

# **Outdoor energy storage optimization design solution**





## Overview

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What is the design optimization model of energy storage system?

In the design optimization model, equipment investment is considered based on the operational optimization model, and particle swarm optimization (PSO) is employed to achieve the design optimization of energy storage system.

What makes a good design and energy management solution?

A balance between technical, environmental and economic performance aspects has been achieved to deliver an overall optimum design and energy management solution.

What are the optimization objectives of PV-BES system?

Eight optimization objectives are established under four major aspects of the PV-BES system including the energy supply, battery storage, utility grid and whole system as shown in Fig. 5. For the energy supply aspect, three indicators including SCR, EFF and LCR are combined as the performance criterion.

What is the energy management strategy for residential PV-BES systems?

The energy management strategy for residential PV-BES systems is also developed considering the matching of thermostatically controlled demand and battery charging. The case study shows that the system energy consumption is reduced by 30% while maintaining the power supply quality and extending the battery lifecycle .



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Outdoor energy storage battery solution design

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