

**Northern Cheyenne Nation
Wind-Biomass-Solar
Feasibility Study**

**Renewable Energy Development
on
Tribal lands**

Joe Little Coyote, Sr., Tribal Planner

**Dale Osborn, President
Distributed Generation Systems, Inc. (Disgen)
Contractor**

Northern Cheyenne Nation Wind-Biomass-Solar Feasibility Study

Discussion Outline

Project Overview

Objectives

Project Location

Project Participants

Requested Technical Support



10/1/02

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Project Overview

- **Northern Cheyenne adopted a “Comprehensive Economic Development Strategy (CEDS) Planning Document” in 2001.**
- **CEDS mission is “To attain socio-economic independence through the development of a diversified and self-sustaining culturally appropriate reservation economy.”**
- **Analyzing abundant natural resources on Tribal Lands supports CEDS mission:**

Wind

Biomass

Solar

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Project Objectives

- 1. Assess the feasibility of a commercial wind facility on lands selected and owned by the Northern Cheyenne Nation and examine the potential development of solar and biomass resources located on Tribal Lands**
- 2. Create maximum economic development through Tribal Ownership of resulting projects**

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Project Objectives

Disgen shall create or conduct:

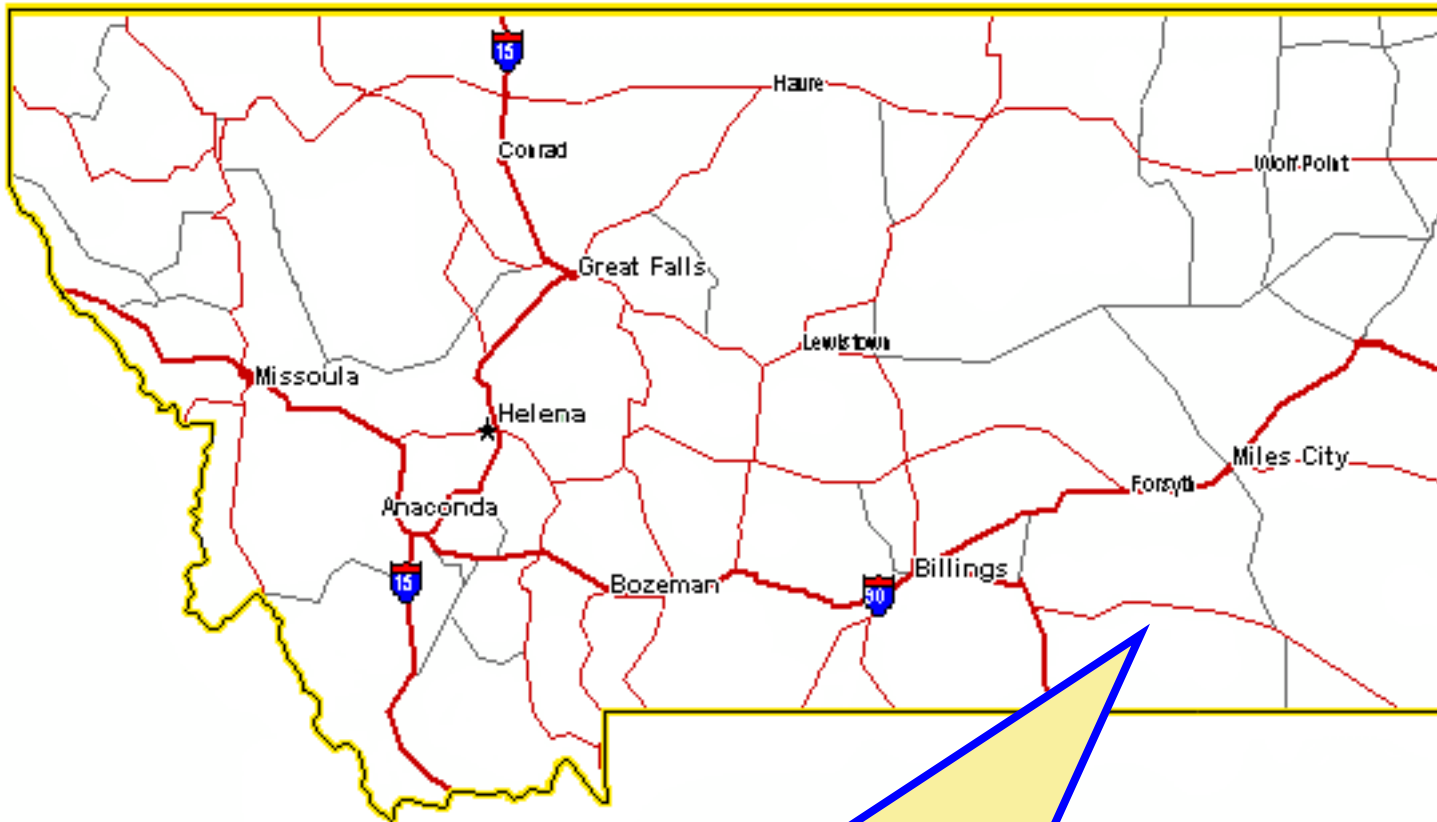
- (a) A wind resource assessment sufficient to obtain financing**
- (b) A Phase I avian resource assessment**
- (c) A preliminary cultural assessment**
- (d) A review of local transmission capabilities**
- (e) A preliminary set of project economic projections**
- (f) A quantification of solar and biomass resources on Tribal Lands**
- (g) Options for Tribal employment and economic development**
- (h) An assessment of the local market for use or sale of the energy produced**

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Project Location

- **The Northern Cheyenne Reservation is located in southeastern Montana in Big Horn and Rosebud Counties.**
- **Tribal headquarters is located in Lame Deer, Montana.**
- **The wind site is a north-south plateau with an area of approximately 120 square miles.**
- **Meteorological studies have been conducted for ten years.**

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Northern Cheyenne Reservation

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Project Location

- **Colstrip coal fired power plant is 25 miles to the north.**
- **Transmission capacity is limited and unquantified.**
- **Site could accommodate a 30 megawatt wind facility locally and a 150+ megawatt facility for export power.**
- **The Tribe owns a lumber mill.**



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Project Participants

- **Northern Cheyenne Nation**
 - **Program Director, Joe Little Coyote, Sr.**
- **Contractor**
 - **Distributed Generation Systems, Inc. (Disgen)**
 - **Dale Osborn, President**
 - **Ed McCarthy- Meteorological studies**
 - **Curry & Kerlinger- Avian assessment**
- **National Renewable Energy Laboratory (NREL)**

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Disgen - Native American Experience

- **Focus: Optimize Tribal economic benefit through Tribal ownership (sovereignty) and employment of renewable energy projects and transfer development skills to Tribal entities**
- **Conducted a developable resource assessment on Tribal Lands in North and South Dakota for NREL in 2000**
- **Supported (technical, legal and economic) Rosebud Sioux Tribe in development of single 750kW turbine wind project**
- **Developing two large wind sites for Rosebud Sioux Tribe**
- **Contractor to the Northern Cheyenne Nation**
- **Contractor to the Kaw Nation in Oklahoma**

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Requested Technical Support

- **National Renewable Energy Laboratory:**
 - **National Wind Technology Center**
 - MET tower installation training
 - MET data analysis and siting recommendations
 - **Solar Thermal Electric Program**
 - Consultation on solar resource
 - Consultation on solar instrumentation
 - **Biomass Program**
 - Consultation on resource assessment and value added products



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