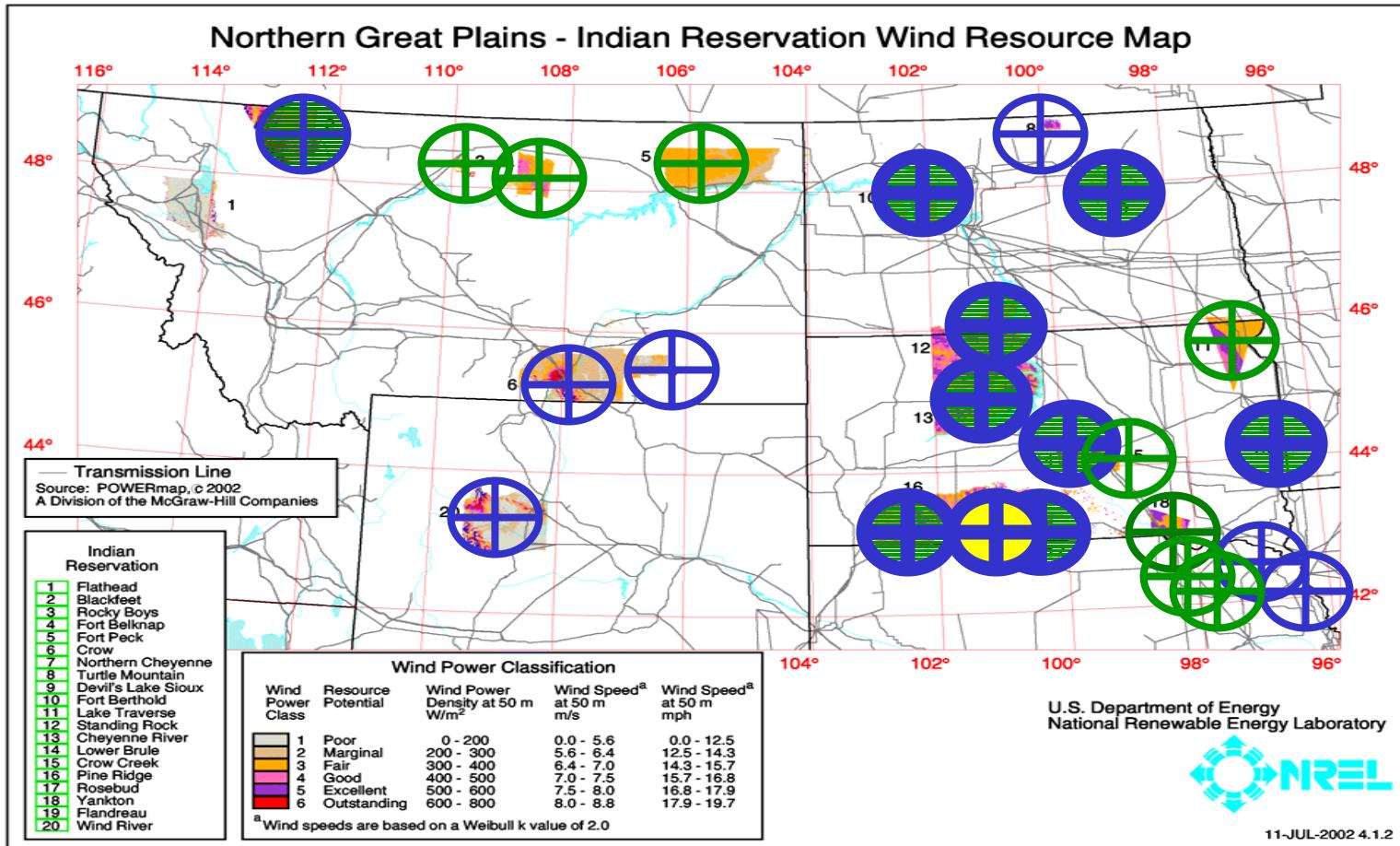
10 MW Cluster

50 MW Ranch

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PHASE THREE: Northern Plains Reservations:

