

LOWER BRULE SIOUX TRIBE

Energy Planning Department

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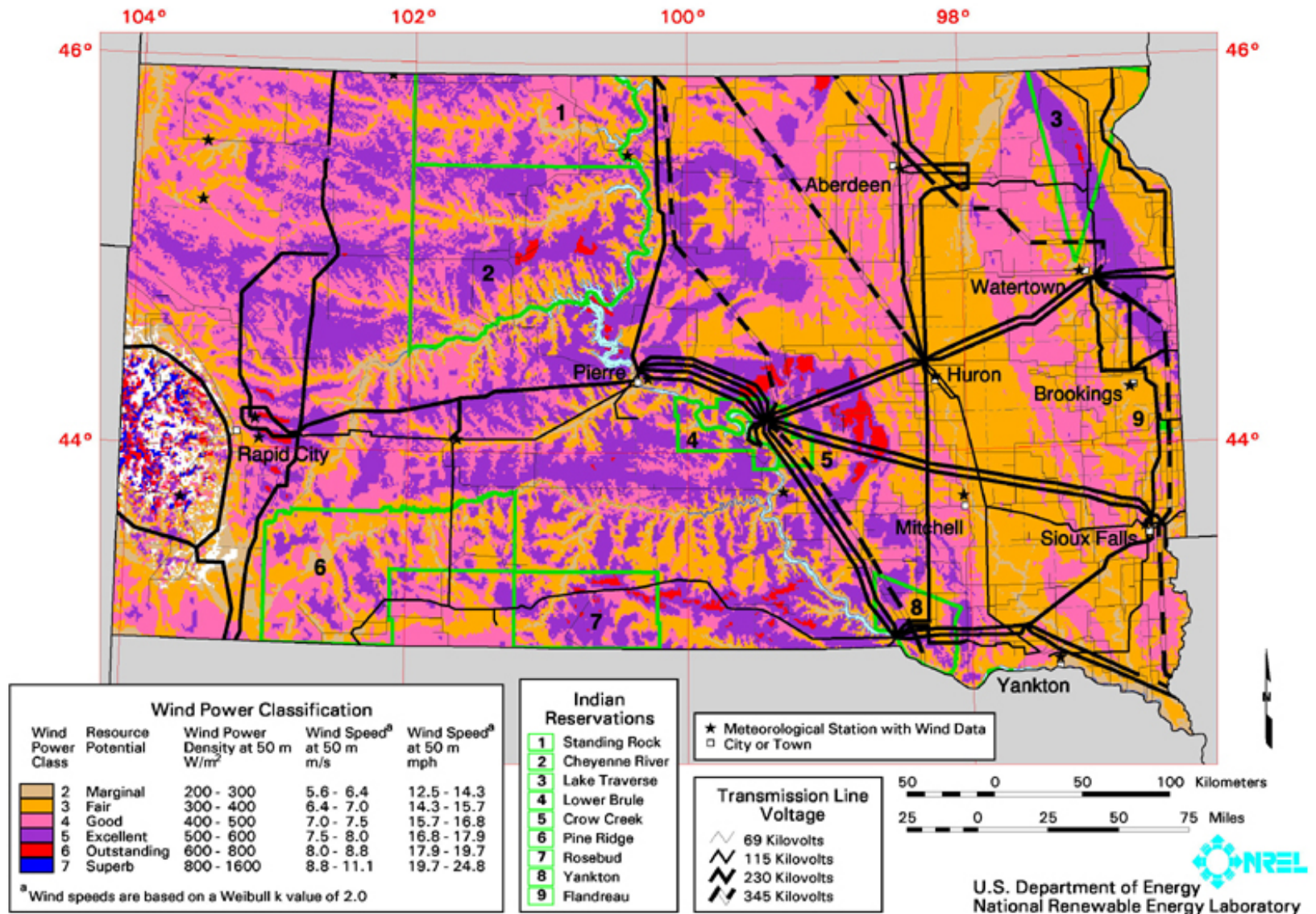
Director

General Information

Demographics

- 2,600 Enrolled Members
- 1,200 Resident Members
- 230,000-acre reservation
- High unemployment rate

