

About Wind Energy in Kansas

Kansas has the second best wind resource in the nation.
18 operating projects representing \$5 Billion in investment.

- 2,617 MW of installed wind generation
- 60% in-state and 40% export
- Local/State Economic Impacts of An Average 200MW facility
 - \$400 - \$600 million capital investment
 - 10-12 permanent operation & maintenance jobs with an annual payroll of \$600,000 - \$800,000 and 150 -200 construction jobs
 - More than \$1M in annual land owner payments
 - Significant road & bridge improvements with little or no impact on fire, water or wastewater infrastructure
 - Donation agreements

In 2012, Kansas led the nation in wind farm construction. Kansas more than doubled the amount of installed wind generation with 8 facilities coming online totaling more than \$3 Billion in new investment.

2013 Projects

The Buffalo Dunes project will come online in 2013.

The \$400 million investment is in Haskell, Finney and Grant counties.

The project will export 200MWs of wind energy to Alabama Power. Bringing the state total installed capacity to 2,817MW.

There are several other late stage projects looking to construct in 2013.

Why Kansas Wins

Kansas wind projects produce power on average more than 90% of the time. The energy that wind projects produce is, on average, close to or above 50% of their nameplate, or maximum, capacity each year, a high utilization rate by industry standards.

Because of this performance, wind developers with projects in Kansas are signing power purchase agreements with in-state and out-of-state utilities with guaranteed pricing for twenty years in the \$0.029 to \$0.033 per kilowatt hour range (with the \$0.02 PTC).

New turbine technologies have deployed in the last two years with taller hub heights further enhancing efficiency and driving down cost. There are now 400 component part facilities in 43 states including Kansas. At least 65% of the value of a wind turbine produced domestically compared to 25% in 2005.

Kansas has a stable and attractive policy environment.

The Wind Coalition is a non-profit association formed to encourage the development of the vast wind energy resources of the south central United States. The Wind Coalition is active in two particular regions: the Southwest Power Pool (SPP) and the Electric Reliability Council of Texas (ERCOT) grid systems which cover all or part of 8 states including Arkansas, Kansas, Louisiana, Missouri, Nebraska, New Mexico, Oklahoma and Texas. The Wind Coalition's members include developers, owners and operators of wind farms, turbine and component part manufacturers, law and engineering firms and public interest advocates.

Contact: Kimberly Svaty
kimberly@gencursvaty.com
913.486.4446



How is energy measured?

The ability to generate electricity is measured in watts. Watts are very small units, so the terms kilowatt (kW = 1,000 watts), megawatt (MW = 1 million watts), and gigawatt (GW = 1 billion watts) are most commonly used.

Electricity production and consumption are most commonly measured in kilowatt-hours (kWh). A kilowatt-hour refers to one kilowatt (1,000 watts) of electricity produced or consumed for one hour. One 50-watt light bulb left on for 20 hours consumes one kilowatt-hour of electricity (50 watts x 20 hours = 1,000 watt-hours = 1 kWh).

How many homes can one megawatt of wind energy supply?

An average U.S. household uses about 10,000 kilowatt-hours (kWh) of electricity each year. A one-megawatt wind turbine can generate between 2.4 million and 4 million kWh annually, depending on the average wind speed at the site. Therefore, a single one-megawatt wind turbine generates enough electricity to power 240 to 400 households.

How much electricity can one wind turbine generate?

The output of a wind turbine depends on the turbine's size and the wind's speed. Utility-scale wind turbines being manufactured now for the U.S. market have power ratings that range from 1.5 megawatts to 3.0 megawatts.

Example: A 150 MW wind project using 100 1.5 MW wind turbines can generate as much as 600,000,000 kWh annually at a good site, or enough to power 50,000 typical U.S. households.

How much energy can wind realistically supply to the U.S.?

Currently, wind energy accounts for less than 1% of the U.S. energy supply. However, wind energy could supply up to 20% of the nation's electricity according to the National Renewable Energy Laboratory.

How much land is needed for a utility-scale wind plant?

In open, flat terrain, a utility-scale wind plant will require about 50 acres per megawatt of installed capacity. However, only about 1-2% of this area is actually occupied by turbines, access roads and other equipment. The rest remains free for other compatible uses such as farming or ranching.

What are America's current sources of electricity?

Coal is currently used to generate more than half of all of the electricity (52%) used in the United States. Other sources of electricity are: natural gas (16%), oil (3%), nuclear (20%), and hydropower (7%).

Wind doesn't blow all the time. Can utilities use the power when its needed?

Wind energy is an intermittent resource, meaning the power is only produced when there is enough wind to turn the turbine blades. Most utilities have a diverse mix of generation sources, creating the flexibility to increase or decrease generation depending on the electricity demand at a given time. Because of this inherent flexibility in the system, other energy sources can typically be ramped down when the wind is blowing and fuel can be saved for times when it's not windy. Many utilities have decades of experience integrating wind energy into their systems.

What impacts do wind turbines have on birds?

A wind turbine impacts on birds and wildlife are highly dependent on the location of the project. Extensive avian and wildlife studies will be completed prior to the construction of any wind farm.

Do wind turbines emit sound?

A well-designed utility scale wind turbines are generally quiet in operation and it is possible to have a normal conversation at the base of an operating wind turbine. The sound heard from wind turbines at a distance, as with other local sources of sounds, is affected by many factors - including the wind direction, meteorological conditions, vegetation and other barriers. Wind facilities are always located where the wind speed is higher than average, and the background sounds of the wind itself will often mask any sounds that might be produced by operating wind turbines.