



**Presenting the facts
about industrial wind power**

www.wind-watch.org

Wind turbine power generation is variable

A 1.5-MW turbine produces at the rate of 1.5 MW only above a certain wind speed, e.g., 27 mph for one of GE's models. As the wind speed slows, so does the turbine's power output. At the GE model's cut-in wind speed of 9 mph, the blades are turning but no electricity is generated. In a wind speed of 18 mph, the GE 1.5-MW turbine will generate power at a rate of only 0.5 MW.

Wind power is unreliable

Wind speed is unpredictable except in general terms. Even on a windy day it varies, and therefore so does the output from wind turbines. On the electric supply grid, wind turbines behave less like a supplier and more like a user, in that they are outside of the control of the grid dispatchers who must continuously balance electricity supply and demand.

Widely distributed multiple wind turbine facilities mitigate this variability somewhat, but the level of steady supply is extremely low for the amount of investment and extent of development (which is typically in previously unindustrialized rural and wilderness areas). The U.K. boasts of the highest winds in Europe, but a 2003 memorandum by the Royal Academy of Engineers to the House of Lords projected that the most common output of 7,300 MW of industrial wind power installed across the U.K., along with the expanded transmission infrastructure to handle the maximum capacity, would be only 200 MW.

Wind power is able to replace very little, if any, conventional generating capacity

Wind turbines cannot replace base load generation and only affect peak load balancing (unfortunately the wind is stronger in most places during off-peak times, e.g., at night). And because wind turbine generation is nondispatchable other generators must be kept active to balance their variability. In its "Wind Report 2005," German grid manager Eon Netz echoed two previous German studies to project that 48,000 MW of wind power on the grid (with a hugely expanded transmission infrastructure "overbuilt" to handle the maximum capacity) would replace only 2,000 MW of traditional power production capacity.

Wind power is unable to significantly reduce the use of other fuels in electricity generation

No promoter of wind power has been able to document reduced fossil or nuclear fuel use anywhere due to wind power on the grid.

Wind power is not green

It is a uniquely intrusive industrialization of rural and wild areas and requires extensive expansion of the transmission infrastructure. It adds noise and light and visual pollution. It degrades and fragments wildlife habitat. It is a threat to bats and birds. And it does not reduce the use of other fuels, therefore does not reduce greenhouse gas or other emissions, to any degree that could justify, let alone necessitate, these negative effects.