

European Solar and Energy Storage Solutions

Solar power generation industry in the next five years



Overview

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Over the next five years, several renewable energy milestones could be achieved: In 2024, variable renewable generation surpasses hydropower. In 2025, renewables surpass coal-fired electricity generation. In 2025, wind surpasses nuclear electricity generation. In 2026, solar PV surpasses nuclear electricity generation.

In the United States, utility-scale solar capacity additions outpaced additions from other generation sources between January and August 2023—reaching almost 9 gigawatts (GW), up 36% for the same period in 2022—while small-scale solar generation grew by 20%. Only 2.8 GW of wind capacity came online during the same period, down 57% from 2022.

- In 2023, PV represented approximately 54% of new U.S. electric generation capacity, compared to 6% in 2010.
- Solar still represented only 11.2% of net summer capacity and 5.6% of annual generation in 2023.
- However, 22 states generated more than 5% of their electricity from solar, with California leading the way at 28.2%.

Renewable power capacity additions will continue to increase in the next five years, with solar PV and wind accounting for a record 96% of it because their generation costs are lower than for both fossil and non-fossil alternatives in most countries and policies continue to support them. Will solar power grow in 2026?

In 2026, solar PV surpasses nuclear electricity generation. In 2028, solar PV surpasses wind electricity generation. Over the forecast period, potential renewable electricity generation growth exceeds global demand growth,

indicating a slow decline in coal-based generation while natural gas remains stable.

How has solar technology impacted the energy industry in 2024?

The industry has continued to lead the energy transition through the first half of 2024, representing 65% of new capacity. Solar's increasing competitiveness against other technologies has allowed it to quickly increase its share of total U.S. electrical generation – from just 0.1% in 2010 to over 6% today.

What percentage of US electricity is generated by solar?

U.S. PV Deployment In 2023, PV represented approximately 54% of new U.S. electric generation capacity, compared to 6% in 2010. Solar still represented only 11.2% of net summer capacity and 5.6% of annual generation in 2023. However, 22 states generated more than 5% of their electricity from solar, with California leading the way at 28.2%.

Will solar power grow in 2025?

We expect solar electric generation will be the leading source of growth in the U.S. electric power sector. In our January Short-Term Energy Outlook (STEO), which contains new forecast data through December 2025, we forecast new capacity will boost the solar share of total generation to 5.6% in 2024 and 7.0% in 2025, up from 4.0% in 2023.

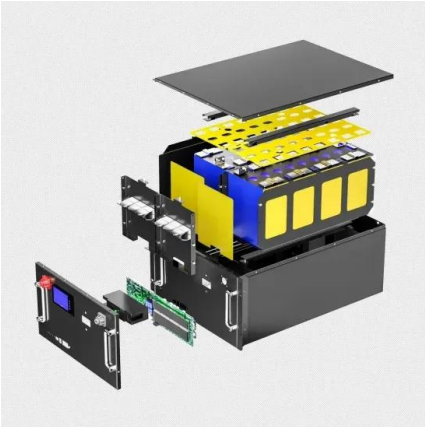
Did China's solar power boom drive a record-breaking year of renewables growth?

A boom in Chinese solar power construction drove another record-breaking year of renewables growth in 2023, according to the International Energy Agency (IEA).

How will solar PV & wind impact global electricity generation?

The share of solar PV and wind in global electricity generation is forecast to double to 25% in 2028 in our main case. This rapid expansion in the next five years will have implications for power systems worldwide.

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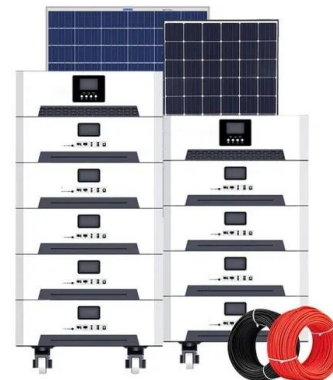


2024 renewable energy industry outlook , Deloitte Insights

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We expect solar will supply almost all growth in U.S.

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Quarterly Solar Industry Update

The five leading solar markets in 2023 kept pace or increased PV installation capacity in the first half of 2024, with China installing more than 100 GW dc and India installing more solar in the first half of 2024 than it did ...

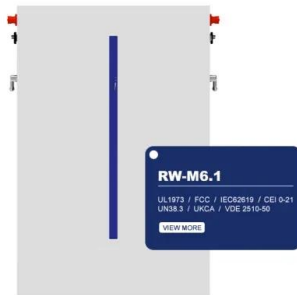
China continues to lead the world in wind and solar, with twice as ...

China added almost twice as much utility-scale solar and wind power capacity in 2023 than in any other year. By the first quarter of 2024, China's total utility-scale solar and ...



China is installing the wind and solar equivalent of five ...

Now solar could become the world's biggest power source within the next decade. From 2010 to 2020, the installed cost of utility-scale solar PV declined by 81 per cent on a global average basis.



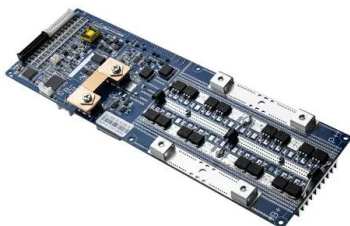
Analysis: World will add enough renewables in five ...

Carbon Brief analysis of figures in the IEA's Renewables 2023 report show that the world is now on track to build enough solar, wind and other renewables over the next five years to power the equivalent of the US and ...



Silver to be Critical to Solar Power Generation Market Over Next 10 Years

With solar power generation expected to nearly double by 2025, this sector is projected to remain an important and consistent source of industrial demand for silver over the next ten years, ...



Executive summary - Renewables 2023 - Analysis

Solar PV and wind will account for 95% of global renewable expansion, benefiting from lower generation costs than both fossil and non-fossil fuel alternatives. Over the coming five years, several renewable energy milestones are expected to ...



India's Renewable Energy Growth: Solar Power & More , IBEF

On January 8, 2024, Tata Power announced a Rs 70,000 crore (US\$ 8.42 billion) investment to develop 10 GW of solar and wind power capacity in Tamil Nadu over the next 5-7 years. This ...

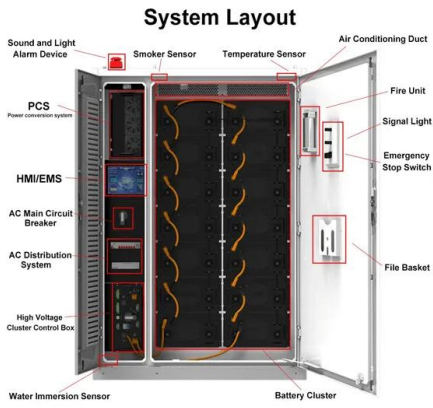
Solar and wind to lead growth of U.S. power generation for the next ...

In our latest Short-Term Energy Outlook, we forecast that wind and solar energy will lead growth in U.S. power generation for the next two years. As a result of new solar ...



35 Latest Solar Power Statistics, Charts & Data

Solar industry workers enjoy similar or higher wages than workers in similar jobs in other industries. How many jobs do solar farms create? Solar electric power generation created 17,212 jobs last year, which was a ...



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