

2025 CUMULATIVE INSTALLED ENERGY STORAGE



What is the cumulative installed capacity of energy storage projects? The cumulative installed capacity of new energy storage projects is 21.1GW/44.6GWh, and the power and energy scale have increased by more than 225% year-on-year. Figure 1: Cumulative installed capacity (MW%) of electric energy storage projects commissioned in China (as of the end of June 2023)



How much energy storage will the world have in 2022? New York, October 12, 2022 ??? Energy storage installations around the world are projected to reach a cumulative 411 gigawatts (or 1,194 gigawatt-hours) by the end of 2030, according to the latest forecast from research company BloombergNEF (BNEF). That is 15 times the 27GW/56GWh of storage that was online at the end of 2021.



How big will energy storage be by 2030? BNEF forecasts energy storage located in homes and businesses will make up about one quarter of global storage installations by 2030. Yayoi Sekine, head of energy storage at BNEF, added: ??? With ambition the energy storage market has potential to pick-up incredibly quickly.



How many gigawatts will be installed in 2025? This would be an increase of at least 50-fold in comparison to the 30 to 40 gigawatts estimated for 2025. Systems with a storage duration of up to 24 hours will make up the largest share of installed capacity. Get notified via email when this statistic is updated.



Do I need a subscription to access long duration energy storage? A paid subscription is required for full access. The cumulative installed capacity of long duration energy storage (LDES) is estimated to grow significantly in the coming decades, to reach between 1.5 and 2.5 terawatts by 2040. This would be an increase of at least 50-fold in comparison to the 30 to 40 gigawatts estimated for 2025.

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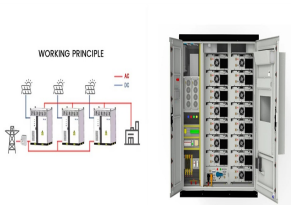
Does energy storage balance intermittency? According to TrendForce, the cumulative installed capacity of global renewable energy in 2021 stood at 3,064 GW. This highlights the pressing need for energy storage to balance intermittency. In 2021, the global energy storage market maintained a high growth rate. Newly installed capacity was 29.6 GWh, up 72.4% year on year, said TrendForce.



Taiwanese analyst TrendForce said it expects global energy storage capacity to reach 362 GWh by 2025. China is set to overtake Europe and the United States is poised to become the world's



By the close of 2023, China had notched up an impressive cumulative installed capacity of 31.39GW/66.87GWh in new energy storage projects, surpassing the 14th Five-Year Plan target two years ahead of schedule.



That meant an 86% increase in cumulative installed capacity in megawatts (power) and an increase of 83% in cumulative installed capacity in megawatt-hours (energy). Meanwhile, the levelised cost of a 4-hour duration battery energy storage facility participating in energy markets in the US was found to be in a range between US\$126 ??? US\$177/MWh.



China is targeting a non-hydro energy storage installed capacity of 30GW by 2025 and grew its battery production output for energy storage by 146% last year, state media has said. The statement from the National Development and Reform Commission (NDRC) and the National Energy Administration said the deployment is part of efforts to boost

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The global energy storage market will grow to deploy 58GW/178GWh annually by 2030, according to forecasting by BloombergNEF. helped by its national policy to target 30GW of energy storage by 2025, is likely to overtake that lead, perhaps even before that 2025 deadline. Australia installed around 345MW/717MWh of utility-scale in 2021 and



Constrained by carbon neutrality and carbon peaking targets and enveloped by a bullish backdrop of declining system costs, the global installed capacity of wind and solar energy has shown a steady growth trend over the past five years. According to TrendForce statistics, the cumulative installed capacity of global renewable energy in 2021 was approximately 3,064GW ???



As outlined in the American Clean Power Association (ACP) and Wood Mackenzie's latest US Energy Storage Monitor report, the U.S. grid-scale segment saw quarterly installations increase 27% quarter-on-quarter (QoQ) to 6,848 MWh, a record-breaking third quarter for both megawatts (MW) and megawatt-hours (MWh) installed. "Energy storage

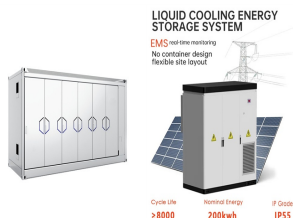


According to Modo statistics, the cumulative installed capacity of large-sized energy storage in the UK has surged from 0.01GW in 2016 to an impressive 1.93GW by the end of 2022. Projections indicate that by the close of 2026, the cumulative installed capacity for local large-sized energy storage in the UK is expected to reach 13GW.