All COUP Tribes have at least 10 MW wind clusters by 2005

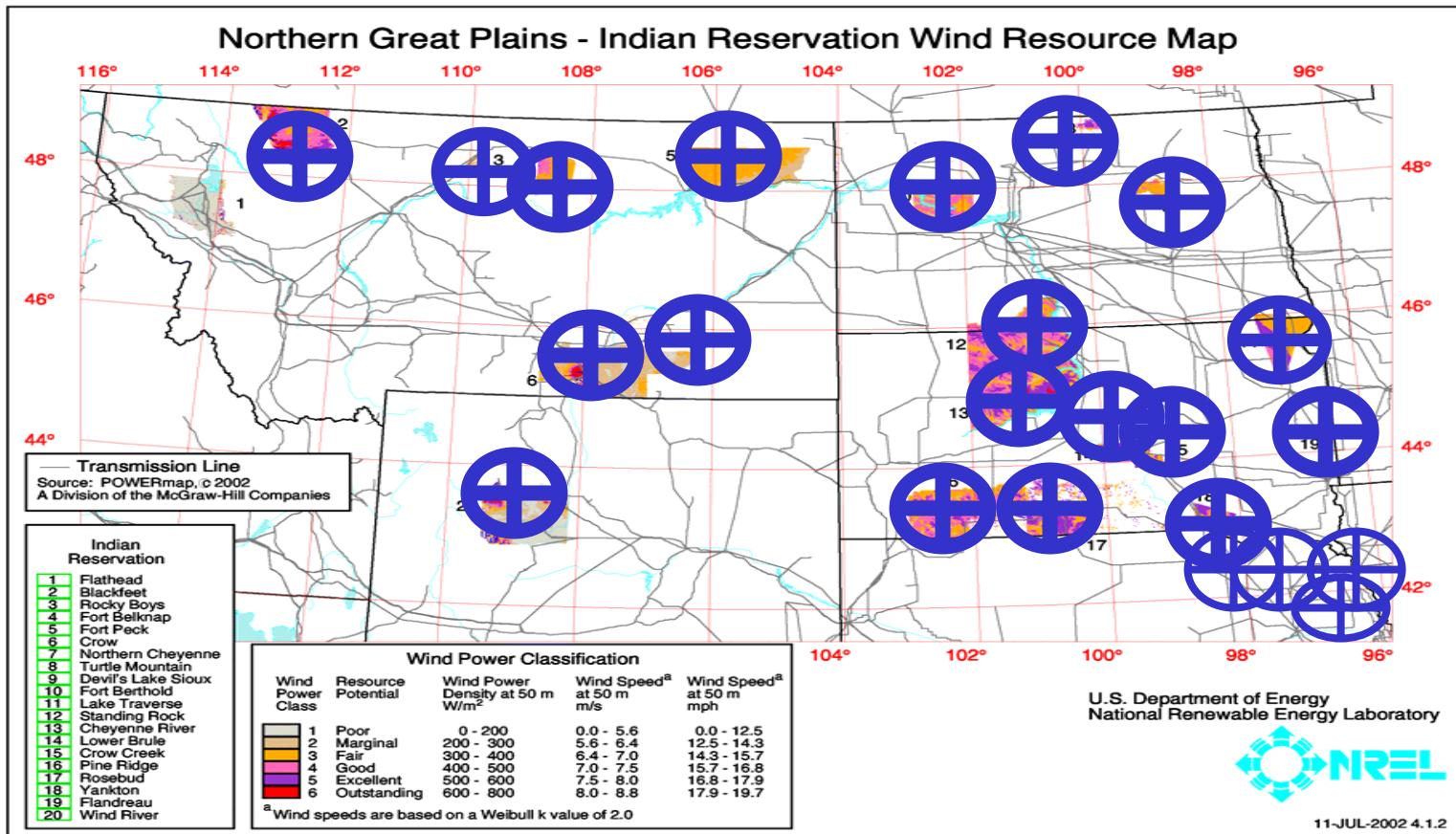


COUP Tribes and/or Affiliates with DOE wind projects



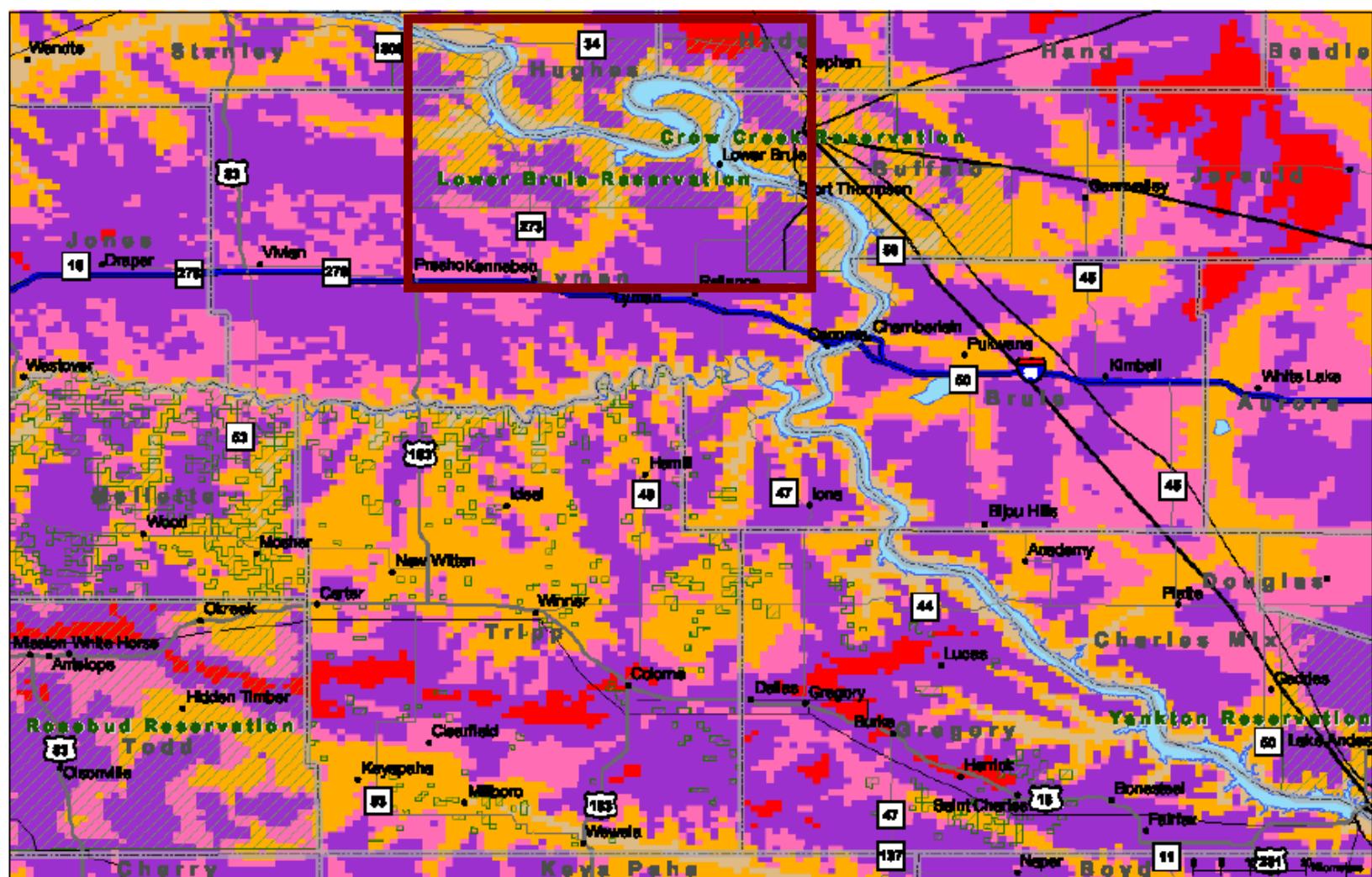
PHASE FIVE: Northern Plains Reservations

