Distribution of solar power generation in the United States

Overview

Solar power includes solar farms as well as local distributed generation, mostly on rooftops and increasingly from community solar arrays. In 2025, utility-scale solar power generated 295. 7 terawatt-hours (TWh) in the United States. 02 trillion British thermal units (Btu) in 1984 to about 878 trillion Btu (or about 0. Solar electricity generation accounted for about 93% of total solar energy use in 2023 and solar energy use for space . In 2024, net solar power generation in the United States reached its highest point yet at 218. Solar power generation has increased drastically over the past two decades, especially since 2011, when it hovered just below two terawatt . The Energy Information Administration reports that utility-scale solar grew by 32%, while distributed solar increased by 15%, bringing their respective shares to nearly 5% and 2% of total electricity generation.

Distribution of solar power generation in the United States

Solar explained

An introduction to solar energy resources with maps showing U.S. solar radiation resources, global solar radiation resource, and solar electricity generation from utility-scale solar and

U.S. solar power generation 2024, Statista

In 2024, net solar power generation in the United States reached its highest point yet at 218.5 terawatt hours of solar thermal and photovoltaic (PV) power. Solar power generation

[Solar Resource Data, Tools, and Maps , Geospatial Data Science , NLR]

Find and download resource map images and data for North America, the contiguous United States, Canada, Mexico, and Central America. View an interactive map or download

The U.S. Large-Scale Solar Photovoltaic Database

The U.S. Large-Scale Solar Photovoltaic Database provides the locations and array boundaries of U.S. photovoltaic facilities, with capacity of 1 megawatt or more.

[Solar generation up 27%, accounting for

[6.8% of all electricity]

The Energy Information Administration reports that utility-scale solar grew by 32%, while distributed solar increased by 15%, bringing their respective shares to nearly 5% and 2% of total

Solar Market Insight Report - SEIA

Solar accounted for 54% of all new electricity-generating capacity added to the US grid in 2025. Combined, solar and storage made up 79% of new capacity in this timeframe.

U.S. Electricity Grid & Markets , US EPA

In 2019, natural gas had the largest share (38 percent) in U.S. electricity generation, coal had the second-largest share (23 percent), and nuclear had the third largest (20 percent).

US solar generation up 27% in 2024, accounting for 6.8% of all

A slight decline in hydroelectric generation was offset by increased nuclear output. Several states saw solar generation grow by more than 50% in 2024.

[U.S. Distributed Solar and Storage Data , Energy Markets & Planning]

Berkeley Lab collects, cleans, and publishes project-level data on distributed* solar and distributed solar+storage systems in the United States. The data are compiled from a variety of sources,

Solar power in the United States

Solar power includes solar farms as well as local distributed generation, mostly on rooftops and increasingly from community solar arrays. In 2025, utility-scale solar power generated 295.7 terawatt

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