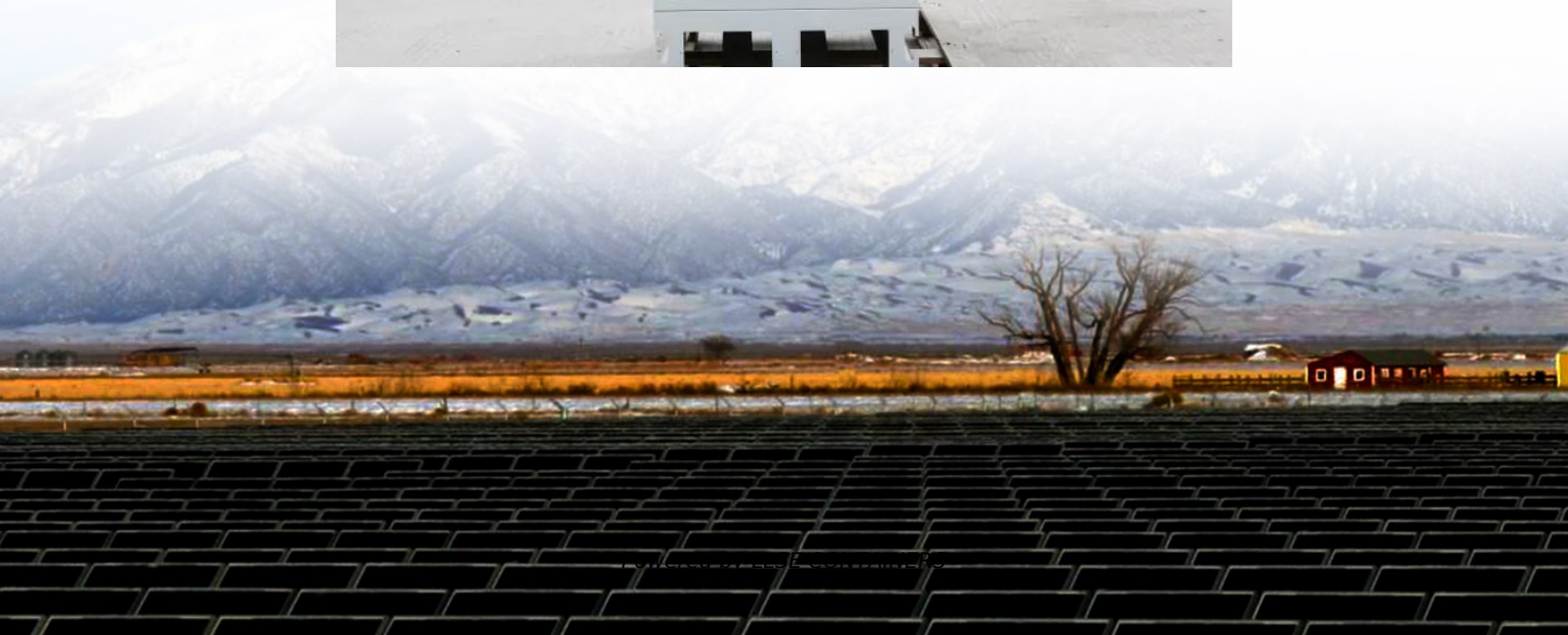


Overall configuration of energy storage solution





Overview

What is the optimal configuration model of energy storage?

Based on renewable energy output scenarios generated in Section 2 and congestion information provided in Section 3, this section constructs an optimal configuration model of energy storage. This model takes the uncertainty of renewable energy outputs into consideration, so that it enhances the rationality and feasibility of the optimal results.

What are the advantages of optimal configuration method of energy storage?

3. The proposed optimal configuration method of energy storage can improve the operation flexibility of power system and the utilization of renewable energy generation. Therefore, it overcomes the disadvantages of traditional transmission network expansion planning, such as high investment cost and poor economic performance.

Is energy storage system configuration a nonlinear optimization model?

Furthermore, an optimized energy storage system (ESS) configuration model is proposed as a technical means to minimize the total operational cost of the distribution network while enhancing comprehensive resilience indices. The proposed nonlinear optimization model is solved using second-order cone relaxation techniques.

How can energy storage be reasonably configured?

If the key components causing the transmission congestion are evaluated and identified, then energy storage can be reasonably configured. It absorbs energy when the components are congested and releases energy during the uncongested periods.



Overall configuration of energy storage solution



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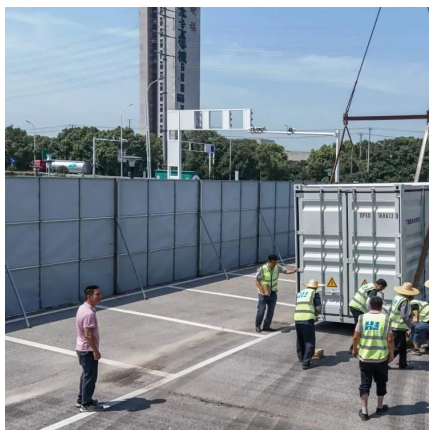
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