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Green Power Wind Power UHV Energy Storage

Overview

How does UHV transmission technology affect energy structure in China?

Impact of UHV transmission technology on energy structure in China is investigated. UHV reduces thermal power generation and boosts renewable energy generation. UHV shifts ground-based coal transportation to power transmission in the sky. Firms' energy consumption behavior changes and shifts to electrified production.

How has UHV transmission changed the energy supply mode?

We find that the opening of UHV transmission projects has changed the energy supply mode from “coal transportation on the ground” to “power transmission in the sky,” which has caused the transformation of the power production structure and promoted the development of renewable energy in resource-rich areas.

What is the new UHV line?

The new UHV line will enable the stable transmission of over 10 million kilowatts of renewable power, facilitating the coordinated flow of energy across regions. At the heart of the project is a vast energy base run by China Huaneng Group, a major state-owned power company.

What are China's UHV power transmission lines?

Fig. 1 displays the details of China's UHV power transmission lines as of 2022. Notably, the Changji-Guquan ±1100 kV DC transmission line, which spans approximately 3293 km, has the longest transmission distance. This line enables the transfer of coal and wind-generated power from Xinjiang to the East China power grid.

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When wind, solar, and coal power from Longdong, regulated by energy storage systems, transform into stable current and travel 915 kilometers to the Dongping Converter ...

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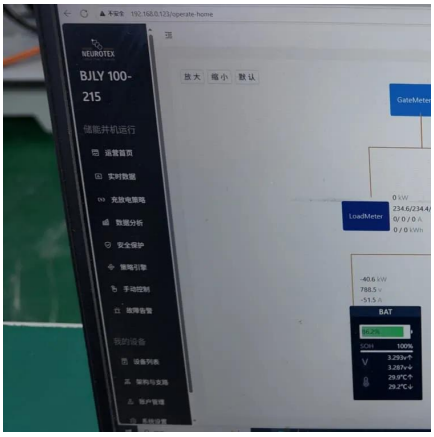

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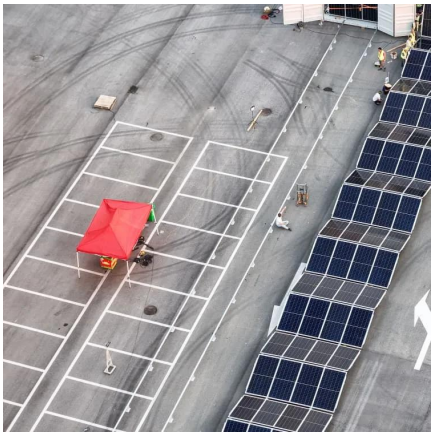

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