All Interested Great Plains Indian Reservations Have Commercial Wind Ranches by 2007-10



Intertribal COUP Proposal to Western Area Power Administration:
Distributed Wind Facilities of up to 150 MWs on each Reservation
Total Tribal Wind Generation of up to 3,000 MWs

Lower Brule Sioux Reservation



Counties

Major water

Indian Reservation

Cities

Major Roads

Interstate Hwy

US Hwy

State Hwy

Transmission Lines

Below 230kV

230kV - 400kV

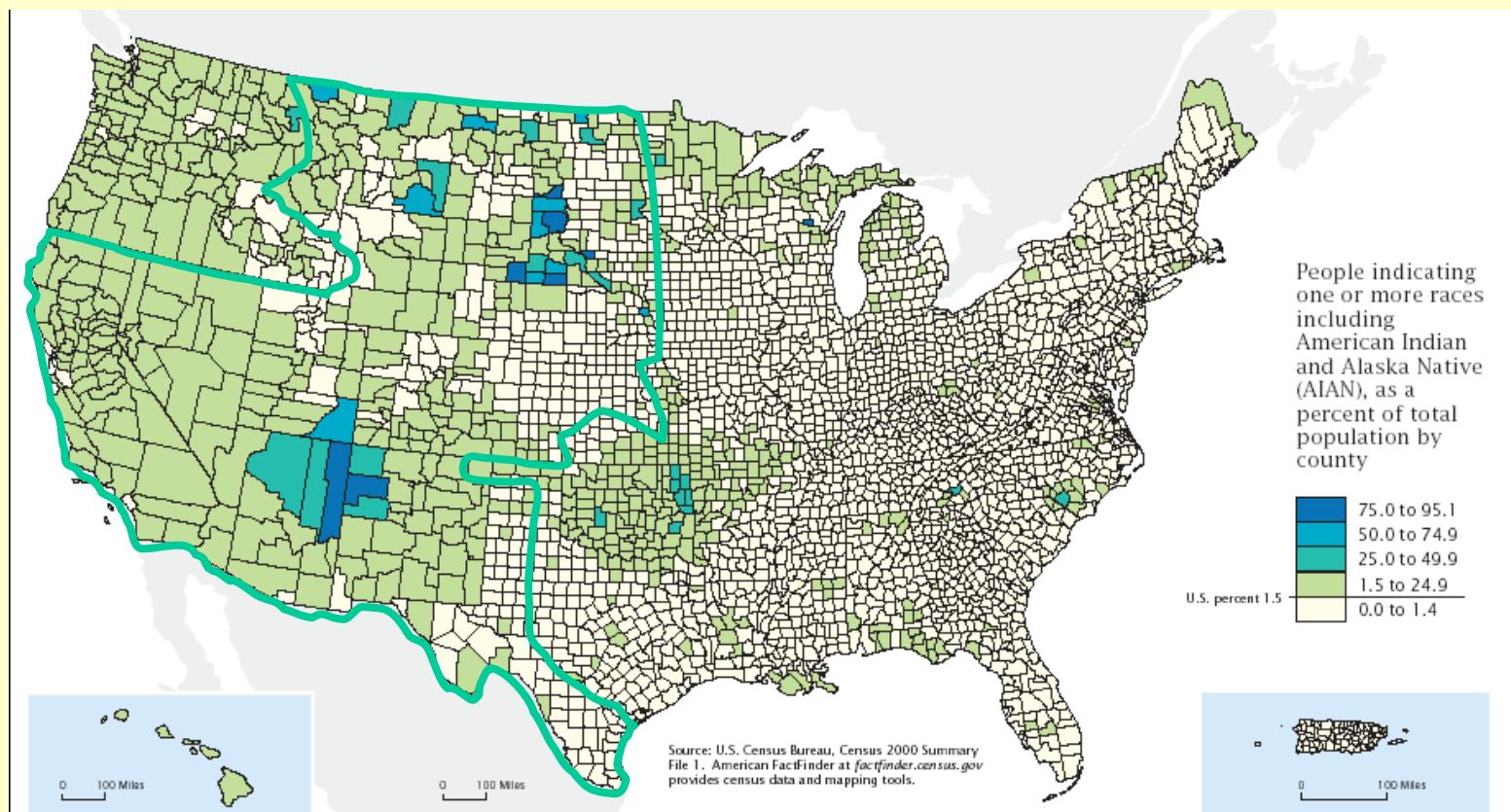
Greater than 500kV

Wind Power Class and Resource Potential

1 - Poor	3 - Fair	5 - Excellent
2 - Marginal	4 - Good	6 - Outstanding
		7 - Superb

A Few Statistics

- 43% of all Native Americans in the lower 48 are in Western's service area
- 29 counties where Tribal population > 25%
- 17 counties where Tribal population > 50%
