

# How is the trend of solar power generation



## Overview

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TL;DR: Solar energy has become the world's fastest-growing electricity source, with global installed capacity exceeding 1,400 GW in 2024 and generation surpassing 1,300 TWh annually. In 2024, between 554 GWdc and 602 GWdc of PV were added globally, bringing the cumulative installed capacity to 2. The rest of the world was up 11% y/y. China dominates with over 600 GW installed, while costs have plummeted by 90% since 2010, making solar PV the . The US solar industry installed 43. 2 gigawatts direct current (GWdc) of capacity in 2025, a 14% decrease from 2024. The utility-scale sector shrank nearly 40% quarter-over-quarter in the fourth quarter. power generation for the next two years. solar power generation will grow 75% from 163 billion kilowatthours . Each quarter, the National Renewable Energy Laboratory conducts the Quarterly Solar Industry Update, a presentation of technical trends within the solar industry. Compared to other sources of .

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### Spring 2025 Solar Industry Update

At the end of 2024, solar was the second-largest source of U.S. generation capacity, though still a growing percentage of the U.S. electric generation mix. In 2024, solar represented

### The Outlook for Global Solar Energy Continues to Be Bright

Policymakers in some of the world's largest economies are reducing support for solar power generation. Even so, Goldman Sachs Research expects rapid growth in the sector, with global



### Solar Energy: Global Capacity and Growth Trends

Solar energy is the fastest-growing electricity source globally. Explore installed capacity, cost trends, top countries, technology types, and future projections.

### Trends in PV Applications 2025

The IEA PVPS Trends in Photovoltaic Applications 2025 report provides comprehensive data and analysis on global PV deployment, technology, and market evolution from 1992 to 2024.



### The momentum of the solar energy transition

Decarbonisation plans across the globe require zero-carbon energy sources to be widely

deployed by 2050 or 2060. Solar energy is the most widely available energy resource on Earth, and

### Solar Market Insight Report - SEIA

Our annual Year in Review report includes a 10-year outlook for every segment. We expect cumulative US solar capacity to nearly triple from 279 GWdc installed at year-end 2025 to



### Quarterly Solar Industry Update

Each presentation focuses on global and U.S. supply and demand, module and system price, investment trends and business models, and updates on U.S. government programs

### Global Market Outlook for Solar Power 2025-2029

Solar accounted for 81% of all new renewable energy capacity added worldwide. While remaining a modest contributor to overall electricity generation for now, solar's share rose to 7% in



### [Solar and wind to lead growth of U.S. power generation for the next](#)

As a result of new solar projects coming on line this year, we forecast that U.S. solar power generation will grow 75% from 163 billion kilowatthours (kWh) in 2023 to 286 billion kWh in 2025.

### Renewable electricity - Renewables 2025 - Analysis

Growth in utility-scale and distributed solar PV more than doubles, representing nearly 80% of worldwide renewable electricity capacity expansion. Low module costs, relatively efficient permitting processes



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