



WIND ENERGY FAST FACTS

Wind energy generating capacity installed, U.S.: 16,818 MW (end of 2007)¹.

Wind energy generating capacity, worldwide: 94,112 MW (end of 2007, Global Wind Energy Council).

Electricity generated from wind, U.S: An estimated 48 billion kWh in 2008² (just over 1% of U.S. electricity supply), enough to serve the equivalent of 4.5 million average U.S. households.

Amount of carbon dioxide (CO₂) emitted if that amount of power were generated from the average U.S. electricity fuel mix: 29 million tons, according to the U.S. Energy Information Agency. Over 17,000 square miles of forest would be needed to absorb that much CO₂. Carbon dioxide is the leading gas associated with global warming.

<u>Leading states in capacity installed, U.S.:</u>	<u>Largest wind farms, operating, U.S.:</u>
# 1 – Texas 4,356 MW	# 1 – Horse Hollow, Texas 736 MW
# 2 – California 2,439 MW	# 2 – Sweetwater, Texas 585 MW
# 3 – Minnesota 1,299 MW	# 3 – Peetz Table, Colorado 401 MW
# 4 – Iowa 1,273 MW	# 4 – Capricorn Ridge, Texas 364 MW
# 5 – Washington 1,163 MW	# 5 – Buffalo Gap, Texas 351 MW
(as of 12/31/2007)	(as of 12/31/2007)

U.S. wind energy potential: Estimated at 10,777 billion kWh annually—more than twice the electricity generated in the U.S. today (Source: Pacific Northwest Laboratory).

Industry growth rate, U.S.: 29% average over last five years (year-end 2002 – 2007).

Average American homes served by one megawatt of wind capacity: 250-300.

"Double cropping" benefit for rural communities: A single, utility-scale wind turbine provides \$3,000/year per megawatt or more in income to a landowner leasing his wind rights. Farmers continue to grow crops up to the base of the turbines located on their land.

Operating characteristics of a wind turbine: A wind turbine runs 60% to 80% of the time, and operates at its full rated power output level 10% of the time. On an average day, it generates 30% to 35% of what it would generate if it ran at full power all the time.³

Efficiency characteristics of a wind turbine: Wind has one of the highest energy payback ratios of any power technology. Energy Payback Ratios (EPR) compare the amount of energy produced by a power plant to the amount of energy it takes to build, run, and eventually decommission that plant. The more efficient the technology, the higher the EPR.⁴

¹ Source for data is AWEA unless otherwise indicated.

² Using an estimated capacity factor of 33%

³ Note: This characteristic is a function of economic design. It would be possible but inefficient and more costly to design wind turbines with a very small generator and large blades resulting in a high "capacity factor" but feeble electricity production).

⁴ Fusion Technology Institute, University of Wisconsin, Madison, WI.