- 300+ Tribes in Western's service area
- 1.96% of the population in Western's service area are Indian
- 1.2% of Western sales & revenue come from Tribes





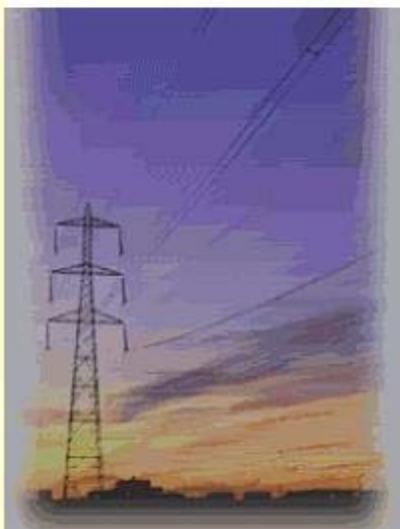
Native Wind Powering America

WWW.ENERGYINDEPENDENCEDAY.ORG



*Serving the West
with
Federal Hydropower*

... And Tribal Renewable Energy



INTERTRIBAL
COUNCIL
ON UTILITY POLICY
ICOUP

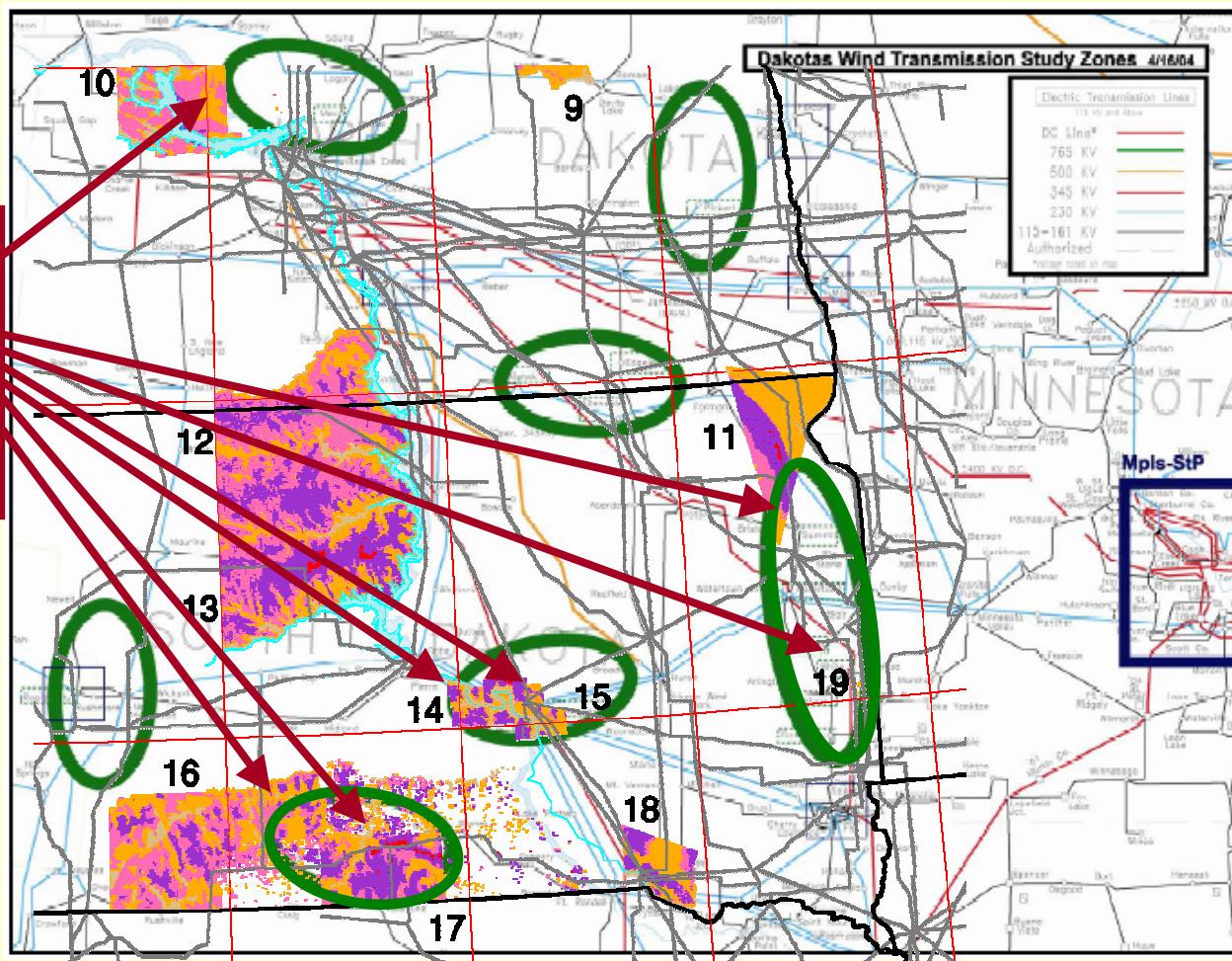
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- Cities & Tribes are on WAPA grid as eligible WAPA "*Preference Customers*"
- Federal trust responsibility to Tribes
- Sustainable Homeland Economies
- Great Wind/Hydro Dynamo Potential
- Diminishing Hydropower Resource
- Once 100% renewable, now only 20% hydropower and 80% coal
- Restore Federal Renewable Energy Grid 30% wind /20% hydro / 50% coal-gas

