

# **Outdoor energy storage channel planning scheme**





## Overview

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What is the objective of optimal energy storage system planning?

The objective of optimal the energy storage system planning is to minimize the comprehensive cost of urban distribution network systems, which can be obtained by (19.1). 
$$\min C = C_{\{\text{pur}\}} + C_{\{\text{bui}\}} + C_{\{\text{op}\}} + C_{\{\text{om}\}} - C_{\{\text{re}\}}$$

Does energy storage cost affect coordination planning of transmission network and energy storage?

The high cost of energy storage limits the allocation of more energy storage in planning models with economic optimality as the objective function. This section further discusses the impact of energy storage costs on the coordination planning of transmission network and energy storage.

Can energy storage solve security and stability issues in urban distribution networks?

With its bi-directional and flexible power characteristics, energy storage can effectively solve the security and stability issues brought by the integration of distributed power generation into the distribution network, many researches have been conducted on the urban distribution networks.

Does a multi-stage coordinated expansion planning scheme reduce Energy Curtailment costs?

In terms of the punishment for new energy curtailment, from Table 1 and Table 2, it can be seen that the multi-stage coordinated expansion planning scheme of transmission network and energy storage greatly reduces the system's curtailment punishment costs compared with the single transmission network multi-stage planning scheme.



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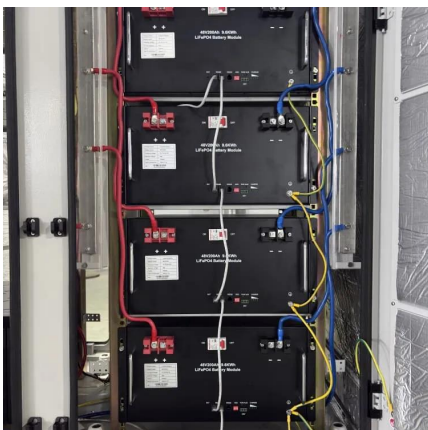
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