Size of energy storage projects . With at least 720MWh of energy storage deployed ??? and 1GWh in construction ??? the growth of the energy storage market in Ireland has been rapid, considering the first project was only energised in 2020. In particular, the pipeline increased by over 4GWh in 2023, a growth of 75% compared to 2022.

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By 2025, 26 Chinese provinces and cities aim for an energy storage capacity of 86.6 GW, more than doubling the national target of over 40 GW set by the State Council. China's cumulative installed new-energy storage capacity increased by 156.4% year-on-year to 44.44 ???



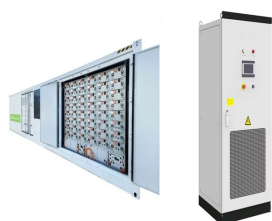
U.S. energy storage capacity could expand to more than 30 gigawatts by year-end 2024, the EIA says. which had about 7.3 GW of installed battery capacity as of November 2023. Included in the more than 300 utility ???



A staggering 555,000 units of residential ESS were installed in Germany in 2023, equivalent to 5.0GWh of capacity, representing a staggering 166% year-on-year growth. These installations contributed significantly, making up 52.6% of the new installations in Europe and driving substantial growth in the European energy storage market



* 2026* 2027* In terms of developments in China, 19 members of the National Power Safety Production Installed electrochemical energy storage capacity in China, MWh. Source: China Electricity Council, KPMG analysis. 110. 11. 20. 1. 51. 547. 557. According to data from the China Electricity Council, the cumulative installed capacity of



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The U.S. energy storage market set a first-quarter record for capacity installed in Q1 2024, with 1,265 megawatts (MW) deployed across all segments. This marks the highest storage capacity ever installed in a first quarter in the U.S., representing an 84% increase. The pipeline increase brings the cumulative volume of new additions through 2028 to 62



As more battery capacity becomes available to the U.S. grid, battery storage projects are becoming increasingly larger in capacity. Before 2020, the largest U.S. battery storage project was 40 MW. The 250 MW Gateway Energy Storage System in California, which began operating in 2020, marked the beginning of large-scale battery storage installation.

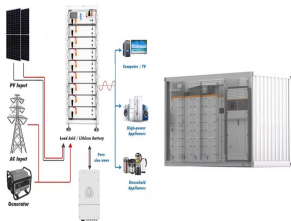


We estimate that by 2040, LDES deployment could result in the avoidance of 1.5 to 2.3 gigatons of CO₂ equivalent per year, or around 10 to 15 percent of today's power sector emissions. In the United States alone, LDES could reduce the overall cost of achieving a fully decarbonized power system by around \$35 billion annually by 2040.



Thermal-Mechanical-Chemical Energy Storage Workshop Washington, August 3-4th 2022 Net-zero power Cumulative installed energy capacity USD bn Cumulative capex investment. 14 2025 LCOE, USD/MWh For >80% matching LDES becomes key to reducing costs Clean supply-demand matching, % 33. 34

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U.S. battery storage capacity has been growing since 2021 and could increase by 89% by the end of 2024 if developers bring all of the energy storage systems they have planned on line by their intended commercial operation dates. Developers currently plan to expand U.S. battery capacity to more than 30 gigawatts (GW) by the end of 2024, a capacity that would ???



A VISION FOR 2025 PAGE 2 More than 35 GW of energy storage by 2025 will affect all stakeholders on the grid, enabling a more resilient, efficient, sustainable and affordable energy network. 1.2. THE ENERGY STORAGE ASSOCIATION The Energy Storage Association (ESA) is the national trade association and the leading voice for the energy storage



Cumulative installed capacity, GW 2030 10 2025 0 2035 2040 20 30 40 50 60 100 70 80 90 110 120 130 140 500 1,000 1,500 2,000 2,500 ~55% ~60% 12h 36h. 9 2030 energy storage LCOS competitiveness by duration for selected technologies (USD/MWh) Cumulative LDES installed energy capacity, TWh Average installed duration, hours Australia India



Annual Battery Energy Storage Installed Capital Expenditure (FTM and BTM C& I) Note: installed capital expenditure only refer to projects" energy storage component, and reflect hardware, project development, EPC costs; O& M and potential alone is poised to be a cumulative USD 23.6 billion until 2025. Adding more than 25 GW in the same



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