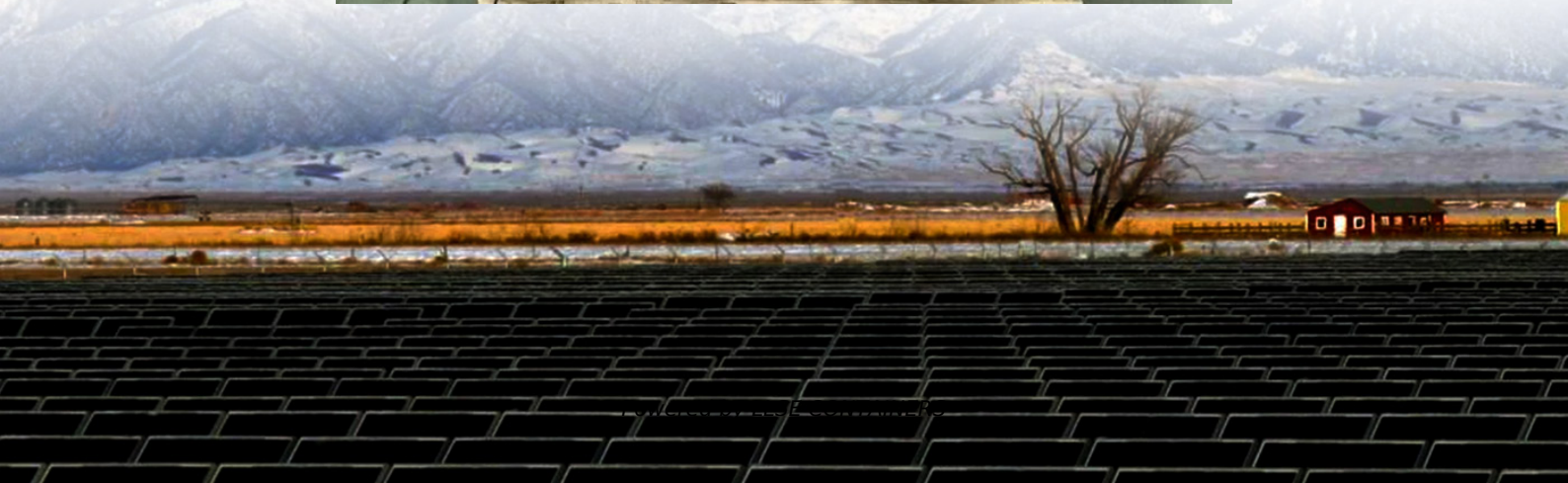


# Advantages and disadvantages of frequency-regulated energy storage power stations





## Overview

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Does battery energy storage participate in system frequency regulation?

Since the battery energy storage does not participate in the system frequency regulation directly, the task of frequency regulation of conventional thermal power units is aggravated, which weakens the ability of system frequency regulation.

Can large-scale battery energy storage systems participate in system frequency regulation?

In the end, a control framework for large-scale battery energy storage systems jointly with thermal power units to participate in system frequency regulation is constructed, and the proposed frequency regulation strategy is studied and analyzed in the EPRI-36 node model.

Does energy storage affect frequency regulation?

Reference [ 6] argues that the response performance of energy storage involved in frequency regulation is limited by the mechanical structure of the wind turbines and that excessive involvement of a wind turbine in frequency regulation poses a risk of damage to the turbine itself.

Can energy storage be used as a supplement to frequency regulation?

Therefore, energy storage is well suited to act as a supplement to frequency regulation resources in high penetration areas of wind power. At this stage, research on the separate participation of wind turbines in frequency regulation is relatively mature.



## Advantages and disadvantages of frequency-regulated energy storage

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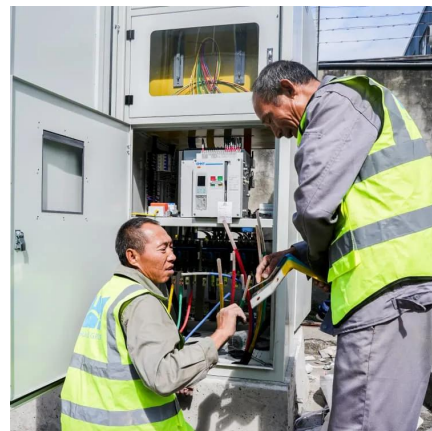
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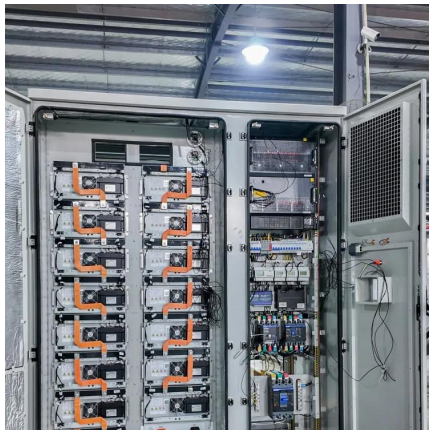






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