



Wind farm efficiency statistics

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Wind Power Facts. Today more than 72,000 wind turbines across the country are generating clean, reliable power. Wind power capacity totals 151 GW, making it the fourth-largest source of electricity generation capacity in the country. This is enough wind power to serve the equivalent of 46 million American homes.

The cost of electricity produced from wind farms can be attributed to the annual capacity factor, location, wind quality, and installation and maintenance costs. The cost per kilowatt for small-scale wind turbines is still relatively high, with costs up to \$3,000 per kilowatt.

Annual global onshore wind installations surpassed 100 GW for the first time in 2023, while the U.S. experienced a slowdown. 10.8 GW of offshore wind capacity was added worldwide, a 24% increase from 2022, bringing global offshore wind capacity to 75.2 GW.

The U.S. wind industry installed 13,413 megawatts (MW) of new wind capacity in 2021, bringing the cumulative total to 135,886 MW. This is the second-highest amount of wind capacity installed in one year (behind 2020), and represents \$20 billion of investment.

Continuing the long-term trend, average turbine capacity, rotor diameter, and hub height increased in 2019, significantly boosting wind project performance. Download a spreadsheet of 2019 Wind Technology Data or view slides that display and summarize the data.

These reports present a unique combination of publicly available, confidential, and proprietary data. They provide unbiased, independent, public reporting of the current state of the industry and provide insight into multi-year trends.

Improvements in the cost and performance of wind power technologies, along with the Production Tax Credit, have driven wind energy capacity additions, yielding low-priced wind energy. Wind turbines continued to grow in size and power, with the average nameplate capacity of newly installed wind turbines at 3 MW--up 9% from 2020 and 319% since 1998-1999. The combined health, climate, and grid-system benefits of wind are more than 3 times its levelized cost of energy.

Global offshore wind installations had a record year in 2021, totaling 17,398 MW of new capacity additions, pushing the global installed capacity to 50,623 MW from 257 projects. Turbine sizes continued to grow, with rotor diameters averaging 156 meters and turbine capacities averaging more than 7 MW. Trends that continued in 2021 included increased interest in using offshore wind to produce clean hydrogen, with the first project expected to be operational in 2022. The global pipeline for floating offshore wind energy more than doubled in 2021 to 60,746 MW.



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This is an E3120 at a small farm. While Endurance is out of business, folks like Gary Harcourt and Ian Sleger of All Energy Management are busy refurbishing these machines all over the world. Location: Edgartown, Massachusetts

Contact us for free full report

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