

WIND ENERGY IN SOUTH DAKOTA



Wind energy means economic development for South Dakota.

In 2019, South Dakota generated nearly 24 percent of its electricity from wind power, the fifth highest in the nation. South Dakota now has over 1,700 MW of installed wind power after experiencing the largest one-year growth rate of any state in 2019. Continued growth is slated as the state has over 1,500 MW under construction or in advanced development. Further wind installations will provide considerable economic benefits and allow smaller manufacturers to enter the wind supply chain, joining major industry players such as Marmen Energy, who operate a tower fabrication facility in Brandon.

BENEFITS

Jobs & Economic Benefits

The U.S. wind industry is a major economic development driver. In addition to job creation and billions of dollars in project investment, the wind industry invests heavily in local communities, providing significant revenue in the form of property, state, and local taxes.

- Direct wind industry jobs in 2019: **2,001 to 3,000**
- Capital investment in wind projects through 2019*: **\$3.0 billion**
- Annual state and local tax payments by wind projects**: **\$9 million**
- Annual land lease payments: **\$9.8 million**

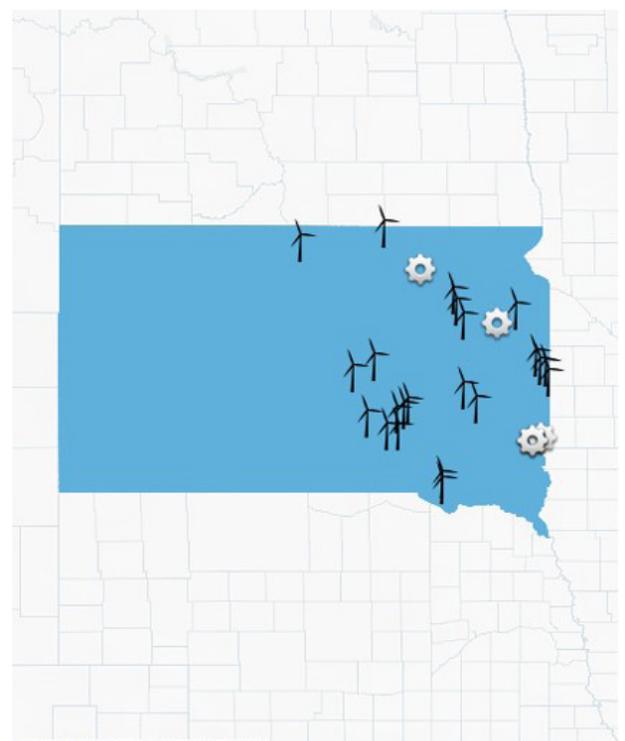
*Based on state and national averages from LBNL, NREL.

**Based on member data. Includes PILOT payments.

Wind-Related Manufacturing

Over 500 manufacturing facilities in the U.S. make products for the wind industry, from blades, towers, and turbine nacelles to raw components such as fiberglass and steel.

- Number of active manufacturing facilities in the state: **4**



Online Wind Project



Wind-related Manufacturing Facility

Wind Projects as of Q3 2020

- Installed wind capacity: **1,848 MW**
 - » State rank for installed wind capacity: **17th**
- Number of wind turbines: **899**
 - » State rank for number of wind turbines: **18th**
- Wind projects online: **21** (Projects larger than 10 MW: 18)
- Wind capacity under construction: **1,224 MW**
- Wind capacity in advanced development: **302 MW**

Wind Generation

In 2019, wind energy provided **23.90%** of all in-state electricity production.

- State rank for share of electricity: **5th**
- Equivalent number of homes powered by wind in 2019: **276,600**

Wind Energy Potential

- Land-based technical wind potential at 80 m hub height: **417,878 MW**

(Source: AWS Truepower, NREL)

Environmental Benefits

Wind energy reduces emissions and water consumption by avoiding generation from fossil-fuel power plants.

- In-state carbon dioxide emissions avoided in 2019*: **790,000 metric tons**
 - » Equivalent cars' worth of emissions avoided: **170,000**
- In-state water consumption savings in 2019**: **427 million gallons**

*Estimated using Aurora power sector model.

**Based on national average water consumption factors for coal and gas plants.

Renewable Portfolio Goal

In 2008, South Dakota set a renewable energy target that 10% of all retail electricity sales be obtained from renewable sources by 2015. In 2009, energy efficiency was included as an allowable method to reach the objective. Wind energy has historically been the renewable resource chosen to meet renewable energy targets.

