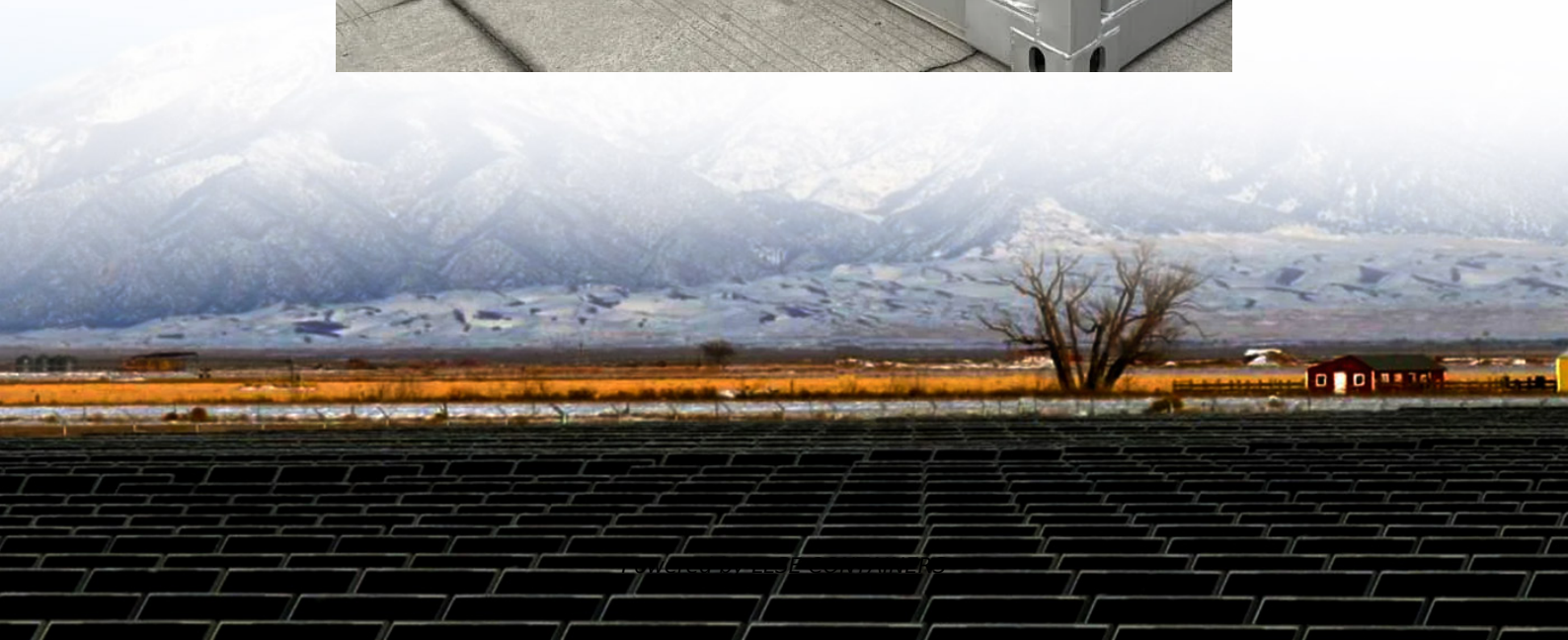


# Energy storage charging control solution





## Overview

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What is an energy storage management system?

An energy storage management system is a sophisticated software platform that integrates battery hardware with AI-driven algorithms to optimise energy storage operations. Unlike basic controllers, an energy storage management system enables predictive maintenance, grid service monetisation, and real-time monitoring with  $\pm 0.5\%$  accuracy.

How does the energy storage charging pile's scheduling strategy affect cost optimization?

By using the energy storage charging pile's scheduling strategy, most of the user's charging demand during peak periods is shifted to periods with flat and valley electricity prices. At an average demand of 30 % battery capacity, with 50–200 electric vehicles, the cost optimization decreased by 18.7%–26.3 % before and after optimization.

How effective is the energy storage charging pile?

The energy storage charging pile achieved energy storage benefits through charging during off-peak periods and discharging during peak periods, with benefits ranging from 699.94 to 2284.23 yuan (see Table 6), which verifies the effectiveness of the method described in this paper. Table 6.

What is energy storage discharging power?

During peak time periods, when the remaining capacity of the energy storage system is greater than the set value, its discharging power is the energy storage discharging power. Conversely, the discharging power of the charging pile is supplied by the grid power.



## Energy storage charging control solution

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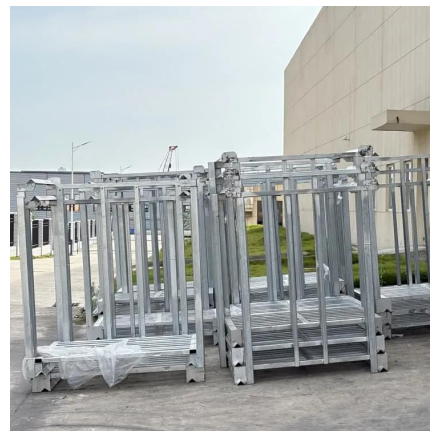
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