

South Dakota Wind Energy

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Benefits local communities

Farmers can lease land with few adverse impacts

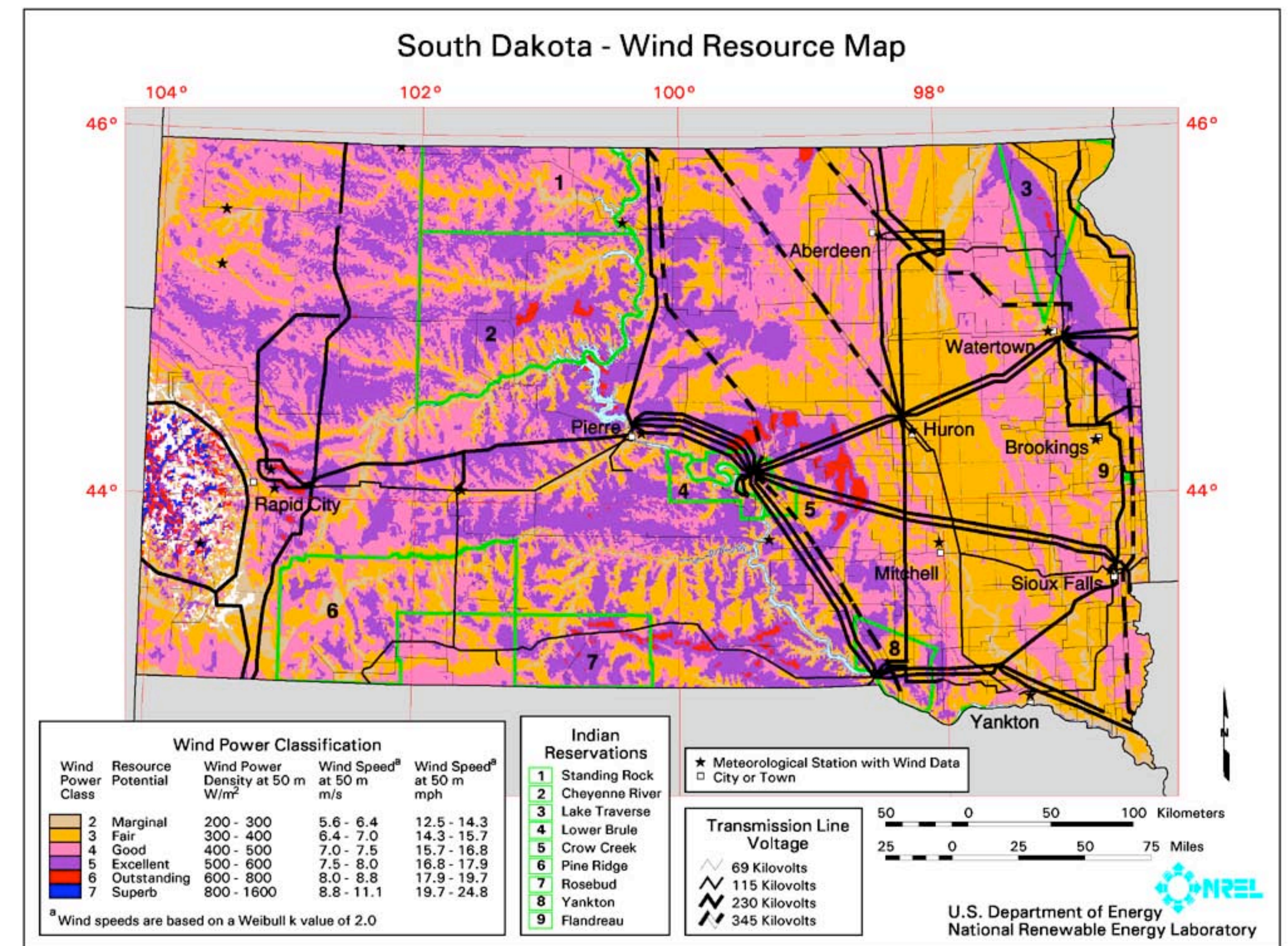
Cost of power production is low

No pollution, no carbon dioxide emissions

Power production in the United States
Energy security
Economic security

Abundant natural resource in South Dakota (over 500 Gigawatts)¹

High paying jobs for construction, maintenance, operations management, sales, etc.



South Dakota Wind Resource Map²

The Department of Energy's Wind Program and the National Renewable Energy Laboratory (NREL) published a new wind resource map for the state of South Dakota. This resource map shows wind speed estimates at 50 meters above the ground and depicts the resource that could be used for utility-scale wind development. Future plans are to provide wind speed estimates at 30 meters, which are useful for identifying small wind turbine opportunities.

As a renewable resource, wind is classified according to wind power classes, which are based on typical wind speeds. These classes range from Class 1 (the lowest) to Class 7 (the highest). In general, at 50 meters, wind power Class 4 or higher can be useful for generating wind power with large turbines. Class 4 and above are considered good resources. Particular locations in the Class 3 areas could have higher wind power class values at 80 meters than shown on the 50 meter map because of possible high wind shear. Given the advances in technology, a number of locations in the Class 3 areas may suitable for utility-scale wind development.

This map indicates that South Dakota has wind resources consistent with utility-scale production. Good-to-excellent wind resource areas are located throughout the state. Prominent excellent-to-outstanding resource areas are located on the hills east of Pierre, the ridges in south-central South Dakota near the Nebraska border, and hills near Rapid City. Ridge crest locations in the Black Hills can also have excellent wind resource.

References:
1. 'South Dakota's Clean Energy Potential' Opinion Editorial by U.S. Senator John Thune, April 4, 2008
2. U.S. Dept. of Energy, Energy Efficiency and Renewable Energy, Wind & Hydropower Technologies Program, Wind Powering America, South Dakota Wind Resources Map