WAPA / WIND INTEGRATION STUDY AREA

Includes Several Reservation Interconnection Sites

COUP
Proposed
WAPA
Wind Study
Site Areas

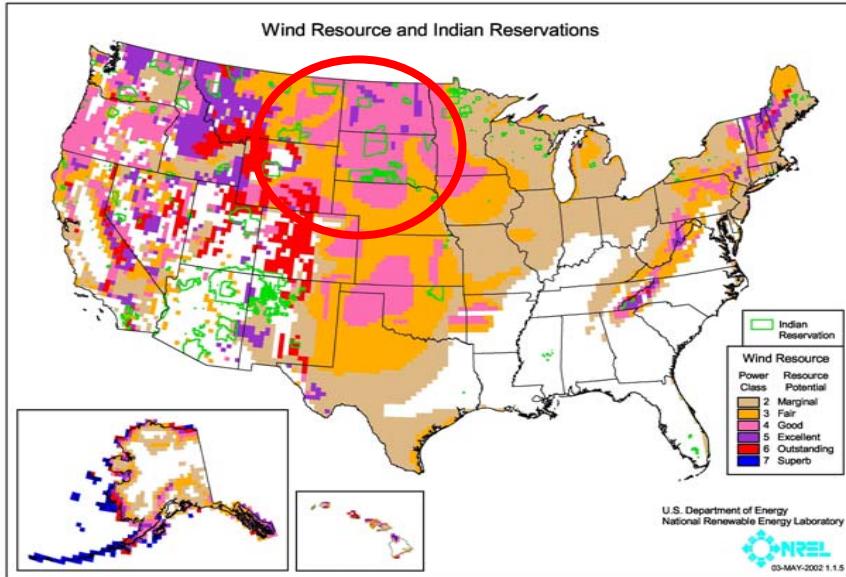


<http://www.wapa.gov/ugp/study/DakotasWind/Zone%20Map.pdf>



Learning That We Live in A WINDSHED !

