Wind Energy Works for South Dakota

When revenue for agriculture and the state is low, look to wind development to provide a cash crop of opportunity. In 2016, the state generated more than 26.9 percent of its electricity from wind power, third in the nation, while the future is full of possibility as the fifth windiest state, South Dakota has a significant wind resource potential.

Top Five States, #1 Iowa: 35.8%, #2 Kansas: 27.7%. #3 SD: 26.9%, #4 Oklahoma: 23.3 and #5 North Dakota: 19.8. AWEA July 2016

Current South Dakota wind generation with installed capacity

- Equivalent number of homes powered by wind: Over 227,000.

Wind Project Statistics

- Installed wind capacity: 977 MW
- State rank for installed wind capacity: 18th
- Number of wind turbines: 583
- State rank for number of wind turbines: 18th
- Number of wind projects online: 14
- Land area suitable for wind resource development: 94%
- Wind manufacturing facilities: five
- High-quality wind capacity (wind blowing at full capacity) is 40% (3rd in nation)
- Rank for fastest growing wind economy: 10th

Source: American Wind Energy Association Q3 2016 Market Report
Wind Generation Potential
The US Department of Energy Wind Vision Scenario projects that South Dakota could produce enough wind energy by 2030 to power the equivalent of 895,000 average American homes. Looking toward 2050, there is potential to provide 80 percent of the nation’s electricity by 2050.

Wind Energy and the Advantages for Policy and Economic Growth

- **Wind turbine technician** is one of America’s fastest growing jobs. The Bureau of Labor Statistics says the occupation will grow by 108 percent over the next decade. Local educational programs at Mitchell Technical Institute and Lake Area Technical Institute offer this profession for SD students.
- Americans and South Dakotans love wind power. Poll after poll in 2016, showed **strong bipartisan support for wind energy growth**. 83 percent of Americans want to see more wind, according to a recent Pew poll, just one data point among many that confirmed wind’s popularity crosses both geographical and political lines.
- Across the country, a number of state governments **strengthened their renewable portfolio standards (RPS)** to bring more low-cost, clean wind energy to millions of families and businesses.
- Many of the **largest Fortune 500 companies**, including Google, Bank of America, General Motors, Microsoft, Amazon, Starbucks, Walmart and Nike, are making renewable resources a priority and are **demanding clean energy** in determining where they locate their facilities and create jobs.

Wind energy is a big part of this plan and many states are eager for the chance to entice these companies’ and gain the economic benefits that are associated.
Wind power is one of the oldest forms of natural energy: Windmills have been in use since 2000 B.C. and were first developed in China and Persia.

The settlers used windmills to water their livestock and irrigate crops. Since 2009, South Dakota has built and benefited from the power of modern wind energy development, that is recognized as one of the safest and most environmentally friendly forms of electricity generation.

As an agricultural state, wind power is considered a cash crop when other forms of revenue are low, and for counties that rely on farming and ranching, wind projects are a boom for the local economy.

A strong rural economy is built on three pillars: natural amenities, natural resources, and manufacturing. Unfortunately, these pillars are no longer as strong as they once were and as a result, it is critical for rural economies to diversify. Many jobs can now be found in the service sector to include education, health care and retail trade to support families, states the U.S. Department of Energy. Wind energy projects offer South Dakota communities an opportunity to reinforce the pillars.

These projects are made possible by unique attributes South Dakota’s rural counties can offer: a combination of renewable resources; sparsely populated tracts of land; and a strong work force.

Wind Turbine and Power Facts

- Most wind turbines (98.7%) are installed on private land.
- Modern wind turbines produce 19 times more electricity than typical turbines in 1990.
- On average, a single wind turbine can power 500 homes.
- Wind power was the top source for new electric capacity last year in the U.S., comprising 35% of all new U.S. electric capacity additions.
- Wind energy prices have dropped 66% since 2009. Lower wind turbine prices and installed project costs, along with improved capacity factors, are enabling aggressive wind power pricing.

Direct Project Impacts

- **On Site**: Construction workers, management and administrative support, truck drivers, road crews and maintenance workers.
- **Off Site**: Boom truck, gas stations, manufacturers (blades, towers, turbines, etc.), and hardware/parts store suppliers.

Indirect Impacts

- Jobs and payments made to supporting businesses, such as bankers, financing the construction, contractors and equipment suppliers.

Induced Impacts

- Jobs and earnings from the spending by people directly and indirectly supported by the project, including grocery store clerks, retail salespeople, and child care providers.
Being A Power Source isn’t the Only Impact of Wind

An investment in wind power is an investment in jobs, local revenue, lower utility costs, public health, the environment, and wildlife. The wind industry pays taxes to local communities, providing added revenue for hospitals, schools, roads, and other public services.

- Wind projects include 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 which assists local school districts.

- The generation of wind provides a domestic, sustainable, and economically viable energy source as it reduces consumer electricity prices, helps protect against future price shocks and allows the market to be more competitive.

- Wind deployment delivers public health and environmental benefits, including reduced greenhouse gases (GHG) emissions, reduced air pollutants, and lower water consumption and withdrawals.

The building of wind facilities is done with careful consideration for the public’s acceptance of land use, wildlife concerns and radar interference using planning, technology, and communication to mitigate issues and improve upon study results.

SD’s Impact and Benefits

- Jobs supported over last two years: 1,001 to 2,000
- Total capital investment: $2 billion
- Annual land lease payments: Over $2.4 million
- Annual state water consumption savings: 262 million gallons
- Equivalent number of water bottles saved: 1.9 billion
- Carbon dioxide (CO2) emissions avoided: 480,000 metric tons and equivalent cars worth of emissions avoided: 96,000
- South Dakota’s population suffering from asthma and other respiratory diseases (CDC, 2015): Over 97,000 or 11%.

Annual Membership Form

Name: __________________________ Title: __________________________
Organization: __________________________ Address: __________________________
City: __________ State: ______ Zip Code: __________ Phone: __________________________

Email: __________________________

Membership Levels: Please circle preferred membership level at right. Payment can be submitted by check or through PayPal by account or credit card. Go to sdwea.org, members page. For more information or questions, call 605-679-7920 or office@sdwea.org

Mail to: SDWEA, 300 East Capitol, Pierre, SD 57501

Class IV Members: Corporations - $3,000
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Class I Members: Wind Advocates
  o Small organizations supporting wind - $100
  o Individuals supporting wind - $25
  o Students - $10