

## National solar power generation area

## Where can I find information on NREL's solar resource data development?

For more information on NREL's solar resource data development, see the National Solar Radiation Database (NSRDB). The maps below illustrate select multiyear annual and monthly average maps and geospatial data from the National Solar Radiation Database (NSRDB) Physical Solar Model (PSM). The PSM covers most of the Americas.

## How much area do solar power plants need?

Generation-weighted averages for total area requirements range from about 3 acres/GWh/yr for CSP towers and CPV installations to 5.5 acres/GWh/yr for small 2-axis flat panel PV power plants. Across all solar technologies,the total area generation-weighted average is 3.5 acres/GWh/yrwith 40% of power plants within 3 and 4 acres/GWh/yr.

Where do solar and wind power data come from?

All national and state-level data come from the U.S. Energy Information Administration (EIA). Utility-scale solar and wind summer capacity values for 2014-2022 are as reported in EIA's Historical State Data for each year.

Where can I find solar resource data?

Explore solar resource data via our online geospatial tools and downloadable maps and data sets. Access our tools to explore solar geospatial data for the contiguous United States and several international regions and countries.

#### How much solar power does the United States have?

By the third quarter of 2012, the United States had deployed more than 2.1 gigawatts (GWac1) of utility-scale solar generation capacity, with 4.6 GWac under construction as of August 2012 (SEIA 2012). Continued growth is anticipated owing to state renewable portfolio standards and decreasing system costs (DOE 2012a).

## Where did solar power grow in 2023?

Electricity generated from solar energy in 2023 was enough to power the equivalent of more than 22 million average American homes. California and Texasled in solar generation in 2023. But many other states have seen major growth in solar power during the last 10 years. Download the data and read the full report.

Each quarter, the National Renewable Energy Laboratory (NREL) conducts the Quarterly Solar Industry Update, a presentation of technical trends within the solar industry. Each presentation focuses on global and U.S. ...

Particularly, there are many solar power generation projects underway, and the number of accidents affecting them is increasing. Specific technical standards were established for solar power equipment in April 2021, ...



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The potential for solar energy to be harnessed as solar power is enormous, since about 200,000 times the world"s total daily electric-generating capacity is received by Earth every day in the form of solar energy. ...



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