

WIND ENERGY IN KANSAS



Kansas is a national leader in the wind energy industry.

In 2018, Kansas generated 36% of its electricity from wind power, ranking first in the nation for wind energy as a share of total electricity generation and fifth in the nation for installed wind capacity. This wind energy translates into savings for electricity customers. Kansas lies in the Southwest Power Pool (SPP), where wind power saved electricity customers \$1.2 billion in 2013. Wind is also creating economic development for the state, where major wind turbine manufacturer Siemens Gamesa currently operates a \$50 million nacelle assembly facility in Hutchinson, Kansas.

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.

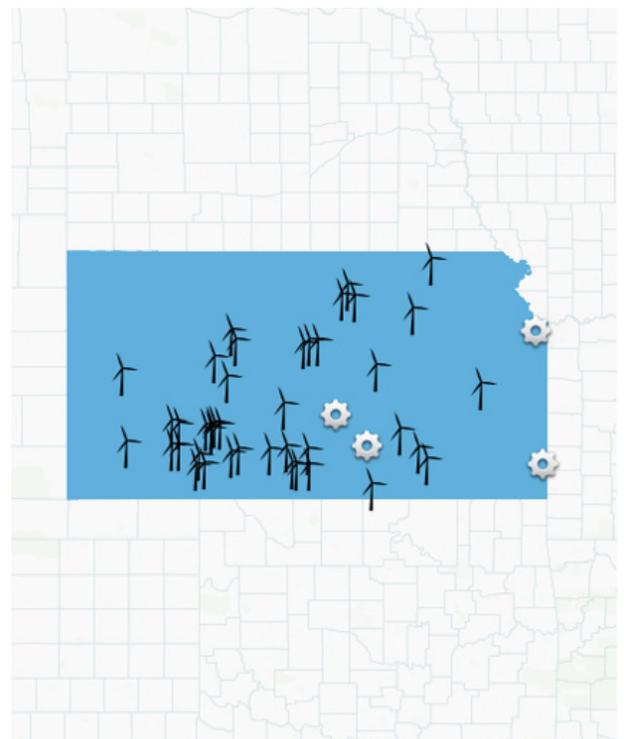
- Direct wind industry jobs in 2018: **5,001 to 6,000**
- Capital investment in wind projects through 2018*: **\$10.5 billion**
- Annual state and local tax payments by wind projects: **\$28 million**
- Annual land lease payments*: **\$15 - \$20 million**

*Source: Based on state and national averages from LBNL, NREL

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 2Q 2019

- Installed wind capacity: **5,653 MW**
 - » State rank for installed wind capacity: **5th**
- Number of wind turbines: **2,996**
 - » State rank for number of wind turbines: **5th**
- Wind projects online: **37** (Projects larger than 10 MW: 32)
- Wind capacity under construction: **871 MW**
- Wind capacity in advanced development: **1,120 MW**

Wind Generation

In 2018, wind energy provided **36.4%** of all in-state electricity production.

- State rank for share of electricity: **1st**
- Equivalent number of homes powered by wind in 2018: **1,855,300**

Wind Energy Potential

- Land-based technical wind potential at 80 m hub height: **506,182 MW**
(Source: AWS Truepower, NREL)
- Offshore net technical wind potential at 100 m hub height: NA

Environmental Benefits

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

- 2018 annual state water consumption savings*: **4.7 billion gallons**
- 2018 equivalent number of water bottles saved: **35 billion**
- 2018 annual state carbon dioxide (CO₂) emissions avoided: **9.0 million metric tons**
- 2018 equivalent cars' worth of emissions avoided: **1.9 million**

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

Renewable Portfolio Goal

Kansas enacted a renewable portfolio standard (RPS) in May 2009, requiring certain utilities to generate or purchase 20 percent of their electricity from renewable resources by 2020.

Kansas rapidly outpaced RPS demand and filled the long-term RPS requirement, just as the state legislature converted the standard to a voluntary goal in 2015.

