SolarMicrogrid Solutions

Statistics of operational energy storage projects

Overview

How many battery energy storage projects are there?

The U.S. has 575 operational battery energy storage projects 8, using lead-acid, lithium-ion, nickel-based, sodium-based, and flow batteries 10. These projects totaled 15.9 GW of rated power in 2023 8, and have round-trip efficiencies between 60-95% 24.

What is the future of energy storage?

Global installed energy storage is on a steep upward trajectory. From just under 0.5 terawatts (TW) in 2024, total capacity is expected to rise ninefold to over 4 TW by 2040, driven by battery energy storage systems (BESS). Last year saw a record-breaking 200 gigawatt-hours (GWh) of new BESS projects coming online, a growth rate of 80%.

What types of energy storage are included?

Other storage includes compressed air energy storage, flywheel and thermal storage. Hydrogen electrolysers are not included. Global installed energy storage capacity by scenario, 2023 and 2030 - Chart and data by the International Energy Agency.

What are the different types of energy storage technologies?

Pumped hydro, batteries, hydrogen, and thermal storage are a few of the technologies currently in the spotlight. The global battery industry has been gaining momentum over the last few years, and investments in battery storage and power grids surpassed 450 billion U.S. dollars in 2024. Find the latest statistics and facts on energy storage.

What is the economic value of energy storage?

One study found that the economic value of energy storage in the U.S. is $228B over a 10 year period. 27 Lithium-ion batteries are one of the fastest-growing energy storage technologies 30 due to their high energy density, high

power, near 100% efficiency, and low self-discharge 31. The U.S. has 1.1 Mt of lithium reserves, 4% of global reserves. 32.

How will energy storage affect global electricity production?

Global electricity output is set to grow by 50 percent by mid-century, relative to 2022 levels. With renewable sources expected to account for the largest share of electricity generation worldwide in the coming decades, energy storage will play a significant role in maintaining the balance between supply and demand.

Statistics of operational energy storage projects

TOP 25 operational battery energy storage projects in the US 2025

Backed by fresh data from Cleanview, Wood Mackenzie, and the EIA, this white paper offers critical insights into the projects, players, and trends shaping the nation's fast ...

Product Information

[UK approaches 10GWh of operational grid-scale BESS]

A total of 175MW/350MWh of grid-scale battery energy storage system (BESS) projects came online over the course of June, the report's data shows. That brings the total ...

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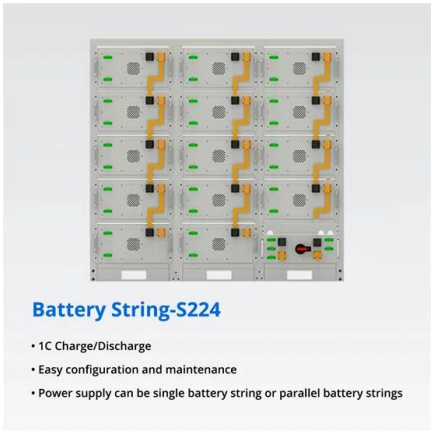

U.S. Grid Energy Storage Factsheet

In 2021, 1,595 energy storage projects were operational globally, with 125 projects in construction. 51% of operational projects are located in the U.S. 10 California leads the U.S. in power ...

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[US installs more energy storage in Q1 2025 than ever before]

The growing market in Indiana is made possible due to factors such as land availability and clear state permitting guidelines. Indiana added 256 MW of new storage to the ...

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DOE Global Energy Storage Database

The DOE Global Energy Storage Database provides research-grade information on grid-connected energy storage projects and relevant state and federal policies. All data can be ...

Product Information

DOE Global Energy Storage Database -- OpenEnergyDataPortal

The DOE Global Energy Storage Database provides research-grade information on grid-connected energy storage projects and relevant state and federal policies. All data can be ...

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U.S. battery storage capacity expected to nearly double in 2024

Planned and currently operational U.S. utility-scale battery capacity totaled around 16 GW at the end of 2023. Developers plan to add another 15 GW in 2024 and around 9 GW ...

Product Information

Storage Futures , Energy Systems Analysis , NREL

In this multiyear study, analysts leveraged NREL energy storage projects, data, and tools to explore the role and impact of relevant and emerging energy storage technologies ...

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