WIND ENERGY IN NORTH DAKOTA

North Dakota is a national leader in wind resources.

Wind energy provided nearly 27% percent of the electricity generated in North Dakota in 2017, the fifth highest in the nation. North Dakota now has over 3,100 MW of wind power and ranks 10th in the nation for installed capacity. Developing the state's incredible wind resource has led to jobs in the construction, operations and manufacturing sectors, with at least four active manufacturing facilities in North Dakota producing components for the wind industry.

BENEFITS

Jobs & Economic Benefits

An investment in wind power is an investment in jobs, including jobs in operations and maintenance, construction, manufacturing and many support sectors. In addition, wind projects produce lease payments for landowners and increase the tax base of communities.

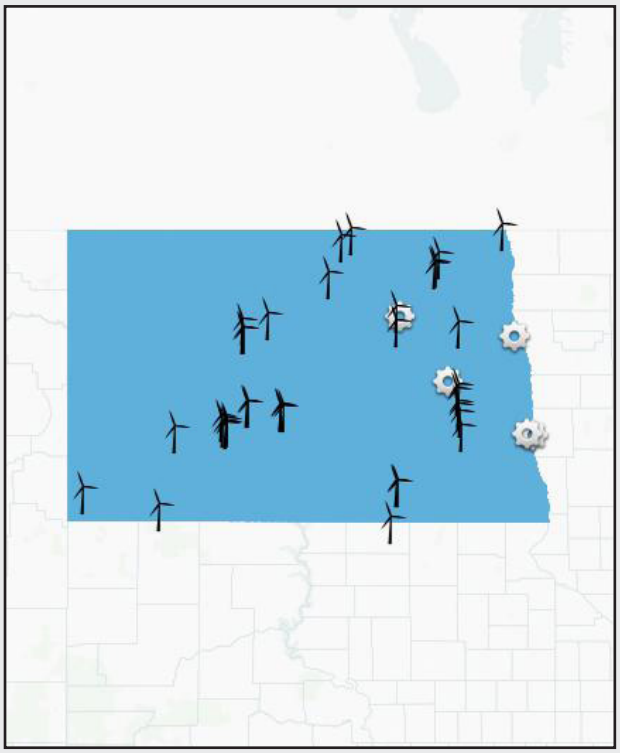
- 2017 direct and indirect jobs supported**: 3,001 to 4,000**
- Total capital investment through 2017*: **$5.8 billion**
- Annual land lease payments*: **$5 - $10 million**

*Calculations based on national and state averages.

Wind-Related Manufacturing

The United States has over 500 manufacturing facilities producing products for the wind industry that range from blade, tower and turbine nacelle assembly facilities to raw component suppliers, including fiberglass and steel.

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



Online Wind Project Manufacturing Facility

POWERED BY WindIQ AWEA

STATE WIND FACTS

Wind Projects as of 4Q 2018

- Installed wind capacity: **3,155 MW**
  - » State rank for installed wind capacity: **10th**
- Number of wind turbines: **1,656**
  - » State rank for number of wind turbines: **11th**
- Wind projects online: **30 (Projects above 10 MW: 22)**
- Wind capacity under construction: **256 MW**
- Wind capacity in advanced development: **650 MW**

Wind Generation

During 2017, wind energy provided **26.8%** of all in-state electricity production.

- State rank for share of electricity: **5th**
- Equivalent number of homes powered by wind in 2017: **1,021,000**

Wind Energy Potential

- Land-based technical wind potential at 80 m hub height: **296,084 MW**
  (Source: AWS Truepower, NREL)
- Offshore net technical wind potential at 100 m hub height: **NA** (Source: NREL)

Environmental Benefits

Generating wind power creates no emissions and uses virtually no water.

- 2017 annual state water consumption savings*: **2.6 billion gallons**
- 2017 equivalent number of water bottles saved: **19.9 billion**
- 2017 annual state carbon dioxide (CO_2) emissions avoided: **5.2 million metric tons**
- 2017 equivalent cars' worth of emissions avoided: **1.1 million**

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

POLICY

Renewable Portfolio Goal

In 2007, North Dakota set a non-binding, voluntary target that by 2015, 10% of all retail electricity sold in the state would be obtained from renewable sources.

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