

How many watts of solar energy is stored globally





Overview

Global solar photovoltaic capacity has grown from around 40 gigawatts in 2010 to approximately 2.2 terawatts in 2024. Only in that last year, installations increased by almost 40 percent. In 2024, cumulative solar PV capacity reached some 886 gigawatts in China alone. How much solar energy does the world use?

The world currently has a cumulative solar energy capacity of 850.2 GW (gigawatts). 4.4% of our global energy comes from solar power. China generates more solar energy than any other country, with a current capacity of 308.5 GW. The US relies on solar for 3.9% of its energy, although this share is increasing rapidly every year.

What is solar energy capacity?

Solar energy capacity is the maximum amount of energy that a combination of solar installations can produce at any given time. The current global solar energy capacity in 2022 was 1,177 GW. Up to 173,000 terawatts of solar energy are hitting the Earth at any given moment.

How many gigawatts of solar power are there in China?

Only in that last year, installations increased by almost 40 percent. In 2024, cumulative solar PV capacity reached some 886 gigawatts in China alone. Investments in solar photovoltaic energy have grown during the last years and the technology stands out as the most heavily funded renewable energy source.

What is the contribution of solar energy to global electricity production?

While the contribution of solar energy to global electricity production remains generally low at 3.6%, it has firmly established itself among other renewable energy technologies, comprising nearly 31% of the total installed renewable energy capacity in 2022 (IRENA, 2023).

What percentage of US electricity is generated by solar power?



A report from the National Renewable Energy Laboratory found that solar power accounted for 54% of new U.S. electricity generation capacity in 2023, with 22 states generating more than 5% of their electricity from solar, led by California at 28.2%.

Which country produces the most solar energy in the world?

As of 2023, China has the largest solar energy capacity in the world at 609,921 megawatts (MW), contributing approximately 3% to the country's total electricity production. It is followed by the United States at 139,205 MW and Japan at 89,077 MW. However, total capacity is only one way to view solar production.



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