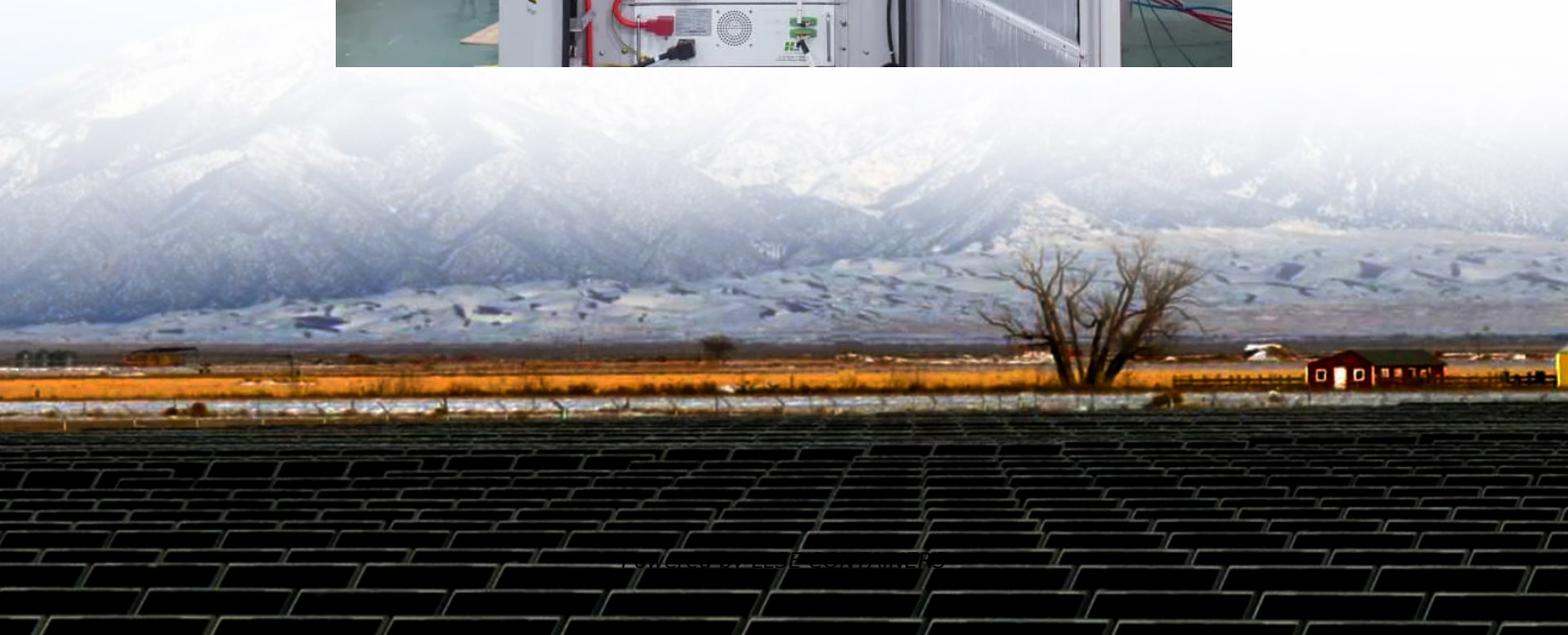


# **Distributed energy storage and DC power supply**





## Overview

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What is distributed user-side distributed energy storage control?

The traditional distributed user-side distributed energy storage control can only provide energy storage and supplement the local distributed power supply. It is unable to interact with distributed power supply, DC low-voltage distribution systems, and different types of low-voltage DC loads.

Can DC be used as a next-generation power supply system?

Consequently, it can provide as a next-generation power supply system. Today's renewable energy sources and appliances actually favor DC, with the proliferation of PV, storage batteries, and consumer electronics, which all natively produce and consume DC in their internal components.

What is DC distribution system?

DC distribution system for demonstrative test ■ EV quick charger (DC input)  
Assuming self-consumption of PV power by customers, the demonstration system uses diode rectifiers to connect to the commercial power system so as to simplify the control in comparison with bi-directional inverter inter-connection and reduce equipment costs.

Are uninterruptible power supply systems a dispatchable energy storage asset?

Notably, although uninterruptible power supply (UPS) systems serve as critical backup devices in data centers, their potential as dispatchable energy storage assets remains largely untapped.



## Distributed energy storage and DC power supply

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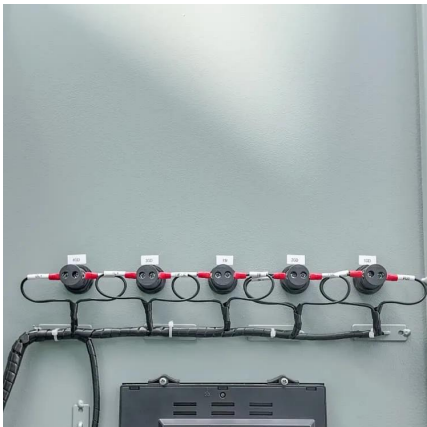
Grid connection topology of distributed energy storage. In the figure, the bidirectional DC-DC converter adopts the current reversible chopper

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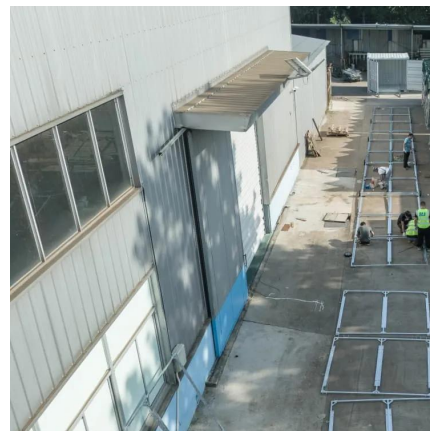
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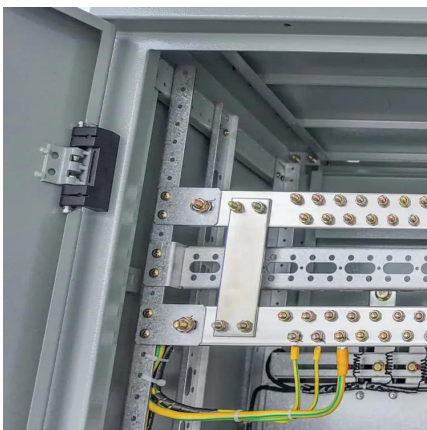


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The simulation results show the proposed control strategy's effectiveness in balancing energy supply and demand and reducing the time of charging and discharging energy storage units.



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