

# Wind power generation wind utilization rate

What is China's Wind power utilization rate?

Despite this large installed capacity, the country's wind power utilization rate remains low. The year 2010 was an important turning point in China's wind power industry. In 2010, China's total installed capacity of wind power surpassed that of the USA, thereby ranking China first in the world.

How much electricity does a wind turbine generate in 2023?

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. Data from our Power Plant Operations Report show that U.S. wind generation in 2023 totaled 425,235 gigawatthours(GWh),2.1% less than the 434,297 GWh generated in 2022.

How much electricity does a 90m wind turbine generate?

Global onshore and offshore wind generation potential at 90m turbine hub heights could provide 872,000 TWh of electricity annually. 9 Total global electricity use in 2022 was 26,573 TWh. 10 Continental U.S. wind potential of 43,000 TWh/yr 9 greatly exceeds 2022 U.S. electricity use of 4,000 TWh 6.

How do you calculate wind turbine utilization?

The rate of wind turbine utilization can be expressed as 
$$i = \frac{T - A}{T - B} \times 100 \%$$
. In Eq. (3), A is the downtime for equipment failure or routine maintenance, B is the non-equipment-related downtime, and T denotes the statistical hours. 4.4. Wind power productivity 4.4.1. Wind power generation capacity

How many wind turbines are there in America?

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.

How has wind power changed over the last year?

U.S. wind capacity increased steadily over the last several years, more than tripling from 47.0 GW in 2010 to 147.5 GW at the end of 2023. Electricity generation from wind turbines also grew steadily, at a similar rate to capacity, until 2023.

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