

Feasibility Study to Develop a Tribal Utility

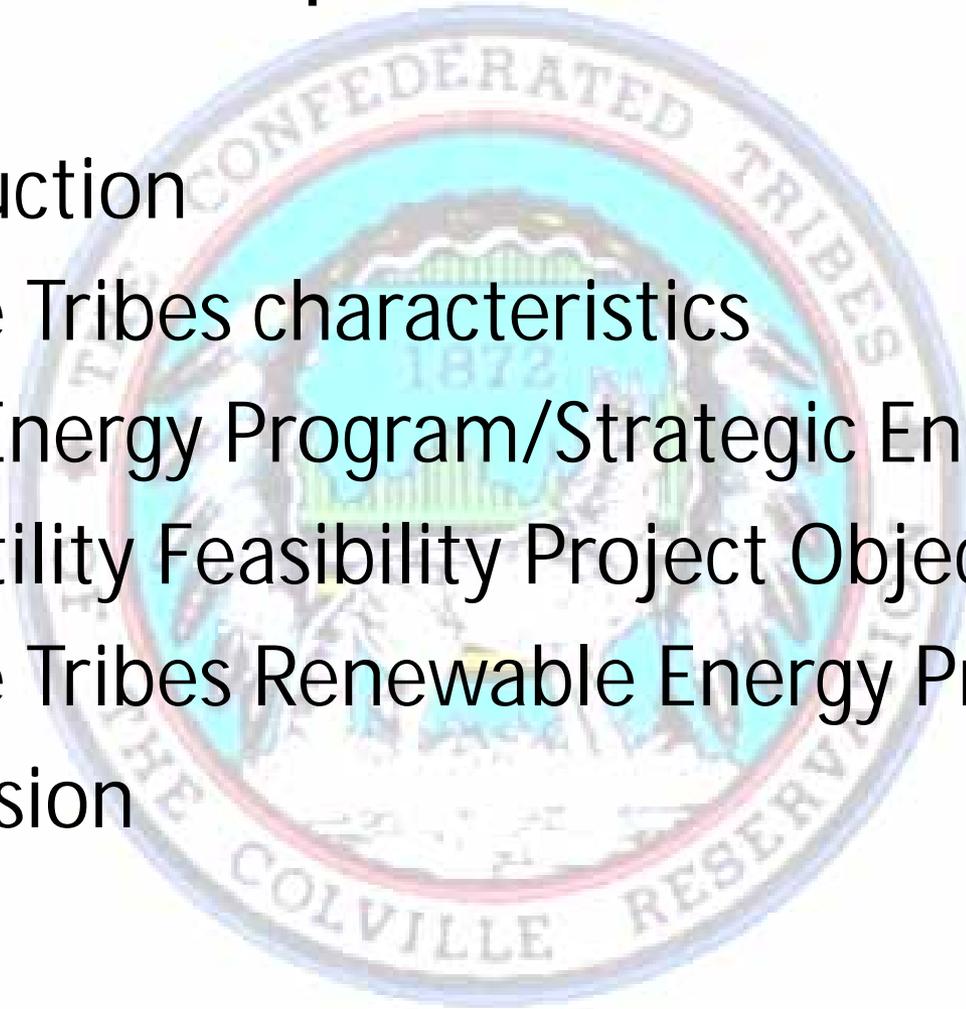
Confederated Tribes of the Colville Reservation



DOE Tribal Energy Program Review, November 14-18 2011

Topics to Cover

- Ø Introduction
- Ø Colville Tribes characteristics
- Ø Tribal Energy Program/Strategic Energy Plan
- Ø DOE Utility Feasibility Project Objectives
- Ø Colville Tribes Renewable Energy Projects
- Ø Conclusion



