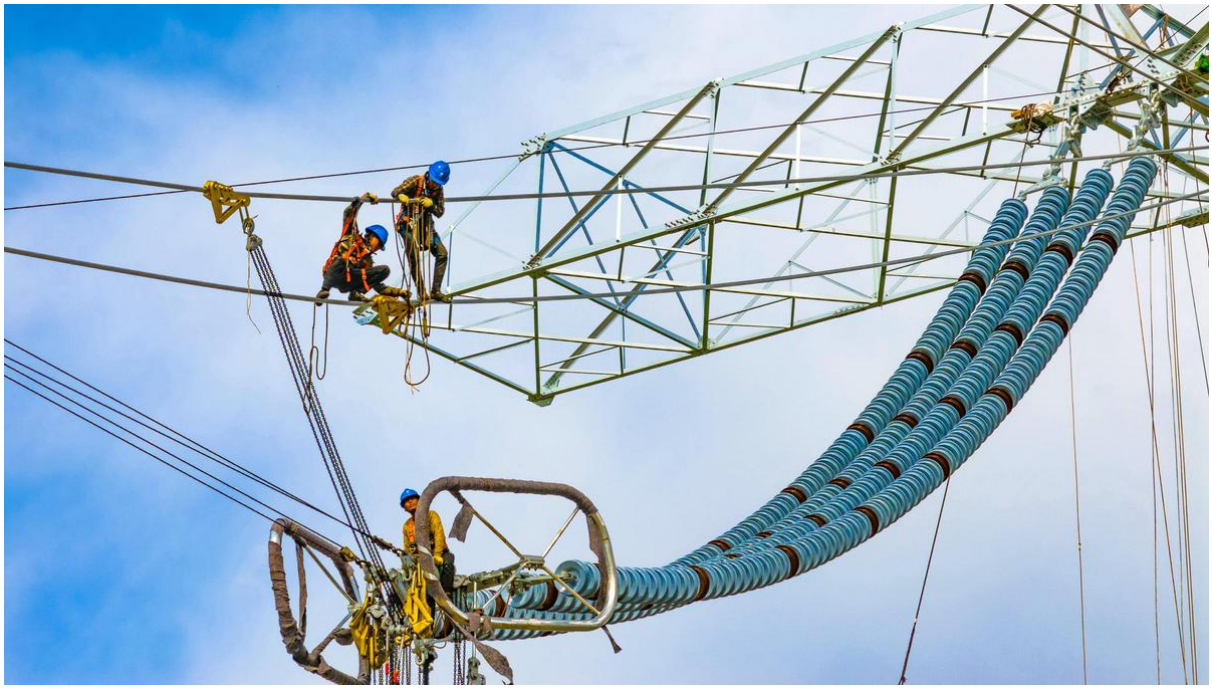
China's New Energy Sector Drives Economic Growth



China's new energy sector is witnessing significant advancements, contributing to the country's economic growth and sustainability goals. The construction of new energy projects for grid connections and transmission continues to strengthen, enhancing the industry's capabilities to optimize large-scale resources, according to a report released on Thursday by the State Grid Energy Research Institute in Beijing.

By the end of 2023, China had established 39 ultra-high-voltage transmission projects, with national transmission capacity exceeding 300 million kilowatts. This milestone has substantially increased the country's capacity for new energy consumption. Companies are accelerating investments in grid construction to ensure a sufficient energy supply and increase the share of green power in the national energy mix, said Ye Xiaoning, a senior engineer from the new energy department of the institute.

State Grid Corp of China, the nation's largest power provider, plans to invest over 500 billion yuan ($69.6 billion) in grid network construction this year. The focus will be on ultra-high-voltage power transmission projects to ensure power supply stability and promote green power

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consumption. The company also aims to enhance the construction of clean energy power transmission projects, intelligent power distribution systems, and new energy storage regulation, along with vehicle network interaction.

Kou Nannan, head of China Research at BloombergNEF, highlighted the challenges posed by the intermittent nature of new energy sources, which require stable power generation to maintain grid stability. He emphasized that investment in infrastructure, including grid upgrades and energy storage systems, will be crucial for accelerating China's transition to green and low-carbon energy in the coming years.

Zhu Yicong, a senior analyst at global consultancy Rystad Energy, noted that China's renewable installations have surged since 2023, with 82 GW of new installations connected to the grid in the first five months of this year. This necessitates rapid construction of related transmission networks and improvements in grid systems to accommodate more renewable power and accelerate energy storage development.

The expansion of grid network projects, including cross-province transmission lines and ultra-high-voltage transmission lines, will improve the consumption of power generated from large-scale renewable base projects and ease the power imbalance between resource-rich and high-demand areas, Zhu added.

Global consultancy Accenture reported that increased investment in the grid network will enhance transmission channel use and boost investor confidence in wind and solar projects. The China Electric Power Development 2024 report, released by the China Electric Power Planning and Engineering Institute, indicated that China's electricity demand has been steadily climbing, with the power system's flexibility continuously improving, facilitating the world's largest renewable power generation system.

Rao Jianye, president of the China Electric Power Planning and Engineering Institute, stated that by 2025, the coordinated development of regulatory capacity across power generation, grid, load, and storage is expected to increase the maximum adjustable capacity by about 300 million kilowatts. He emphasized the need for better coordination of the layout of various power sources, including hydropower, pumped storage, wind power, solar power generation, nuclear power, and coal-fired power, to support China's green and low-carbon development and global emissions reduction.

China's capacity for innovation in energy technology has advanced over the past few years, with accelerated upgrades in high-capacity offshore wind turbines, tidal energy generation, and crystalline silicon photovoltaic technology. The State Grid Energy Research Institute reported that China's installed capacity of distributed photovoltaic (PV) systems surpassed 200 million kilowatts by the end of 2023. In that year alone, China added 85.89 million kilowatts of new distributed PV generation capacity, accounting for nearly 40 percent of the total new PV installations.

Residential PV systems played a significant role in this growth, with 43.48 million kilowatts of new residential distributed PV capacity installed, representing 50.6 percent of all new distributed PV installations. This reflects a year-on-year growth of 54 percent, indicating China's robust progress in expanding its green energy infrastructure.

China's proactive investments and advancements in the new energy sector are not only driving economic growth but also setting a benchmark for global efforts in renewable energy and sustainability.

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