

State

States WISCONSIN

## Wisconsin Wind Resources

Wind resources can be used with both large wind turbines for utility applications and with small wind turbines for on-site generation. As a renewable resource, wind is classified according to wind power classes, which are based on typical wind speeds. These classes range from class 1 (the lowest) to class 7 (the highest). In general, wind power class 3 or higher can be useful for generating wind power with large (utility-scale) turbines, and small turbines can be used at any wind speed. Class 4 and above are considered good resources.

This map of Wisconsin shows general wind power classes for the state and indicates that Wisconsin has good wind resources in portions of the state.



Note that these general maps may not show all of the available resources. Some terrain and meteorological effects can result in excellent localized wind resources in areas not shown here.



Wisconsin annual average wind power

WIND POWER CLASS	60m (164 ft)	
	WIND POWER W/m <sup>2</sup>	SPEED m/s mph
1	0	0 — 0
2	200	5.6 — 12.5
3	300	6.4 — 14.3
4	400	7.0 — 15.7
5	500	7.5 — 16.8
6	600	8.0 — 17.9
7	800	8.8 — 19.7
	2000	11.9 — 26.6

RIDGE CREST ESTIMATES (LOCAL RELIEF > 1000 FT)

What does this resource mean for Wisconsin? First, let's only look at the land which has a wind power class of 3 or higher-the usable resources. Next, let's not count land with urban development or land that is environmentally sensitive. There may be other land-use conflicts as well, so we subtract out 50% of forest land, 30% of farmland, and 10% of rangeland. This results in about 6% of the state of Wisconsin having good winds and being available for development. Of note, a wind farm uses only a small portion of the land, so the actual percentage of state land covered would be about 0.5%.

If all this potential was developed with utility-scale wind turbines, the power produced each year would equal 70,000,000 megawatt-hours - or 120% of the entire state's electricity consumption.