Location Map

Omak Industrial Park Site

Colville Indian Reservation

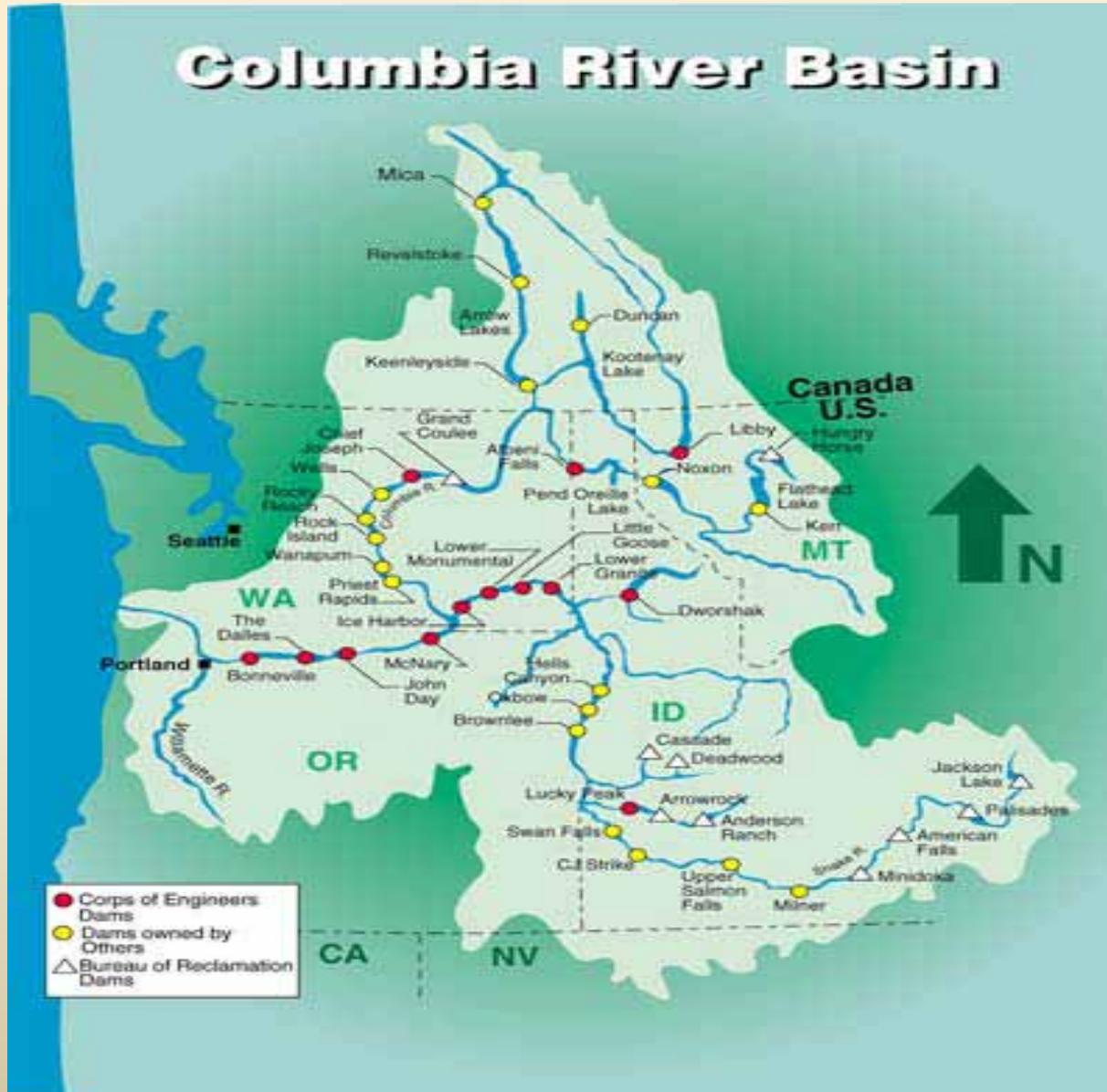


Background on Confederated Tribes of the Colville Reservation



- Executive Order signed July 1872
- 14 Elected Business Council Members
- Representing 4 Districts of 1.4 million acres of land
- 800,000 acres of forested lands, 600,000 acres of range and agricultural lands
- Bordered by the Columbia and Okanogan Rivers
- Grand Coulee Dam and Chief Joseph Dam exist on tribal lands along the Columbia River

