

WIND ENERGY IN MINNESOTA



Minnesota is a national leader in the wind energy industry.

Minnesota ranks eighth in the country for installed wind capacity with over 4,000 MW operating in the state. In 2019, wind power generated 19 percent of Minnesota's electricity, ranking 10th in the nation for wind energy as a share of total electricity generation. The state has also been successful in attracting investment for wind energy manufacturing, with 20 active manufacturing facilities in the state. Major wind energy construction companies Blattner Energy and Mortenson Construction are both based in Minnesota.

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*: **\$7.9 billion**
- Annual state and local tax payments by wind projects**: **\$21 million**
- Annual land lease payments: **\$26 million**

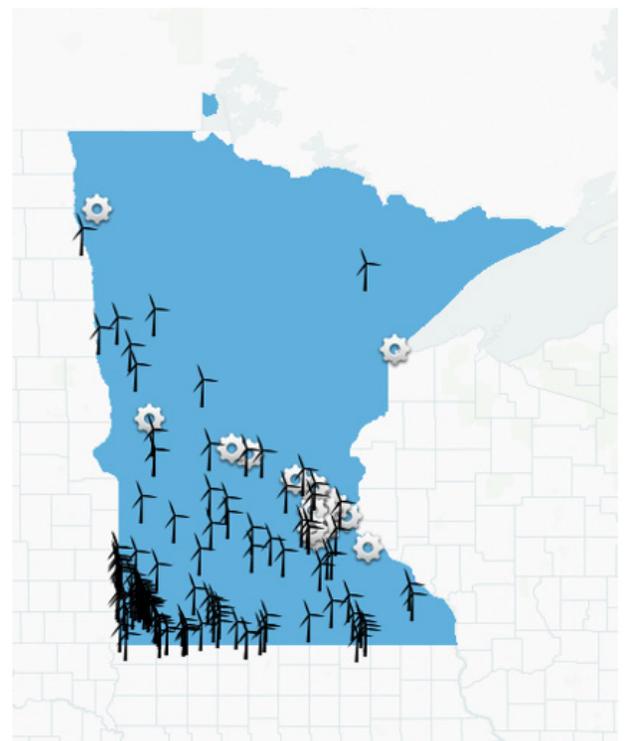
*Based on state and national averages from LBNL, NREL.

**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: **20**



Online Wind Project



Wind-related Manufacturing Facility

Wind Projects as of Q2 2020

- Installed wind capacity: **4,048 MW**
 - » State rank for installed wind capacity: **8th**
- Number of wind turbines: **2,481**
 - » State rank for number of wind turbines: **7th**
- Wind projects online: **103** (Projects larger than 10 MW: 51)
- Wind capacity under construction: **850 MW**
- Wind capacity in advanced development: **221 MW**

Wind Generation

In 2019, wind energy provided **19.00%** of all in-state electricity production.

- State rank for share of electricity: **10th**
- Equivalent number of homes powered by wind in 2019: **1,012,800**

Wind Energy Potential

- Land-based technical wind potential at 80 m hub height: **182,826 MW**
(Source: AWS Truepower, NREL)
- Offshore net technical wind potential at 100 m hub height: **151 MW** (Source: 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*: **6.4 million metric tons**
 - » Equivalent cars' worth of emissions avoided: **1.4 million**
- In-state water consumption savings in 2019**: **3.6 billion gallons**

*Estimated using Aurora power sector model.

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

Renewable Portfolio Standard

Minnesota adopted a renewable portfolio standard in 2007. The state's largest utility, Xcel Energy, is required to derive 31.5% of its sales from renewables by 2020. Other utilities must derive 25% of their sales from renewables by 2025. Wind energy has historically been the renewable resource of choice to meet RPS requirements.

