

Puget Sound Energy's Wild Horse Wind and Solar Facility



Wild Horse takes advantage of the region's strong winds to produce clean, renewable energy year-round.



The Renewable Energy Center allows visitors to explore the latest technologies in wind and solar power, and learn about the Kittitas Valley.

What is Wild Horse?

The Wild Horse Wind and Solar Facility is a unique renewable energy complex that harnesses the power of both the wind and the sun. Located in Washington state's Kittitas County, Wild Horse takes advantage of the region's strong, consistent winds and abundant sunshine to produce clean, renewable energy.

How much energy does Wild Horse produce from the wind?

With 149 wind turbines, Wild Horse has the capacity to produce 273 megawatts (MW) of electricity.

According to the American Wind Energy Association, 1 MW of wind energy capacity equals the electrical needs of 225 to 300 average U.S. homes.

How much energy does Wild Horse produce from the sun?

The Wild Horse solar array is the largest utility-scale solar demonstration project in the Pacific Northwest and provides for much of the facility's on-site energy needs. Capable of generating 500 kilowatts (kW) of electricity, the solar array takes advantage of the clear skies enjoyed by Central Washington, which receives as much annual sunshine as Houston, Texas.

What kind of weather does Wild Horse experience?

Located at 3,500 feet of elevation on Whiskey Dick Mountain, Wild Horse is a place of extreme weather. Temperatures range from 0 to 100 degrees Fahrenheit, with maximum recorded wind gusts exceeding 90 miles per hour.

The wind turbines and solar array are capable of operating in a wide range of weather conditions, with the turbines producing energy in winds ranging from 9 to 56 mph.

What is the Renewable Energy Center?

The Renewable Energy Center, free and open to the public from April through November, offers Wild Horse visitors a first-hand look at how energy can be made from the wind and sun. The center also provides information on Central Washington's natural and cultural history. For directions and information on tours and conference facilities, please call 509-964-7815.

How does Wild Horse benefit the economy and environment?

Wild Horse is a source of clean, renewable energy that also provides 25 jobs and tax revenues for Kittitas County and Washington state. Since opening, more than 75,000 local and worldwide visitors to Wild Horse have boosted the area's tourism.

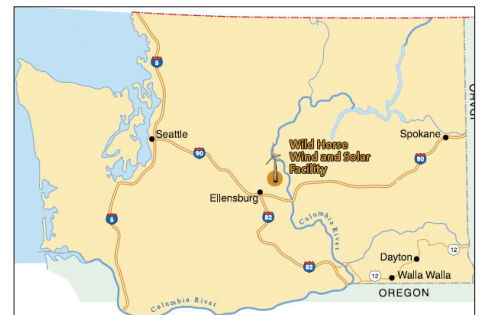
In constructing Wild Horse, PSE voluntarily created a conservation easement safeguarding 7,000 acres of threatened shrub-steppe habitat and planted 6,000 sagebrush plugs.

Wild Horse facts and figures:

Turbine features	127 1.8 MW wind turbines / 22 2.0 MW wind turbines
	273 MW peak capacity
	351 feet tall from the ground to the tip of vertical rotor blade
	257 tons total weight per turbine
Towers	221 feet tall at the rotor's hub, 13.2 feet wide at the base, 7.6 feet wide at the top
Tower foundation	Buried 25 to 32 feet (depending on bedrock depth) in up to 260 cubic yards of concrete; 120 anchor bolts extend from ground level to the bottom of the 14-foot-diameter foundation (a single 28-foot-long anchor bolt weighs 150 pounds)
Blades	129 feet long, 11.6 feet wide near the hub, and 1.6 feet wide at the tip; made of composite materials, weigh more than 7 tons each. The tip travels at over 150 mph.
Nacelle	34 ft. long, weighs ~75 tons; houses the gearbox, generator, and the transformer
Rotational speed	the rotor spins clockwise at 16.5 revolutions per minute; which the gearbox steps up to 1,800 rpm, the operating speed of the generator.
Generators	manufactured by Denmark-based Vestas, the generators produce power at 690 volts, which is stepped up by a transformer inside the nacelle to 34.5 kilovolts; a power-collection system connects strings of turbines to the substation, where power is stepped up again to transmission voltage at 230 kilovolts.
Solar array	500 kW capacity
	2,723 solar panels



At 500 kW, the Wild Horse solar array is the Northwest's largest demonstration project of photovoltaic technology, which turns sunlight into electricity.



The Wild Horse Wind and Solar Facility is located in Central Washington near Interstate 90, approximately 2.5 hours east of Seattle.

How to get to Wild Horse:

Wild Horse is located 16.5 miles east of Ellensburg, Wash., on the Old Vantage Highway. For complete directions, please visit PSE.com or call 509-964-7815.