Surrounded by Hydropower



Hydropower Impact

- Ø Grand Coulee Dam, located on the southern border of the reservation has a generating capacity of 6,480 megawatts (Mw), it is the largest producer of hydroelectric power in the United States
- Ø Chief Joseph Dam, located on the southwestern border is the second largest producer in the US
- Ø The Colville Tribes hold an ownership stake in both the Grand Coulee and Wells Dams which provides cheap, reliable power
- Ø There are six transmission lines crossing onto the Reservation which carry this power, four 115 (kV), and two 230 kV.
- Ø The Colville Reservation has limited access to cheap hydropower on a slim part of the west side of the reservation from Okanogan County PUD at \$.0375 industrial rates

Colville Tribal Energy

ØEstablished in 2005, the leadership created an Energy Program to oversee the many energy related activities and opportunities available to the Colville Tribes.

ØThe first duty was to manage the forward sale of hydroelectric power from Wells Dam, a legal settlement that has returned several million dollars in revenue to the Tribal government.

ØSince then, the Tribal Energy Program focuses on opportunities such as wind, solar, woody biomass, and small/large hydroelectric, and management of the rights of ways

ØIn 2008, the Energy Program developed the Strategic Energy Plan to identify a vision of potential energy projects

Colville Strategic Energy Plan

ØThe Energy Program incorporated the communities' and Council's energy goals at the inception of the planning process:

- **Exercise tribal sovereignty**
- Target economic development
- Education/training opportunities for tribal decision makers
- Employment for tribal members
- Quality of life for tribal members
- Energy efficiency
- Enforcement of existing agreements
- Better use of water resources and opportunities

Colville Strategic Energy Plan

The most important goals in order were:

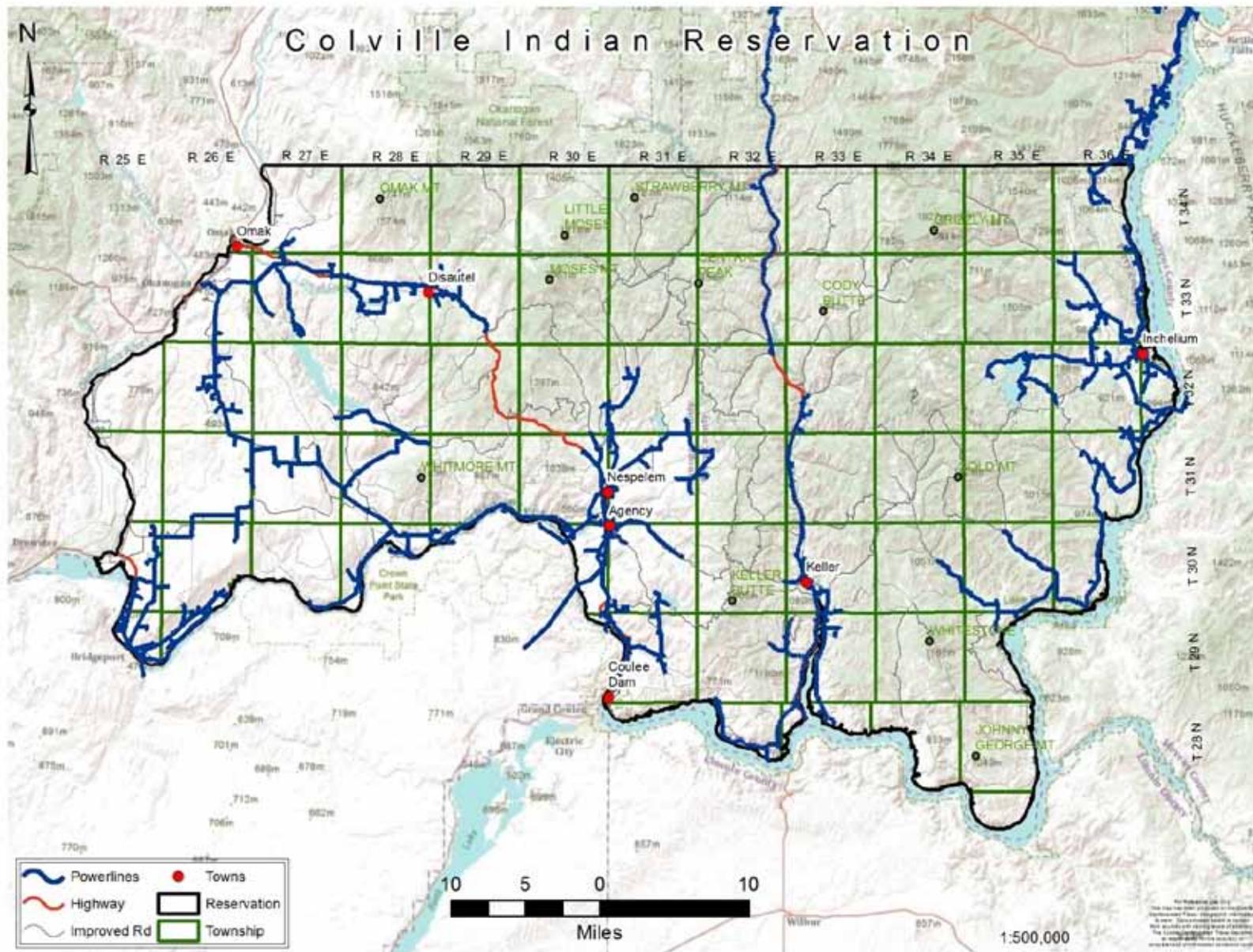
1. Education/Training/Jobs
2. Develop/Manage hydroelectric power assets through a Tribal Utility
3. Protect water rights through energy and agriculture
4. Economic Development; Generate Revenue
5. Prioritize, Implement and Complete Energy Projects
6. Sustainability
7. Bulk Fuel/Biodiesel
8. Biomass
9. Wind
10. Energy Efficiency

