



National solar power generation over the years

Change in solar and wind energy generation relative to the previous year, measured in terawatt-hours of primary energy using the substitution method.

The modern solar power industry in the United States was launched in the wake of the energy crisis of the late 1970s when skyrocketing oil prices motivated governments and energy ...

To study America's growing renewable electricity capacity and generation, Climate Central analyzed historical data on solar and wind energy over a 10-year period (2014 to 2023).

For the fourth year in a row, solar was the leading source of new utility-scale capacity. In 2024, over 30,000 MW of solar capacity came online, which is a 30% increase in operating solar capacity.

The previous editions and complete electricity generation and capacity dataset from 2000 onwards are available for download on the Data and Statistics web pages.

Along with our partners at Wood Mackenzie Power & Renewables, SEIA tracks trends and trajectories in the solar industry that demonstrate the diverse and sustained growth of solar across the country.

Solar power includes solar farms as well as local distributed generation, mostly on rooftops and increasingly from community solar arrays. In 2024, utility-scale solar power generated 219.8 terawatt ...

In recent years, solar power generation has seen more rapid growth than wind power in the United States. However, among renewables used for electricity, wind has been a more common ...

We expect the combined share of generation from solar power and wind power to rise from about 18% in 2025 to about 21% in 2027. In our STEO forecast, utility-scale solar is the fastest ...

OverviewSolar photovoltaic powerSolar potentialHistoryConcentrated solar power (CSP)Government supportSee alsoFurther readingIn the United States, 14,626 MW of PV was installed in 2016, a 95% increase over 2015 (7,493 MW). During 2016, 22 states added at least 100 MW of capacity. Just 4,751 MW of PV installations were completed in 2013. The U.S. had approximately 440 MW of off-grid photovoltaics as of the end of 2010. Through the end of 2005, a majority of photovoltaics in the United States was off-grid.

Climate Central's new report, A Decade of Growth in Solar and Wind Power, analyzed U.S. solar and wind energy data from 2014 to 2023 for all 50 states and the District of Columbia.



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