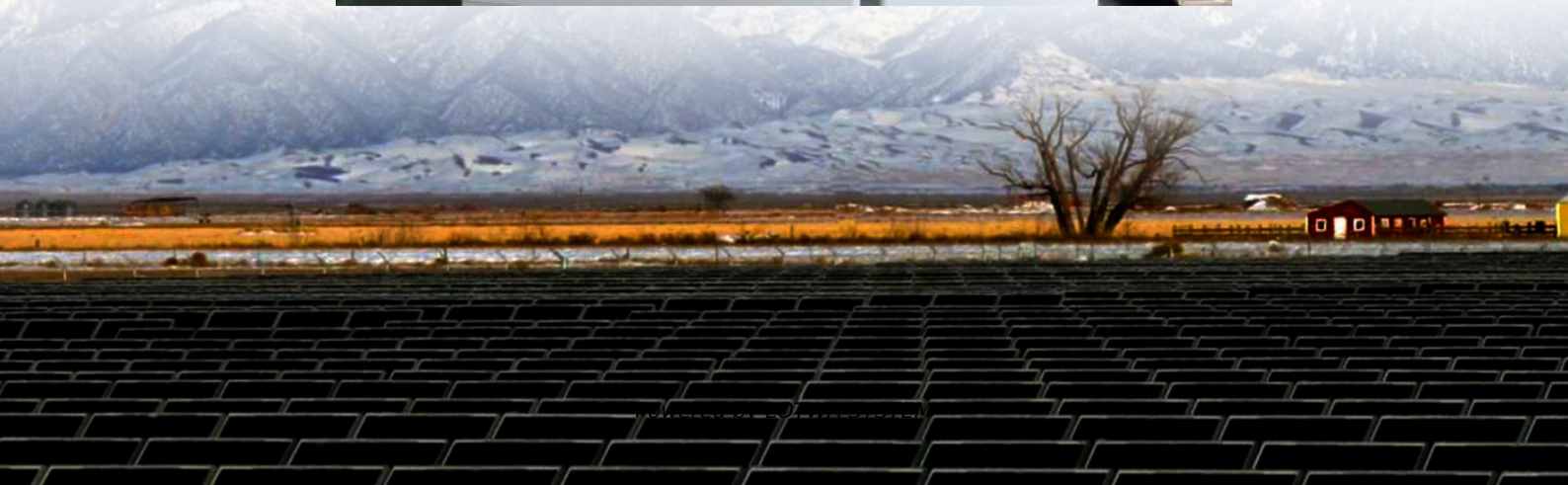


Peak regulation and frequency regulation prices of energy storage power stations





Overview

Energy storage (ES) can mitigate the pressure of peak shaving and frequency regulation in power systems with high penetration of renewable energy (RE) caused by uncertainty and inflexibility. However.

Can small capacity energy storage power stations compete for frequency regulation services?

At present, China's small capacity energy storage power stations cannot be allowed to compete for frequency regulation services, but the establishment of auxiliary service markets such as frequency regulation and standby is conducive to guiding investment to improve the flexibility of power systems [19, 20, 21, 22, 23, 24, 25].

What is the maximum output power of energy storage peak regulation?

The energy storage output and SOC changes are shown in Figure 5 and Figure 6. The maximum output power of energy storage peak regulation is $P_{1max} = 0.13$ MW.

Does energy storage participate in user-side peaking and frequency regulation?

The benefits of energy storage participating in user-side peaking and frequency regulation come from the electricity price difference of peaking, frequency regulation capacity compensation and frequency regulation mileage compensation. It is expressed as the following formula.

What are the different types of energy storage stations?

From a functional standpoint, the energy storage stations within the cluster can be categorized into three distinct types: frequency regulation energy storage stations, peak shaving energy storage stations, and hybrid energy storage stations capable of both peak shaving and frequency regulation functionalities.



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Energy storage frequency and peak regulation

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Demand Analysis of Coordinated Peak Shaving and Frequency Regulation

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