Colville Strategic Energy Plan

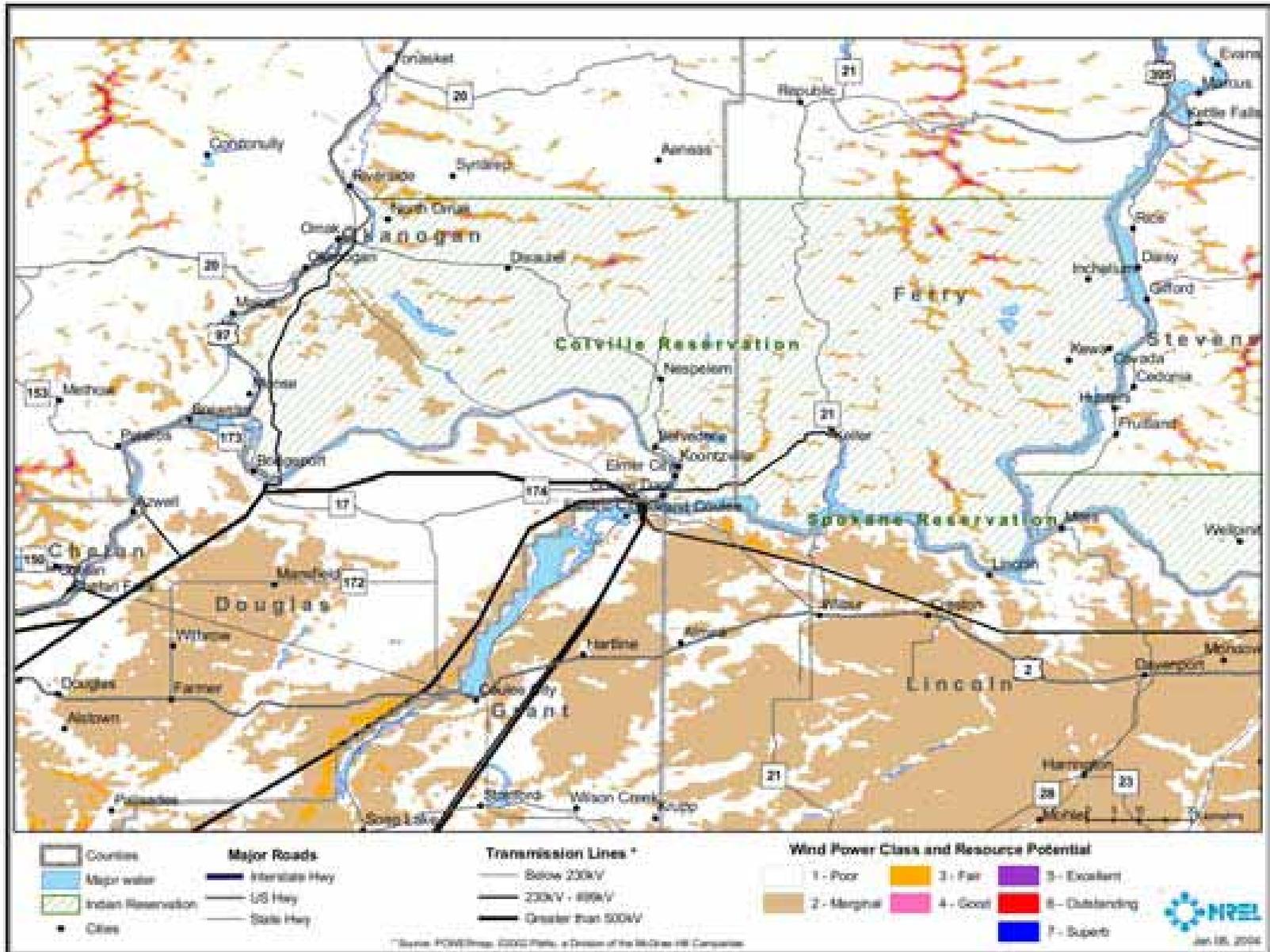
The Strategic Energy Plan, a living document, reflects the next opportunities for the Colville Tribes:

- Ø Formal Development of Tribal Utility
- Ø Transmission and Distribution of generated power
- Ø Carbon Sequestration/Cap and Trade
- Ø Review and audit of all hydroelectric settlements
 - § Grand Coulee Dam Payment
 - § Sale of Wells Dam Power
 - § Outstanding Chief Joseph Dam Issues
- Ø Pump Storage Projects
- Ø Residential energy projects

Access to Transmission?



Wind Data & Transmission Lines on Reservation



Impacts to the Colville Tribes without a Tribal Utility



- Ø Currently, six (6) different utilities on Rez
- Ø Bonneville Power Administration is the distribution agency for the federal dams on the Columbia River
- Ø Hydropower built on tribal lands on the Columbia River produces the lowest electricity rates in US
- Ø For a majority of the Colville Reservation, electricity rates are 3 to 4 times the cost on other side of river
- Ø Lack of control of energy distribution, rates and future; a social and economic justice issue
- Ø Forced to react to energy market; no control

Colville Tribes Need a Tribal Utility

Ø The Strategic Energy Plan established the vision of renewable energy development leading to the utility formation, which will:

- Have more control over current and future electricity rates for reservation residents and businesses
- Manage all potential and realized energy projects
- Exercise sovereignty in all energy related matters
- Adeptly manage diverse energy markets to grow the future of green economy based on renewable energy
- Address the inherent social justice issue surrounding power rates and taking control of our future

Colville Tribes Utility Feasibility Study

- Ø Thankfully, the DOE has funded the feasibility study of a utility formation
- Ø This project will perform the research and activities needed to determine the technical, financial, legal and regulatory feasibility of a Tribal Utility.
- Ø The study will utilize the efforts and experiences of other Tribal Utilities in Indian Country; Yakama Power, Umpqua, Mission Valley and others
- Ø The study will allow our leadership to make the best decision on what type of utility it will form and develop that tool that can unifying the electricity rates on the reservation
- Ø The study will empower the Colville Tribes to qualify for the Bonneville Power Administration Standards of Service for utilities to receive Tier 1 power rates

