

New model of wind solar thermal and energy storage





Overview

How can wind-solar complementary power generation be optimized?

In the field of wind-solar complementary power generation, Liu Shuhua et al. developed an individual optimization method for the configuration of solar-thermal power plants and established a capacity optimization model for the integrated new energy complementary power generation system in comprehensive parks .

What is the objective function of a thermal energy model?

Secondly, the paper elaborates on the objective function within the model, mainly covering the operating costs of thermal power units, hydropower units, pumped storage, wind and solar units, the cost of discarding new energy, and the cost of load shedding.

Should wind power be relying solely on thermal power?

When the penetration rate of wind power increases to a certain extent, relying solely on thermal power to cope with the uncertainty of wind and solar output will lead to frequent starting and stopping of thermal power units, threatening the safety, stability, and economy of the power grid operation (Ye et al., 2023).

What is the integration rate of wind and solar power?

The integration rates of wind and solar power are 64.37 % and 77.25 %, respectively, which represent an increase of 30.71 % and 25.98 % over the MOPSO algorithm. The system's total clean energy supply reaches 94.1 %, offering a novel approach for the storage and utilization of clean energy. 1. Introduction



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Energy Storage Configuration Optimization of a Wind-Solar-Thermal

The large-scale integration of new energy is an inevitable trend to achieve the low-carbon transformation of power systems. However, the strong randomness of wind power, ...

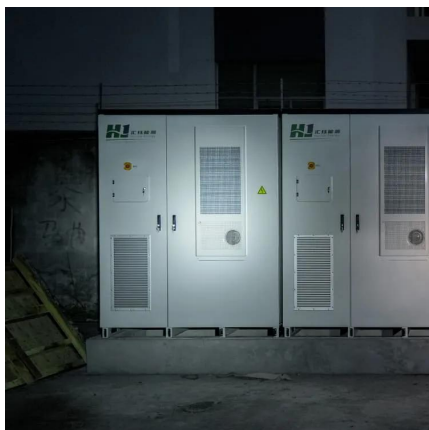
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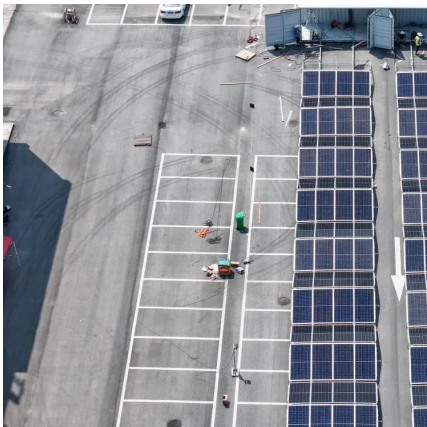
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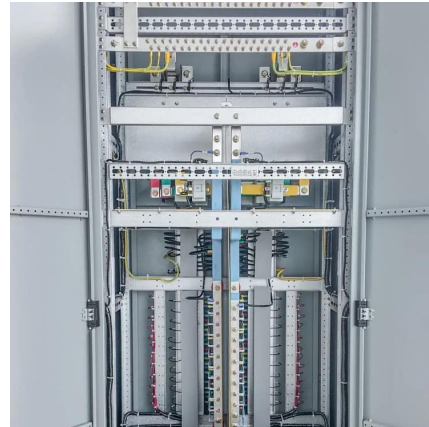
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Optimization Operation of Wind-solar-thermal-storage Multi-energy Power

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