

## SolarInnovate Energy Solutions

# Production of UHV inverters



## Overview

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What is UHV power transmission?

UHV power transmission refers to the power transmission technology with voltage levels of AC 1000 kV and above, and DC  $\pm 800$  kV and above.

Why should China adopt UHV power transmission technology?

The adoption of the UHV power transmission technology not only can effectively solve the rapid growth of China's growing demand for electricity, but also makes the long-distance and high-capacity power transmission become more economic. China's existing UHVAC and UHVDC power transmission projects are all developed under this background.

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  $\pm 1100$  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.

Do UHV transmission projects speed up power transmission?

Our results indicate that UHV transmission projects play a crucial role in speeding up power transmission of large-scale clean energy bases and realizing the cross-regional allocation of power resources. This study conducts mechanism analysis from two perspectives: energy production and consumption.

How many UHV projects has China completed in 2023?

By the end of 2023, China has completed 19 ultra-high voltage alternating current (UHVAC) and 20 ultra-high voltage direct current (UHVDC) projects, totaling 39 UHV projects. The total investment in the project exceeded 600 billion yuan. The length of UHV project lines under operation exceeded 60,000

kilometers.

How many UHVDC transmission projects are in development?

Plus there are one more UHVAC and three more UHVDC transmission projects in construction, while UHVAC gas-insulated lines will be applied in the UHVAC line crossover the Yangtze River and the  $\pm 1100$  kV UHVDC power transmission technology is in development.

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### China's UHV project: The world-leading "Electricity Highway"

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### Can ultra-high voltage power transmission bring environmental and

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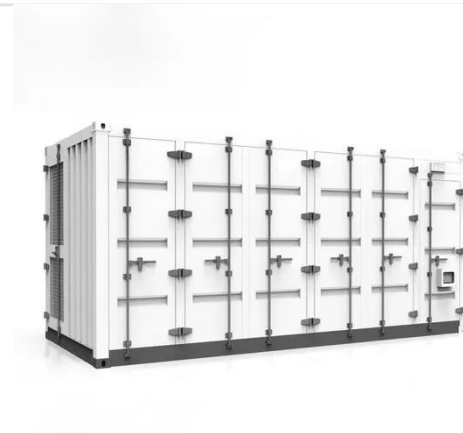


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