Method for Feasibility Study

- Ø Just as the Strategic Energy Plan process garnered the community's vision of renewable energy development, the feasibility study will follow the same process in assessing the formation of a Tribal Utility
- Ø Coordinate membership meetings and leadership meetings so that the utility formation will reflect the desire for energy sovereignty moving forward

Tasks for Feasibility Study

- 1) Complete the Load and Resource Study
- 2) Complete the System Valuation Study
- 3) Complete the Regulatory Assessment
- 4) Complete a draft Colville Tribal Utility Ordinance
- 5) Complete a draft Colville Tribal Utility Business Plan
- 6) Initiate BPA Tier-1 Tribal Utility Application
- 7) Complete the Colville Tribal Utility Feasibility Study Report

Tasks for Feasibility Study

- 1) Complete the Load and Resource Study
 - a) Determine current load requirements of reservation for all uses; industrial, residential and governmental
 - b) Determine the future load requirements for new customers locating at the developing Industrial Site
- 2) Complete the System Valuation Study
 - a) On the ground assessment of all the physical aspects of current electrical facilities
 - b) Determine condition of those electrical facilities
 - c) Estimate costs of repair and consolidation of those facilities
 - d) Estimate approximate value of acquisition of all electrical facilities

Tasks for Feasibility Study

1)
2)

Complete the Load and Resource Study
Complete the System Valuation Study

3) Complete the Regulatory Assessment

- a) Work with consultant to conduct a review of all relevant existing generation, transmission, and distribution resources on the reservation
- b) Identify all utility entities and industry issues that will impact tribal utility goals
- c) Review and consult with BPA about standards required to meet a Tier-1 customer
- d) Draft report and share results with the leadership

4) Complete a draft Colville Tribal Utility Ordinance

- a) Incorporate regulatory assessment and existing Colville tribal codes as well as existing local utilities affecting utility functions
- b) Work with consultant to finalize a draft Colville Tribal Utility Ordinance to put before the Colville Business Council
- c) Adopt and implement the Utility Ordinance

Tasks for Feasibility Study

- 1) Complete the Load and Resource Study
- 2) Complete the System Valuation Study
- 3) Complete the Regulatory Assessment
- 4) Complete a draft Colville Tribal Utility Ordinance

- 5) Complete draft Colville Tribal Utility Business Plan
 - a) Work with consultant to analyze current environment of current agreements that will impact operation of a Tribal Utility
 - b) Draft a sound business plan for the Tribal Utility reflecting our laws and agreements
 - c) Present to Colville Business Council for adoption following or concurrent with the adoption of the Utility Ordinance.
- 6) Initiate BPA Tier-1 Tribal Utility Application
 - a) Continue BPA and other local utility discussions at a much deeper level toward implementing the Utility
 - b) Set up a work plan that incorporates the feedback from BPA to meet Standards of Service

Tasks for Feasibility Study

- 7) Complete the Tribal Utility Feasibility Study Report
 - a) Energy Program will work with consultants to finalize the results of system assessment, load forecast, revenue forecast, power purchase forecast, pro forma to evaluate the cost effectiveness of forming the utility
 - b) Utilize all relevant analysis of legal and regulatory framework necessary for a Tribal Utility
 - c) Utilize all relevant experience from our brother and sister Tribes who have undergone this process
 - d) Develop the implementation strategy for the legal, financial, and technical aspects
 - e) Final report will be reviewed before submittal to the leadership of the Council

Colville Tribal Energy Projects

Current Projects for the Colville Tribal Energy Program:

1. Woody Biomass Power Plant
2. Bio-fuels/Biodiesel Production
3. Wells Dam Forward Sale of Power
4. Solar Installation
5. Energy Efficiency
6. Wind Power
7. Carbon Sequestration
8. Pump Storage