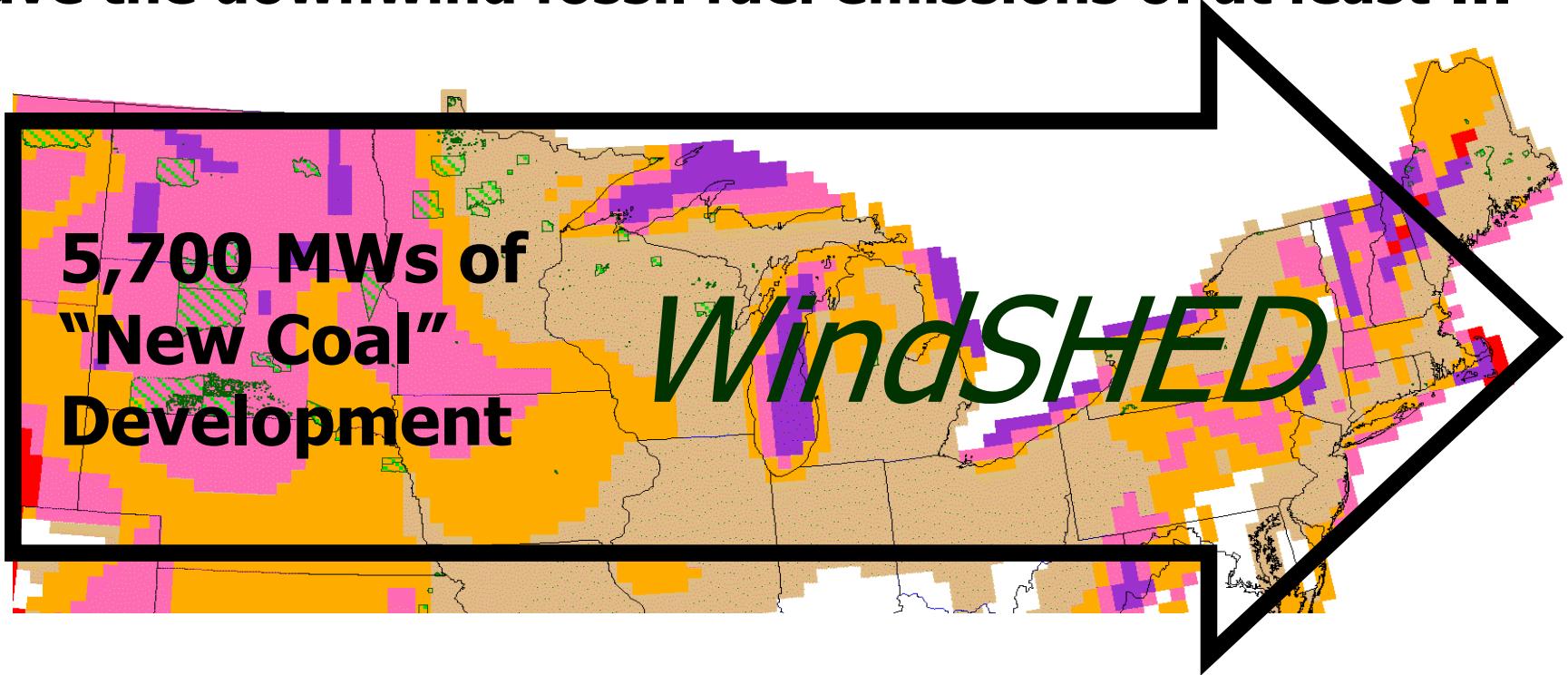
The Richest Renewable Energy Regime in the World is Just Upwind from the Region of Greatest Energy Consumption and Acid Rain Impacts in North America!!



Sustainable Homeland
Economic Development
based on Tribal Wind
Energy Generation

Downwind communities
support and benefit from
Tribal Wind Energy

A CHOICE: In this decade, the Northeastern U.S. can have the downwind fossil fuel emissions of at least ...

