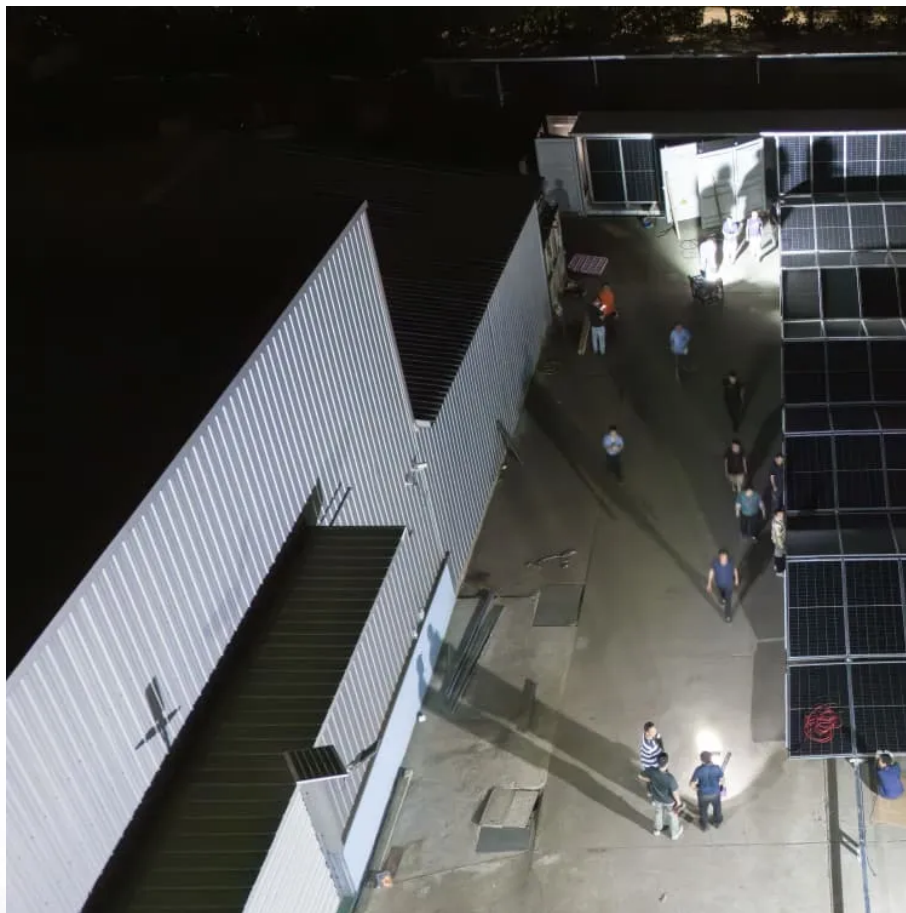


Wind farm energy storage power station profit model





Overview

What is the operation strategy of a wind farm?

The operation strategy is that at off-peak time (low price), the energy storage system stores electricity; at on-peak time (high price), it releases electricity. Benefits are generated through the electricity price arbitrage. The revenue of generation from a wind farm without energy storage was calculated by equation (1) throughout a whole year.

How does a wind farm work?

All the electricity from the wind farm without energy storage is sold to the grid and users. The annual revenue is 12.78 million US dollars. When integrating the energy storage plant, it stores the wind power when the electricity price is low, and releases it when the price is high.

What is the revenue of wind-storage system?

The revenue of wind-storage system is composed of wind generation revenue, energy storage income and its cost. With the TOU price, the revenue of the wind-storage system is determined by the total generated electricity and energy storage performance.

Is a wind farm connected to the grid market?

A wind farm with an energy storage device is considered as a whole to be connected to the grid market. Firstly, the energy storage device stores abandoned wind generation to eliminate curtailment. Secondly, it stores wind generation when the price of electricity is pretty low.



Wind farm energy storage power station profit model



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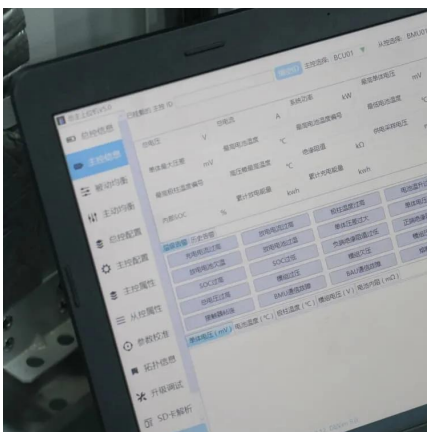
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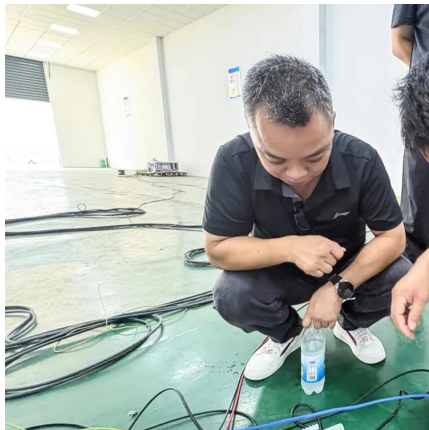
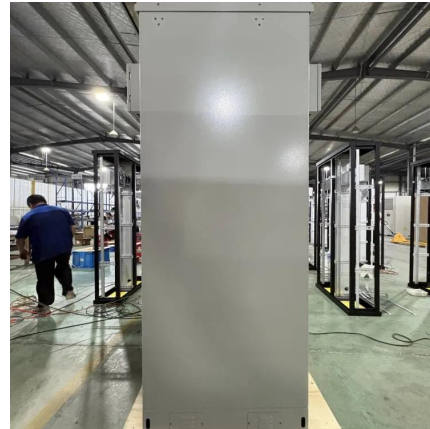
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