

# **Power grid peak load storage system**





## Overview

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How to reduce peak load in energy storage systems?

By operating these storage systems using the coordinated control strategy, the maximum peak load can be reduced by 44.9%. The rise in peak load reduction increases linearly with small storage capacities, whereas saturation behavior can be observed above 800 kWh. Linear programming optimization tool for energy storage systems.

Can a stationary battery energy storage system reduce peak loads?

However, with falling costs of lithium-ion battery (LIBs), stationary battery energy storage system (BESSs) are becoming increasingly attractive as an alternative method to reduce peak loads [ 4, 5 ]. The peak shaving field has seen an increasing interest in research during the last years.

What is the peak load in a test distribution grid without EVs?

As mentioned in Section 4, the peak load in the test distribution grid without EVs is 11.1 MW and the maximum peak load reduction of 44.9% (dark blue area in Fig. 8) at the PCC compared to a scenario without EVs occurs at the largest BESS capacity (2 MWh each) and the smallest EV-share (4%).

Can coupled storage systems reduce peak load?

The case study involves three charging parks with various sizes of coupled storage systems in a test grid in order to apply the developed method. By operating these storage systems using the coordinated control strategy, the maximum peak load can be reduced by 44.9%.



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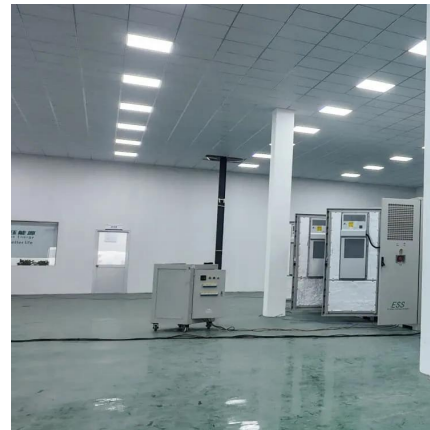


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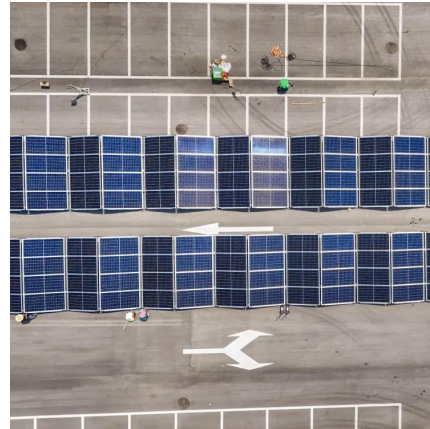
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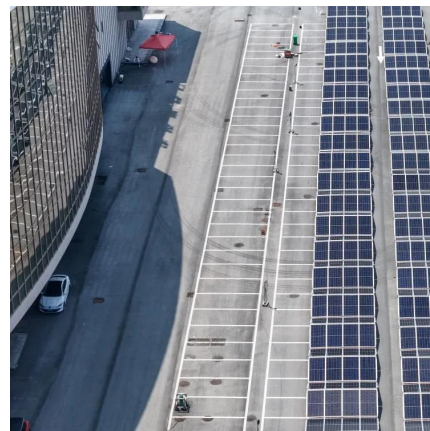


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