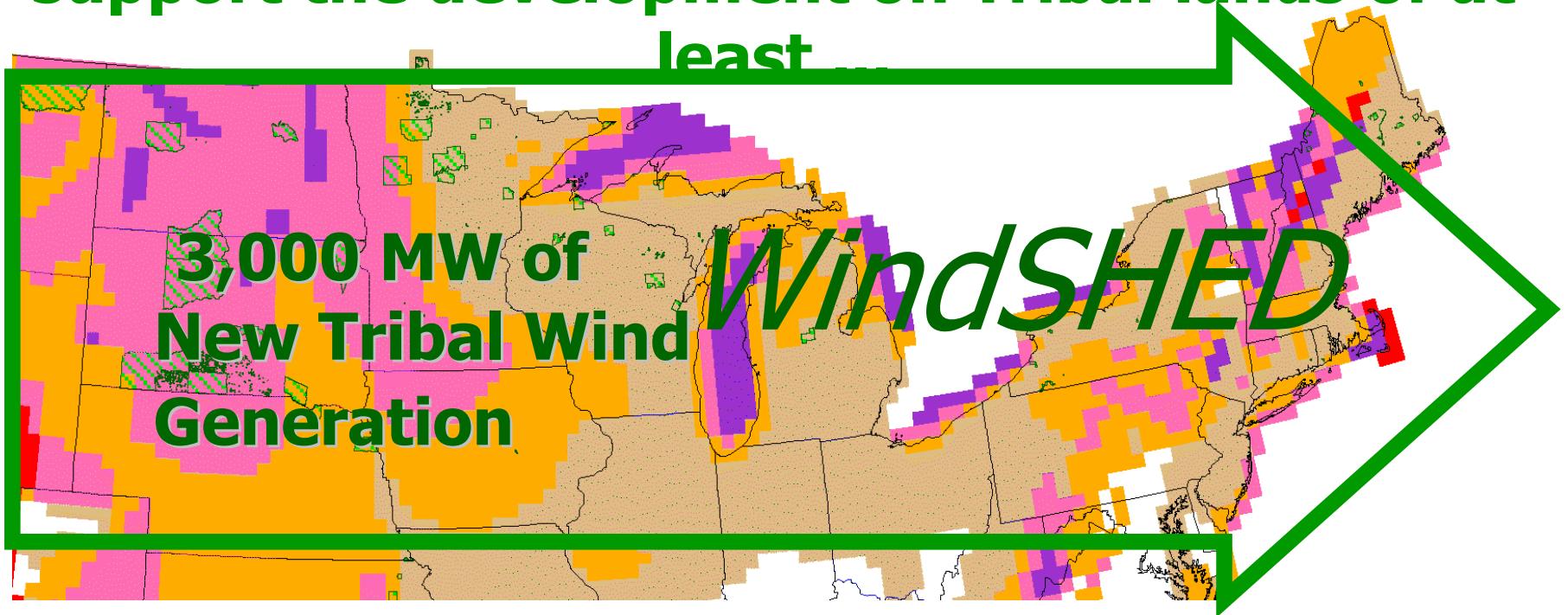


There are 5,700 MW of new coal generation projected for the "high boundary" case announced in the four northern Great Plains (MT, WY, ND & SD) states through 2007, complete with:

- **31,986,746 tonnes of CO₂** (contributing to global warming)
- **28,962 tonnes of SO₂** and **22,770 tons of NO_x**, (acid rain downwind), and
- **691 kilograms of mercury** (air borne toxin to downwind waters & wildlife)

estimated to be annually associated this new fossil fuel development.

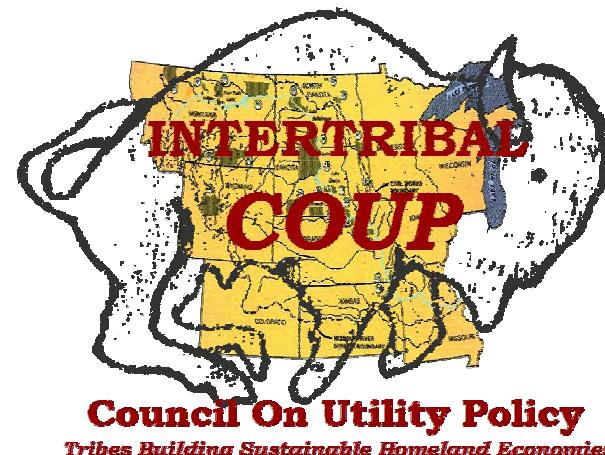
With “*Tribal Green Tags*” the *WindSHED* can support the development on Tribal lands of at least



- ***Tribal Green Tags*** (downwind environmental benefits associated with upwind clean energy development) generated by tribally owned, utility scale wind turbines developed on Northern Great Plains Indian Reservations.
- ***Tribal Green Tags*** result direct and practical improvements in the economic and ecological health in our region’s *WindSHED*, for both the host reservations and for all the downwind communities.



www.energyindependenceday.org



Honor the Earth
a voice for the earth...a voice for those not heard

www.EnergyIndependenceDay.org

I.C.L.E.I
Local
Governments
for Sustainability

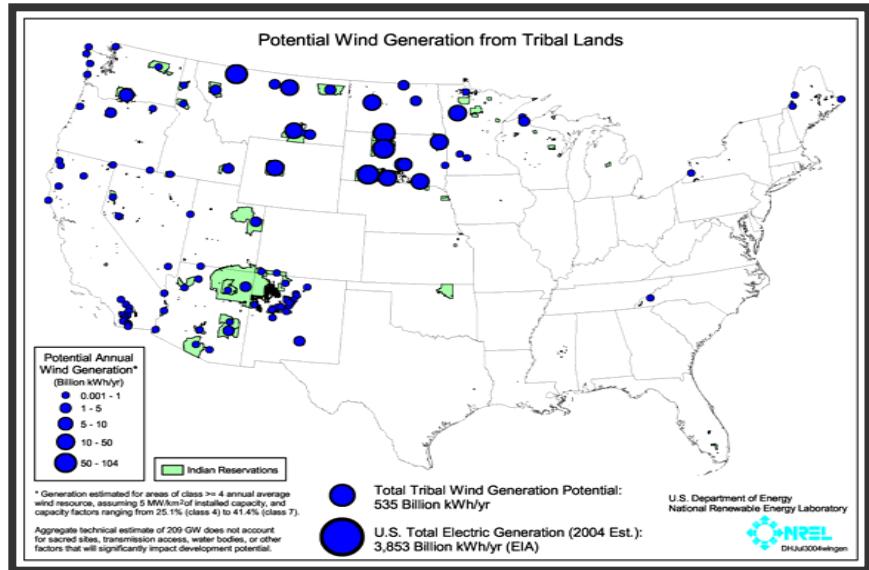
Intertribal COUP

Intertribal COUP Plan For Partnership: *150 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

