

CAPITOL FACTS & FIGURES

ENERGY

Wind Energy

Wind is a growing source of energy in the U.S.¹

- According to the American Wind Energy Association, in 2008 more investment was made in wind power than any other form of electricity.²
- Wind currently makes up 1.3 percent of U.S. electricity generation,³ yet a 2008 Department of Energy report concluded wind could feasibly generate 20 percent of the nation's electricity by 2030.
- The report estimated the U.S. is right on pace for the 2030 goal, exceeding the amount of wind projects installed annually in order to meet the 20 percent target.⁴

Wind energy is becoming increasingly economical and has environmental benefits.

- Wind energy supports a large number of jobs, particularly in manufacturing. The American Wind Energy Association reports approximately 85,000 people worked in the wind industry in 2008.⁵ That number is expected to continue growing as the use of wind for energy grows.
- The cost per kilowatt-hour of electricity produced from wind has fallen greatly over the past 20 years as technology and the ability to properly site windmills for maximum effectiveness has improved. The cost per kilowatt-hour is now around 4 cents—comparable to traditional fossil fuels⁶—though the true number varies depending on turbine size as well as subsidies and location.
- In addition to producing no carbon dioxide emissions, wind also does not use water, a problem associated with most other energy sources.

Policies such as the federal production tax credit and state renewable portfolio standards are crucial to the continued success of wind energy.

- The production tax credit currently stands at 2.1 cents per kilowatt-hour and will expire Dec. 31, 2012. In the past, when the credit was allowed to lag, wind energy installations stalled.⁷



- State renewable portfolio standards—adopted in 29 states and Washington, D.C.—have spurred wind generation by stipulating that a portion of electricity come from renewable energy, such as wind energy.
- Net metering encourages the purchase and connection of small wind resources to the power grid because excess electricity returned to the power system receives favorable rates of return and has spurred the rise of residential wind.

Wind energy, however, faces challenges that must be overcome before it can be further developed.

- Additional wind energy projects and their new capacity will require new transmission lines to carry the power to the electric grid. The siting of interstate transmission lines has long been a hot-button issue. Interstate cooperation will be required in order to facilitate the process and officials will have to overcome the NIMBY (not in my back yard) syndrome.
- While the wind can be fairly accurately predicted, the more wind projects that come online, the more it is essential to manage intermittency challenges and address storage.

REFERENCES

¹U.S. Department of Energy. Energy Efficiency and Renewable Energy. "20% Wind Energy by 2030: Increasing Wind Energy's Contribution to U.S. Electricity Supply" July 2008 http://www1.eere.energy.gov/windandhydro/wind_2030.html
²American Wind Energy Association. "Wind Power Outlook 2009." http://awea.org/pubs/documents/Outlook_2009.pdf
³Energy Information Administration. "Electricity Generation from Wind." http://tonto.eia.doe.gov/kids/energy.cfm?page=wind_home-basics#wind_electricity_generation-basics

⁴Department of Energy.

⁵American Wind Energy Association.

⁶Union of Concerned Scientist. "How Wind Energy Works: The Market for Wind." http://www.ucsusa.org/clean_energy/technology_and_impacts/energy_technologies/how-wind-energy-works.html

⁷Union of Concerned Scientist. "Production Tax Credit for Renewable Energy." 4/22/09 http://www.ucsusa.org/clean_energy/solutions/big_picture_solutions/production-tax-credit-for.html

46 States Have Wind Development by 2030 Under 20% Wind Scenario

