

U.S. Wind Energy Installations Top 20,000 MW



The U.S. wind industry has raced past the 20,000-megawatt (MW) installed capacity milestone, achieving in two years what had previously taken more than two decades, the American Wind Energy Association (AWEA) said today (the 10,000-MW mark was reached in 2006). The U.S. now has 21,017 MW of wind capacity installed, producing enough electricity to serve 5.7 million American homes or power a fleet of more than 1 million plug-in hybrid vehicles “Wind energy installations are well ahead of the curve for contributing 20% of the U.S. electric power supply by 2030 as envisioned by the U.S. Department of Energy,” said AWEA Executive Director Randall Swisher.

Benefits of 20,000 MW of Wind Energy

The U.S. is now the world leader in wind electricity generation. While Germany still has more generating capacity installed (about 23,000 megawatts), the U.S. is producing more electricity from wind because of its much stronger winds.

Wind power was the second-largest source of new power generation in the country in 2005 and 2006, according to the Energy Information Agency.

AWEA expects over 7,500 MW of new wind capacity to be added in 2008, expanding America's wind energy fleet by 45% and bringing the total U.S. capacity to 24,300 MW.



The clean electricity generated by the 20,000 MW of wind power installed in the U.S. today can...

- Power 5.3 million U.S. homes, on average;
- Power a fleet of more than 1 million plug-in hybrid cars;
- Save 1.2 trillion gallons of water from being pulled from our nation's aquifers; and
- Power Greece, Denmark, or over 170 countries around the world.

20,000 MW of wind power installed in the U.S. today can generate as much electricity as . . .

- 28.7 million tons of coal, or two thousand mile-long coal trains,
- 90 million barrels of oil per year, and
- 530 Bcf of natural gas, or about 8.5% of the natural gas used for electricity generation.

The 20,000 MW fleet of wind power installed in the U.S. today can . . .

- Provide \$20 million - \$80 million in lease payments to American landowners; and
- Provide a valuable source of property tax income for local governments (especially rural counties).

If the power being generated by the 20,000 MW of wind power installed in the U.S. were being generated by the conventional U.S. generation mix . . .

- 34 million additional tons of carbon dioxide (CO₂) would have been emitted, as much as could be absorbed by 18,400 square miles of forest, an area about the size of Vermont and New Hampshire together;
- 176,000 additional short tons of acid-rain causing sulfur dioxide (SO₂) would have to be abated to achieve the national Acid Rain Program goals;
- 83,000 additional short tons of smog-causing nitrous oxide (NO_x) would have been emitted; and
- 1,500 additional pounds of mercury would be polluting our streams and rivers.

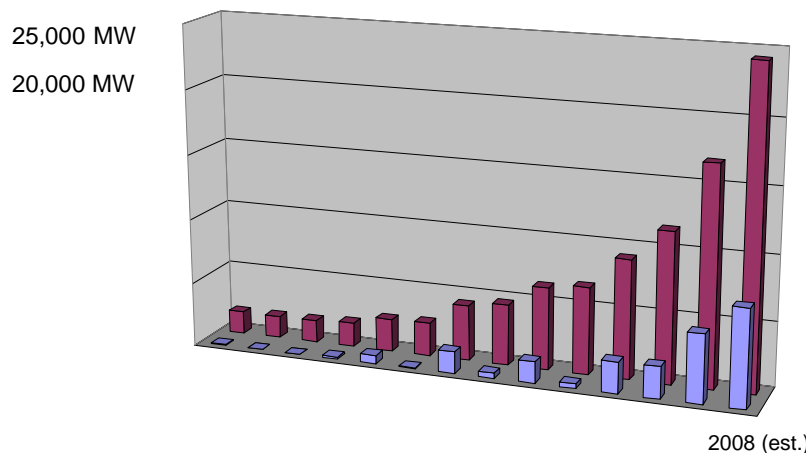
Although 20,000 MW is an important milestone, wind power provides a small share of the nation's electricity. The World Factbook reports that the U.S. consumes over 3.8 trillion kWh of electricity, which means that wind is providing just over 1.5 % of the nation's power. However, wind power is one of the fastest-growing electricity sources today, and can be expected to be an important source of our power needs in the future. The U.S. first started installing electricity-generating wind power in the early 1980s. The country had 1,000 MW of wind power installed by 1985; 2,000 MW installed by 1999; and 5,000 MW by 2003. Its first 10,000 MW was installed by mid-2006.

According to the "20% by 2030" Report released by the U.S. Department of Energy, wind power is capable of becoming a major contributor to America's electricity supply over the next three decades. As an inexhaustible domestic resource, wind strengthens our energy security, improves the quality of the air we breathe, slows climate change, and revitalizes rural communities.

The report finds that achieving a 20% wind contribution to U.S. electricity supply would:

- Reduce carbon dioxide emissions from electricity generation by 25% in 2030.
- Reduce natural gas use by 11%;
- Reduce water consumption associated with electricity generation by 4 trillion gallons by 2030;
- Increase annual revenues to local communities to more than \$1.5 billion by 2030; and
- Support roughly 500,000 jobs in the U.S., with an average of more than 150,000 workers directly employed by the wind industry.

For more information on the report, go to <http://www.20percentwind.org> .



Assumptions:

- 32% average capacity factor assumed for entire turbine fleet.
- Average annual household consumption (U.S.) = 10,656 kWh.
- A plug-in hybrid car can travel 4 miles per kWh; one car is assumed to travel 12,000 miles.
- To generate the same amount of electricity as a single 1-MW wind turbine using either fossil fuels or nuclear power requires, on average, withdrawing roughly 60 million gallons of water a year from streams, rivers, or aquifers, of which nearly 1 million gallons is lost to evaporation; generating the same amount with hydropower means the loss of approximately 50 million gallons a year to evaporation.
- Due to national regulation on SO₂, there is a cap on how much would have been emitted, but the costs for adhering to the cap would have been higher.
- Statistics on countries' use of electricity from the CIA's World Factbook
- Statistics on generation fuels and emissions from the Energy Information Agency's *Annual Energy Review*