Woody Biomass Power Plant

This 40 Mw project will bring jobs, approximately 20 at the plant and another 150 in the woods

- ü Completed several fuel supply studies to meet the needs of the power plant.
- ü Completed feasibility study of economic viability of a biomass power plant
- q Develop a Fuel Enterprise supply company (2011 HUD Grant to support)
- q Secure Forest Stewardship agreements with the Wenatchee, Okanogan, and Colville National Forests (underway)
- q Obtain a Power Purchase Agreement to buy generated power generated from the power plant (close)
- q Find a development partner with a taxable appetite to take advantage of tax credit financing plans (close)
- q Continue the environmental impact study and process for the NEPA compliance (efforts underway)
- q Initiate the preliminary engineering, final environmental permitting and financing packages
- q Break ground on plant

Colville Tribes Power and Veneer Plant & Future Site of Biomass Plant



Bio-fuels/Biodiesel Production

- q DOE EECBG grant will fund the acquisition of a biodiesel processor that can produce 400,000 gallons of biodiesel a year (ordered, not delivered)
- ü The Colville Business Council allocated \$200,000 to establish a canola crop to begin growing our feedstock to produce oil to make biodiesel
- q Tribal Energy has won a USDA grant to establish a cropping system that gets us closer to organically growing these crops (October 2011)
- q Partnerships with WSU, local farmers and other USDA agencies to enhance the Colville Tribes' ability to establish a sustainable oil seed crop for biofuels production.

Wells Dam Forward Sale of Power

Ø Since 2005, the Colville Tribal Energy Program executed the forward sale of the Wells Dam power allocated to the Colville Tribes through a settlement of the taking of tribal lands

Ø This is a significant revenue source of funding for all governmental operations.

Ø Depending on the market prices, this process can deliver big returns or reduced earnings.

Ø Currently, the power prices are depressed along with the economy due to lack of demand for power.

Solar Installation/Energy Efficiency

- ØThe DOE EECBG grant will install a solar array (10Kw system) that will tie in at the Hearts Gathered Language Immersion School and Fish and Wildlife Program at Paschal Sherman area
- ØThis grant will also fund energy efficiency measures at the two buildings to reduce their overall energy costs
- ØThis grant will serve as an example of what can be done at other tribal schools, buildings and properties
- ØAnother partner, Bonneville Environmental Foundation, has a Solar4Schools curriculum and solar installation grant program

Wind Power

Over 2 years of wind data gathered on the Reservation:

