

Industry trends of wind solar and energy storage





Overview

Deloitte's Renewable Energy Industry Outlook draws on insights from our 2024 power and utilities survey, along with analysis of industrial policy, tech capital, new technologies, workforce development, and carbon management, to understand how the new competitive landscape may drive renewables.

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Demand growth is a rising tide that lifts all boats, and it especially lifted renewable ones in 2024. Renewables were already buoyed by record public and private investment in, and demand for, clean energy that set the stage for continued growth in 2024. 1 Utility-scale solar and wind capacity.

As the analysis reveals, 2025 will be a pivotal year for renewable energy technologies, battery storage, grid modernization, and sustainable fuels. For investors, understanding these trends isn't just about keeping up with market shifts—it's about positioning for the long-term structural changes.

There are several key energy technology trends dominating 2025. Security, costs and jobs; decarbonization; China; India; and AI all need to be carefully monitored. The World Economic Forum's Advanced Energy Solutions community helps the energy technology community cooperate and accelerate the.

The global energy storage market had a record-breaking 2024 and continues to see significant future growth and technological advancement. As countries across the globe seek to meet their energy transition goals, energy storage is critical to ensuring reliable and stable regional power markets.

New types of battery storage, such as solid-state and flow batteries, will continue to make renewable energy storage a more viable solution in 2025. This will enable more reliable integration of solar, tidal and wind energy sources into energy grids, with scalable solutions that address the.



The Energy Storage Market Report is Segmented by Technology (Batteries, Pumped-Storage Hydroelectricity, Thermal Energy Storage, Compressed Air Energy Storage, Liquid Air/Cryogenic Storage, Flywheel Energy Storage, and Others), Connectivity (On-Grid and Off-Grid), Application (Grid-Scale Utility). What will the energy storage industry look like in 2025?

In 2025, the commercial and industrial energy storage industry will see even larger-scale development driven by policy guidance, market demand growth, technological innovation, and business model upgrading.

How many GW of storage will China have in 2025?

Investment tax credits under the U.S. Inflation Reduction Act (IRA) unlocked 11.9 GW of storage additions in 2024 and a pipeline of 18.2 GW for 2025. Similar momentum stems from the EU Renewable Energy Directive III, which mandates higher renewables penetration, and China's long-duration storage targets that foster flow-battery innovation.

Which emerging markets will lead the storage industry in 2025?

In Latin America, momentum was built as storage deployments increased by 42%. In 2025, emerging markets for storage will be on the rise. Saudi Arabia will lead the charge, fuelled by its expansion of solar and wind generation.

Is offshore wind power a good investment?

Offshore wind power offers higher energy yields due to stronger and more consistent winds at sea, making it an attractive option for countries with extensive coastlines. In Europe, offshore wind capacity is set to double by 2025, with the U.K., Germany, and Denmark leading the charge.

Which countries will see the most solar power installations in 2025?

The US saw record installations and another 20% in growth is forecast for 2025 – though President Trump's re-election has brought policy uncertainty. China held its leading position in terms of capacity growth due rapid adoption of wind and solar energy and required pairing with storage systems.

What will the energy industry look like in 2025?

In 2025, many companies – particularly those that are reliant on energy supplied by countries involved in war or political trouble – will focus on reducing dependency on imports and increasing domestic energy production.



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Top 10 Energy Storage Trends & Innovations , StartUs Insights

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Enabling renewable energy with battery energy storage systems

These developments are propelling the market for battery energy storage systems (BESS). Battery storage is an essential enabler of renewable-energy generation, ...



[The Future of Energy Storage , MIT Energy Initiative](#)

Storage enables electricity systems to remain in balance despite variations in wind and solar availability, allowing for cost-effective deep decarbonization while maintaining reliability. The ...

2025 Energy Industry Trends

The energy industry is transforming due to technological advancements, regulatory shifts, and the demand for sustainability. Renewable energy sources like solar, wind, and green



hydrogen are ...



[2025 Energy Outlook: Trends in Solar, Wind, Storage ...](#)

Explore what 2025 holds for clean energy--from solar and wind growth to storage innovations and grid modernization. Key insights from FFI ...

Expert analysis: The three strongest solar energy trends in 2025

A tsunami of cheap Chinese solar panels flooding Europe, a growing taste for rooftop solar and a boom for small, medium and large-scale battery storage - these are the ...



[Energy Storage Market Report 2025 , StartUs Insights](#)

The Energy Storage Market Report 2025 presents a detailed overview of firmographic trends, innovation intensity, and funding activity of the global energy storage ...