South Dakota - Wind Resource Map



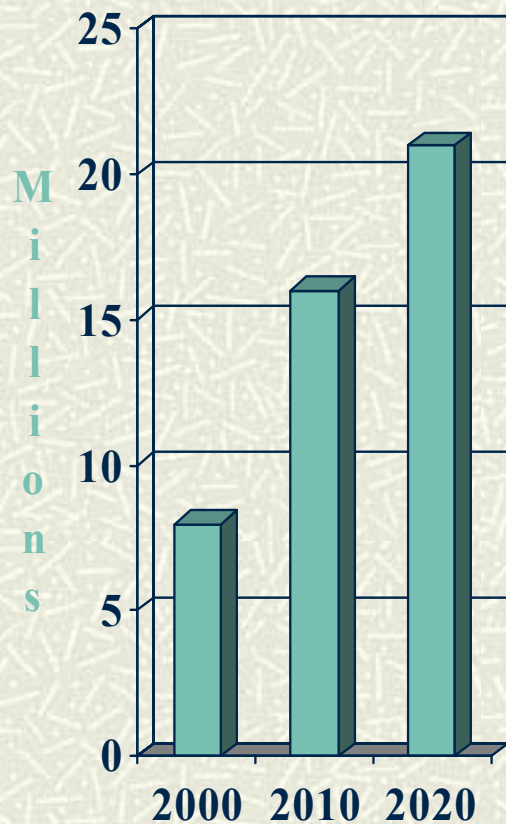
Energy Overview

Energy Demand

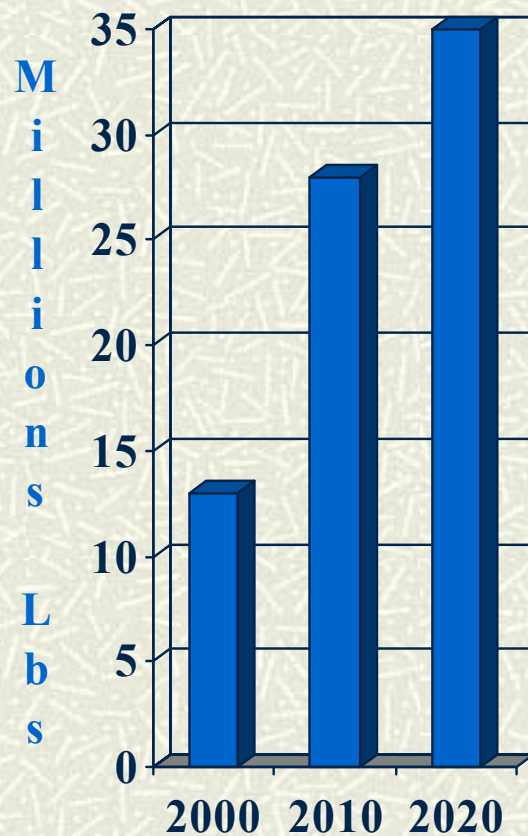
- Residential Electric Consumption 2000
 - 9 cents per kWh
 - \$1,100 per household/year
 - 4 million kWh
 - \$400,000
 - 7 million lbs. CO2 from Electricity
- Commercial Electric Consumption 2000
 - 3 million kWh
 - \$230,000
 - 6 million lbs CO2 from Electricity

Energy Overview Continued

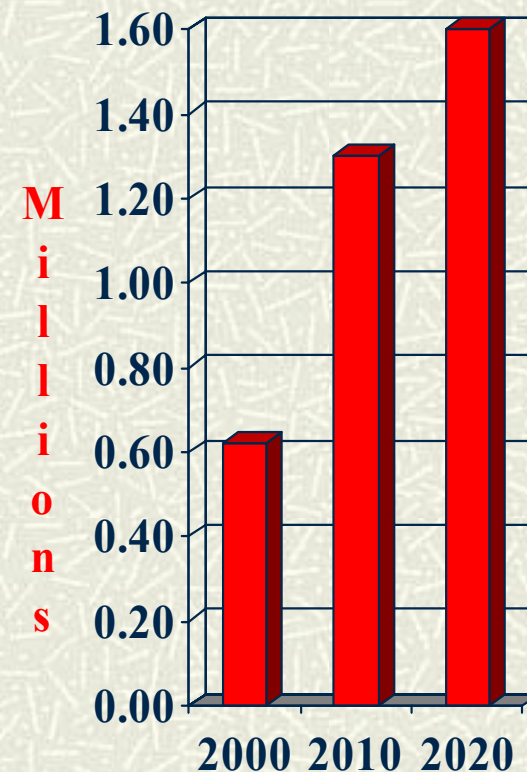
■ kWh



■ CO2



■ Cost



Energy Supply

Tribal Energy Supply

■ Wind Data

- Approximately 2 years worth of Data on 2 sites
- 18 Mph at selected site
- North/North West wind direction

■ Hydro Capability

- Landscape is favorable for such a development project. Adjacent to river, Natural pond areas
- Title 6 Act; restored lands taken under pick-sloan Act

Project Description

- Test the feasibility of blending Wind power and Hydro power to produce “FIRM” power
 - Hydro would utilize Pump-back water storage reservoir and hydroelectric turbines
 - Location is very conducive to use of both technologies, all relevant basics exist on site:
 - Wind: Class 6
 - Within 1/8 mile of phase 3 transmission lines and interconnection point
 - All land is owned by the LBST, Easily accessible
- Competitive Analysis

Project Description Continued

- Hydro: Landscape is very conducive
- Natural ponds and drainage ditches
- Title 6 Act

Project Description Continued

Feasibility Tests

- Verification of Wind Data
- Rights to divert water
- Cost, technical and physical feasibility of constructing a reservoir that is sufficient
- Investigate & evaluate integrated circuitry of technologies: wind, hydro turbines, pumps & discharge turbines

Project Description Continued

- Potential increased marketability of “FIRM” power
- Access of the Grid, interconnection requirements, and transmission
- Economic feasibility
- Political feasibility
- Environmental benefits/impacts & permitting process

Project Description Continued

- Corporate Structure
- Business and Financing Plan
- Operations, Maintenance and Training Planning
- Infrastructure Development Planning

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The End.....
Just the beginning