Great Plains Tribal Chairman's Association

Rosebud Sioux Tribe

Three Affiliated Tribes of the
Fort Berthold Indian Reservation

Lower Brule Sioux Tribe

National Congress of American Indians

Fairfax, CA

Hillsborough CO, FL

Hollywood, FL

Honolulu, HI

Madison, WI

Medford, MA

Minneapolis, MN

Missoula, MT

New Haven, CT

Olympia, WA

Palm Desert, CA

Rohnert Park, CA

Salt Lake City, UT

Santa Barbara, CA

Santa Cruz, CA

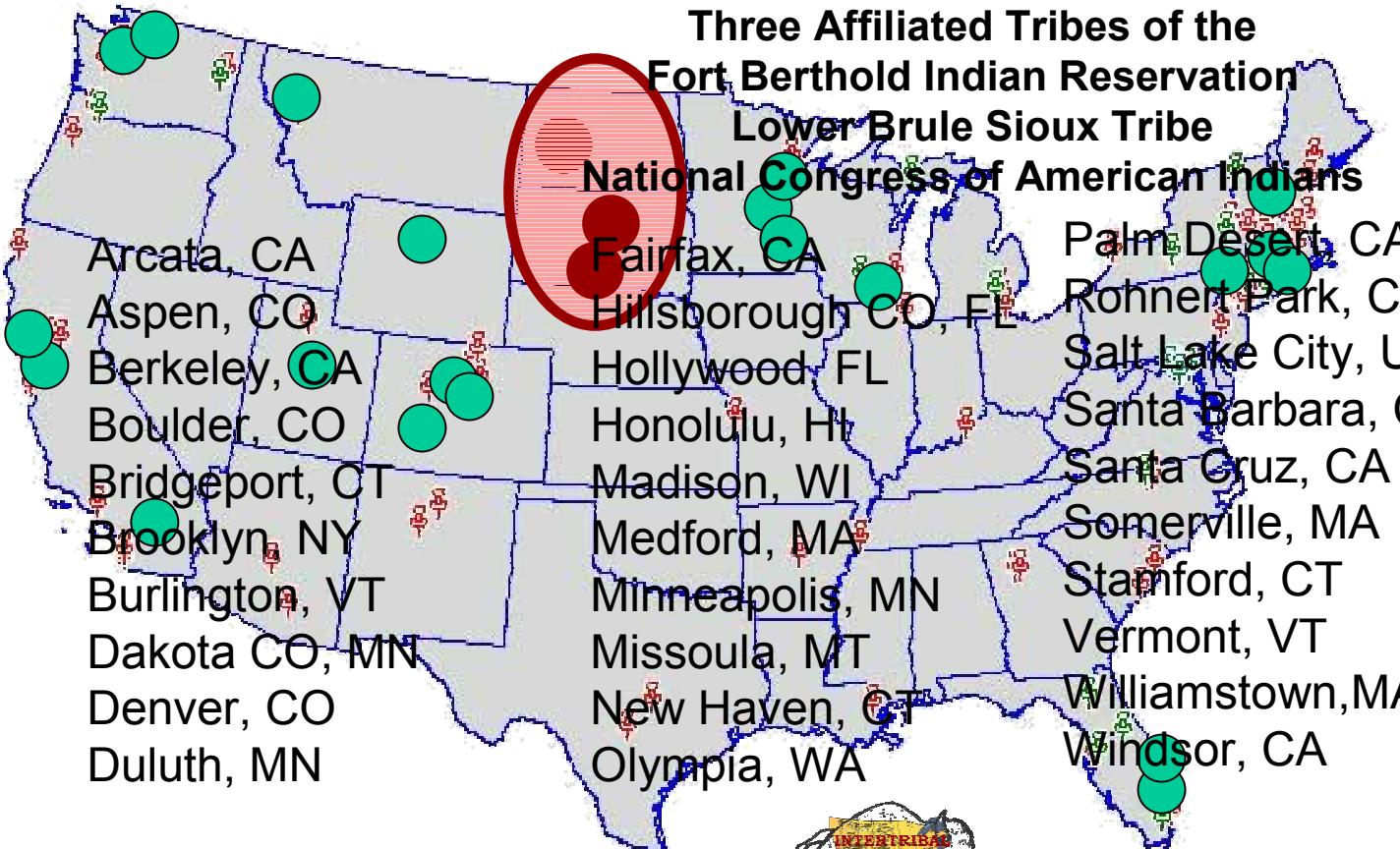
Somerville, MA

Stamford, CT

Vermont, VT

Williamstown, MA

Windsor, CA



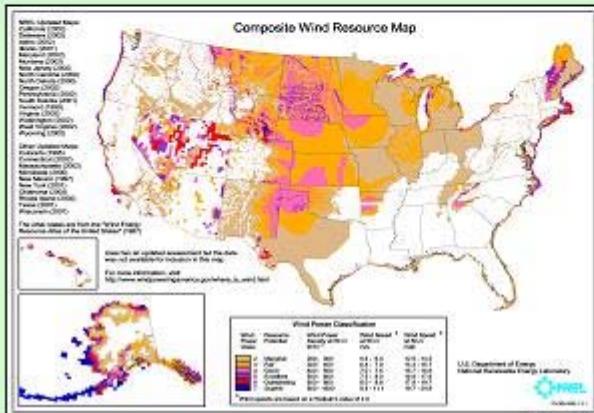
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Tribal Wind / Federal Hydropower Renewable Energy Dynamo

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



<http://www.windpoweringamerica.gov>

TransAmerica Generation Grid for Wind/Hydro Dynamo



http://www.solpath.com/luna/admin/documents/NEITS_AWEA_presentation_032904.pdf

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