Omak Mountain

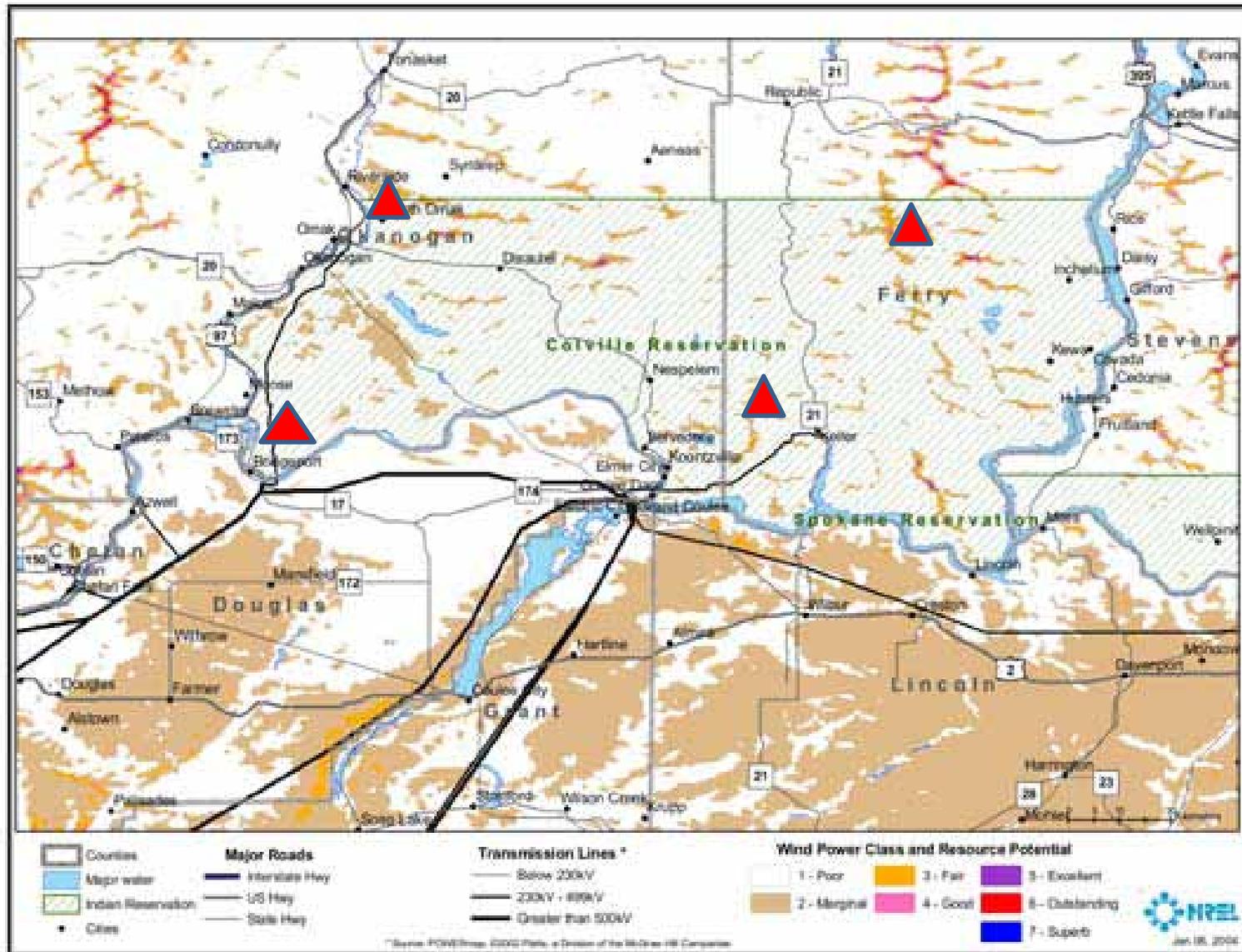
Cody Butte

Bridgeport

Keller Butte

- Ø Development partner decided NOT to pursue any further development at the sites (Marginal source, technology issues)
- Ø More education and studies need to take place to determine quality of the marginal wind source
- Ø The Energy Program will work to continue gathering data and looking for another development partner for a future site

Wind Data & Transmission Lines on Reservation



Carbon Sequestration

- ü Carbon Sequestration is a method of capturing excess carbon in the atmosphere and a possible revenue generator
- ü Tribal Energy is working with Colville Business Council to determine the best approach to this developing market
- ü The Colville Tribal Energy Program now manages a large USDA NRCS Green House Gas Emissions grant to adapt the protocols of the carbon registries to incorporate Indian lands (August 2011)

Pump Storage

ü This pump storage project reflects the future demand for a pump storage project on the Columbia River.

ü It will address the future water storage needs and a balancing potential for additional wind resources coming onto the BPA grid

ü The Colville Tribes are studying two possible sites and the Colville Business Council has keen interest, however there are many issues with this:

Cost, Length of time to develop, Cultural and land use issues, Environmental issues and geologic feasibility

Conclusion

- Ø Many opportunities to develop renewable energy projects
- Ø Located near to transmission lines and hydropower
- Ø We need to follow the Strategic Energy Plan and make the most of this DOE Utility Feasibility Project
- Ø Create the instrument to manage our Renewable Energy Projects providing jobs in a culturally sound, self-determined, sustainable green economy

Thank You for Your Time
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Questions?

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