

Pomeroy Wind Farm



The Pomeroy Wind Farm is a project of Mid American Energy Company. It was built in two phases. Phase 1 consists of 132 - General Electric 1.5 megawatt model sle wind turbines. The 1.5 sle has 3 rotor blades which are 77 meters (252 feet) in diameter. Rotor speed is 10.1 - 20.4 rpm. The towers are 80 meters (263 feet) high. 263 plus 1/2 of 252 (126) makes the tip height at the top of its rotation approximately 389 feet. The rotor assembly weighs 48,000 pounds. The turbine nacelle weighs 115,000 pounds. The base has 250 cubic yards of concrete with 58,000 pounds of reinforcing steel and is 50 feet in diameter. Construction started in June of 2007 and was completed December of 2007.

Phase 2 consists of 39 more wind turbines which went operational in November of 2008. There are now 171 1.5 megawatt wind turbines in the Pomeroy wind project. That should provide electricity for around 110,000 homes. However, all homes are different. In lay terms what does that mean for me and my electricity usage? A watt is a unit of power. A megawatt is one million watts. A human climbing a flight of stairs is doing work at a rate of about 200 watts. A typical automobile engine produces mechanical energy at a rate of 25,000 watts (approximately 33.5 horsepower) while cruising. An incandescent light bulb might use 60 watts of power. It's compact fluorescent equivalent would use 13 watts.

Equivalents:

Tower Power = 1.5 megawatts	from 1 tower	from 171 towers
1,500,000 watts divided by 200	7,500 humans climbing stairs	1,282,500 humans climbing stairs
1,500,000 watts divided by 25000	60 cars	10,260 cars
1,500,000 watts divided by 60	25,000 60 watt bulbs	4,275,000 60 watt bulbs
1,500,000 watts divided by 13	115,385 13 watt compact fluorescent bulbs	19,730,769 13 watt compact fluorescent bulbs

For more information: www.tornadomuseum.com/windfarm