

The efficiency of wind power generation is declining year by year



Overview

2 of their output per year, with average load factors declining from 28. electricity generation from wind turbines decreased for the first time since the mid-1990s in 2023 despite the addition of 6.2 gigawatts (GW) of new wind capacity last year. Data from our Power Plant Operations Report show that U.S. wind generation in 2023 totaled 425,235 gigawatthours (GWh). Despite the installation of more and more wind turbines, wind production declined in July to a 33-month low. Department of Energy today released three reports showing record growth in land-based wind energy, significant expansion of the pipeline for offshore wind projects, and continued decline in the cost of wind energy generation.

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[Wind Output Falls to a 33-Month Low in July](#)

Despite the installation of more and more wind turbines, wind production declined in July to a 33-month low. Wind production also declined in 2023 from the year before despite 7 gigawatts of ...

[How Does Wind Farm Performance Decline With Age?](#)

Wind farms, like traditional power generation methods, experience a gradual decline in energy output over their lifespan, influenced by factors such as availability and efficiency.



[DOE Releases New Reports Highlighting Record Growth, Declining Costs ...](#)

The U.S. Department of Energy today released three reports showing record growth in land-based wind energy, significant expansion of the pipeline for offshore wind projects, and ...



[Decline in US wind generation raises bigger concerns ...](#)

While wind energy is inherently variable, its small decline last year comes at a moment of flux for US electricity generation.



[System efficiency of US wind power generation is declining](#)

For that purpose, we combine wind power generation time series, data on installed wind turbines, and wind speed time series to decompose the growth of US wind power generation into its driving factors.

[Graphs: U.S. Wind Generation Declined in 2023 for the First Time ...](#)

U.S. electricity generation from wind turbines decreased for the first time since the mid-1990s in 2023 despite the addition of 6.2 gigawatts (GW) of new wind capacity last year.



[Wind Generation Declined in 2023: Unpacking the Surprising Dip in](#)

In 2023, the landscape of wind power in the United States experienced a notable shift. For the first time since the 1990s, the production of electricity from wind experienced a decline. This ...

[Data-Driven Assessment of Wind Turbine Performance Decline with ...](#)

The average estimates of wind turbine performance aging obtained in the literature with cumulative data should not lead to the wrong expectation that the performance of a wind turbine can be clearly ...



[US wind power generation falls for the first time since 1990s](#)

In the past few years, wind capacity in the US has more than tripled from 47GW in 2010 to 147.5GW at the end of 2023, with electricity from wind turbines growing as a result. The utilisation ...

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