

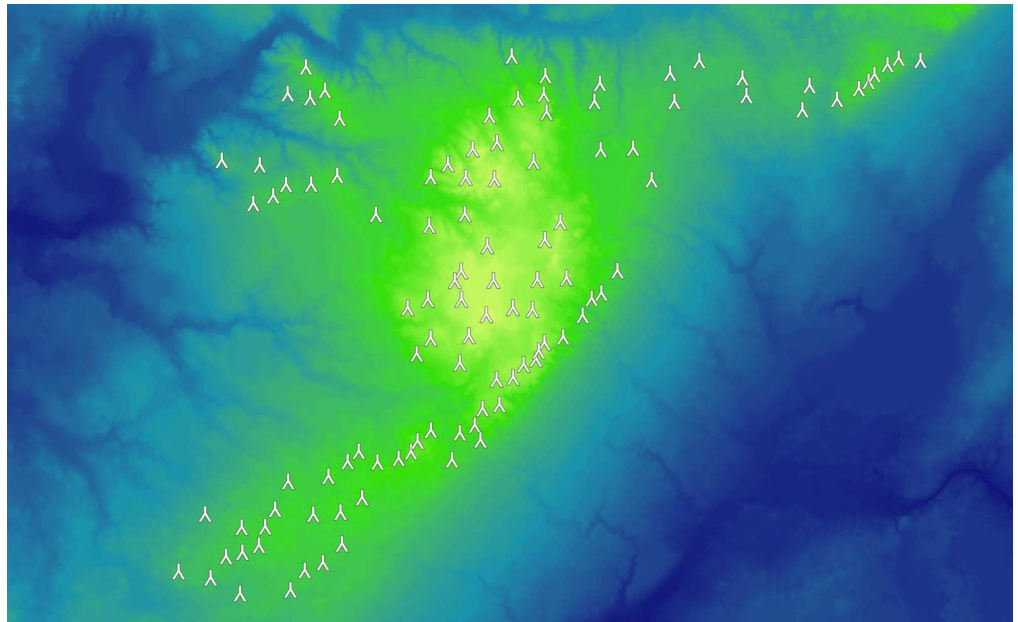
SIZE
162 MW

PROJECT STATUS
In Operation

TIMELINE
Commissioned in Feb. 2011

SERVICES PROVIDED

- Optimized wind turbine array
- Wind resource and energy assessment
- Bankable energy assessment report with uncertainty analysis



BASIN ELECTRIC POWER COOPERATIVE - PRAIRIEWINDS SD I CROW LAKE, SOUTH DAKOTA

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Images courtesy of Basin Electric Power Company

PROJECT DESCRIPTION

PrairieWinds SD I is the largest wind project owned solely by a cooperative. It is also a first-of-its-kind community wind investment partnership, and its turbines are used to educate and train future wind technicians. The project consists of 108 General Electric GE 1.5sle wind turbines with an 80 meter hub height. 100 turbines are owned and operated by PrairieWinds SD 1, Inc., one turbine is owned by the Mitchell Technical Institute (MTI), Mitchell, S.D., and the remaining seven turbines are owned by a group of local community investors called the South Dakota Wind Partners.

KEY ACHIEVEMENTS

EAPC specified the optimized turbine layout and provided a bankable energy assessment report. We provided array modifications to maximize production while minimizing the wind loads on the turbines and keeping construction costs reasonable. This analysis included performing a wind resource assessment utilizing data from four met towers. EAPC also provided assistance in establishing the final optimal turbine array and then performed the final wind energy assessment including a detailed loss and uncertainty analysis, which was completed to assist Basin Electric in asset management and financial decisions.