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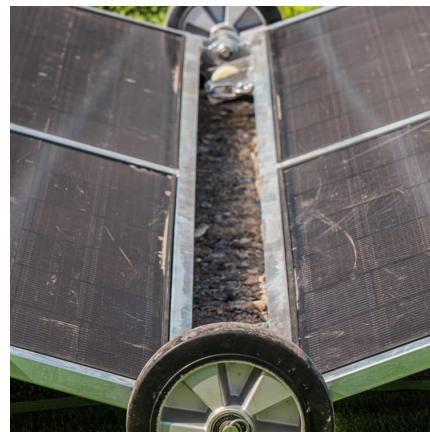


[Energy Storage Battery for Microgrid Market](#)

3 ???· These energy storage batteries serve as critical components in stabilizing power supply, managing peak demand, and integrating renewable energy sources such as solar, ...

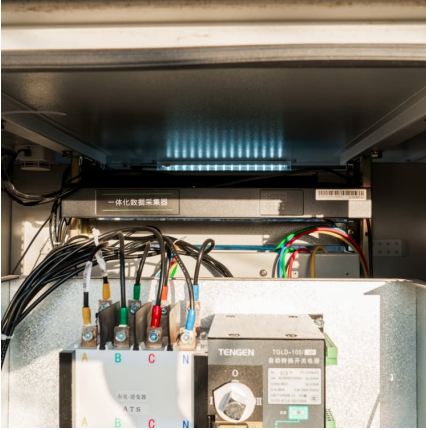
Solar Industry Research Data - SEIA

Solar energy in the United States is booming. Along with our partners at Wood Mackenzie Power & Renewables, SEIA tracks trends and trajectories in the solar industry that demonstrate the ...



[10 Solar Energy Industry Trends To Watch](#)

Latest trends and developments in the solar energy industry, competitive landscape, market size projections, technological innovations, and regional ...



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[These are the top five energy technology trends of 2025](#)

There are several key energy technology trends dominating 2025. Security, costs and jobs; decarbonization; China; India; and AI all need to be carefully monitored. The World ...





US studies show 2050 cost forecasts for solar, wind and batteries ...

5 ???· For years, US solar insiders have watched cost forecasts miss the mark. Now, new research confirms what industry trends already made clear by 2023: most 2050 projections for ...

The Future of Energy Storage: Five Key Insights on Battery ...

Breakthroughs in battery technology are transforming the global energy landscape, fueling the transition to clean energy and reshaping industries from transportation ...



[Renewable Energy and Solar Research Report](#)

To explore the renewable energy sector's outlook for 2024, we surveyed 143 professionals from across the energy industry, focusing on key innovations, government policy impacts, ...



[Renewable Energy and Solar Research Report](#)

High storage costs: Despite advancements in storage technology, the cost of implementing scalable energy storage solutions is still prohibitive for many projects.



Solar Industry Research Data - SEIA

Solar energy in the United States is booming. Along with our partners at Wood Mackenzie Power & Renewables, SEIA tracks trends and trajectories in the ...



[Battery Energy Storage Systems \(BESS\): Current ...](#)

The Intermittency Challenge -- and the Battery Energy Storage Systems Solution As the U.S. energy landscape shifts toward solar, wind, and ...



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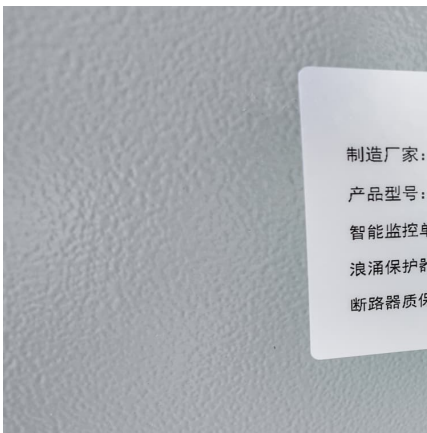
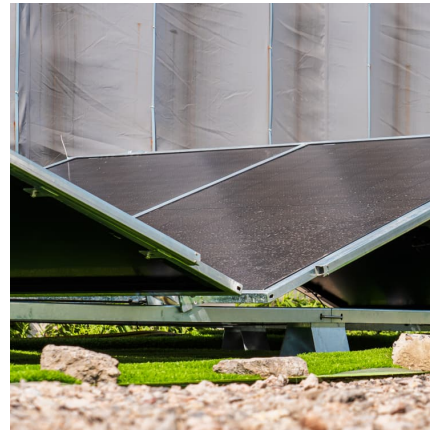
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Top 10 Wind Energy Trends & Innovations , StartUs Insights

Tree Map reveals the Impact of the Top 10 Global Wind Energy Industry Trends 2026 The recent trends in wind power generation reflect a convergence of digitalization, ...



The State of the Solar Industry

State-by-State Electricity from Solar (2023)
Sources: U.S. Energy Information Administration, "Electric Power Monthly," forms EIA-023, EIA-826, and EIA-861. U.S. Energy Information ...

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