

Republic of china energy storage

China's power storage capacity is on the cusp of growth, fueled by rapid advances in the renewable energy industry, innovative technologies and ambitious government policies aimed at driving sustainable development, experts said.

The nation's energy storage capacity further expanded in the first quarter of 2024 amid efforts to advance its green energy transition, with installed new-type energy storage capacity reaching 35.3 gigawatts by end-March, soaring 2.1 times year-on-year, according to the National Energy Administration.

The country has emerged as a powerhouse in renewable energy adoption in recent years, with a particular focus on bolstering its energy storage capabilities.

The skyrocketing demand for energy storage solutions, driven by the need to integrate intermittent renewable energy sources such as wind and solar into the power grid effectively, has led to a flurry of investments in energy storage projects across the country, the NEA said.

New energy storage, or energy storage using new technologies such as lithium-ion batteries, liquid flow batteries, compressed air and mechanical energy, is an important foundation for building a new power system in China, enjoying the advantages of quick response, flexible configuration and short construction periods.

The Chinese government's proactive stance on promoting clean energy has also played a pivotal role in driving this boom, said the administration, with initiatives such as subsidies for renewable energy projects and incentives for energy storage deployment having created a conducive environment for the rapid growth of the energy storage sector.

With a strong emphasis on technological innovation and sustainable development, China's new energy storage sector is not only meeting the demand for domestic energy, but also setting the stage for a greener and more resilient global energy landscape, said Lyu Pan, deputy head of the Research Institute of Economics and Technology under the State Grid Xinjiang Electric Power Co.

It is estimated that the electricity shortfall in Northwest China's Xinjiang Uygur autonomous region will exceed 8 million kilowatts by 2030, making new energy storage a necessity to support the operation of the power grid with advantages such as a faster response speed, high regulation accuracy, flexible deployment, and short construction cycle, he said.

According to the NEA, the northwestern parts of the country have seen the fastest development of new-type energy storage facilities, with 10.3 GW of such capacity having been installed and put into operation by the end of March.

By the end of 2023, Northwest China had installed 222 GW of wind and solar capacity, and over 10 GW of battery storage projects. This accounts for 29.2 percent of the country's total, said Bian Guangqi, an NEA official.

Developing energy storage is an important step in China's transition from fossil fuels to renewable energy, while mitigating the effect of new energy's randomness, volatility and intermittence on the grid and managing power supply and demand, he said.

With the commissioning of numerous gigawatt-scale renewable base projects in Northwest China, the local grid system needs to integrate renewable capacity, optimize power output and address intermittency issues brought on by wind and solar energy, said Deng Simeng, a senior analyst in renewables and power research at global consultancy Rystad Energy.

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