



Wind Turbines



Why build wind farms here?

The last glacier to come this far into Minnesota missed a wedge-shaped area 200 miles long and 100 miles wide, creating an elevated landscape that French fur traders called the Coteau des Prairies (prairie hillside). A 60-mile stretch of hills called Buffalo Ridge sits 1,995 feet above sea level. The higher windspeeds at this elevation and open land make it ideal for wind turbines.

Minnesota ranks among the nation's top ten states for generating electricity from wind.

How big are the turbines?

Sizes can vary, but with blades over 100 feet long and towers over 200 feet tall, most wind turbines average between 300 – 400 feet tall. A 328-foot turbine weighs 164 tons.

Check out the back of this card for more answers to commonly asked questions about wind turbines!

How fast do the blades turn?

Most blades average a speed of 120 - 180 mph at the tips.

How much electricity do they produce?

This varies due to changing wind speeds, but typically one turbine can power between 400 – 500 homes.

How strong do the winds have to blow for the blades to rotate?

Wind turbines start operating at wind speeds of ~8 mph. If winds exceed 50 mph the turbines shut down to prevent damage.

Is it true they're a danger to birds and bats?

A 2014 study found that 200,000 - 400,000 birds die each year from wind farms, or .01% of deaths from man-made structures (windows kill over 100 million). Domestic and feral cats are one of the biggest threats, killing ~2 billion birds annually.

Bats are another story. Whether they're trying to roost while migrating or simply curious, many bats do suffer injury or death from wind turbines. Experts are working hard to mitigate this problem.

One study found that simply starting turbines at slightly higher wind speeds reduced bat deaths by 50-60%.

Who owns the land the turbines are on?

Much of the land is leased from local farmers. Each unit takes up ~1/3 of an acre for the equipment and access road. The farmer receives a percentage of the revenue from the sale of electricity from each turbine.