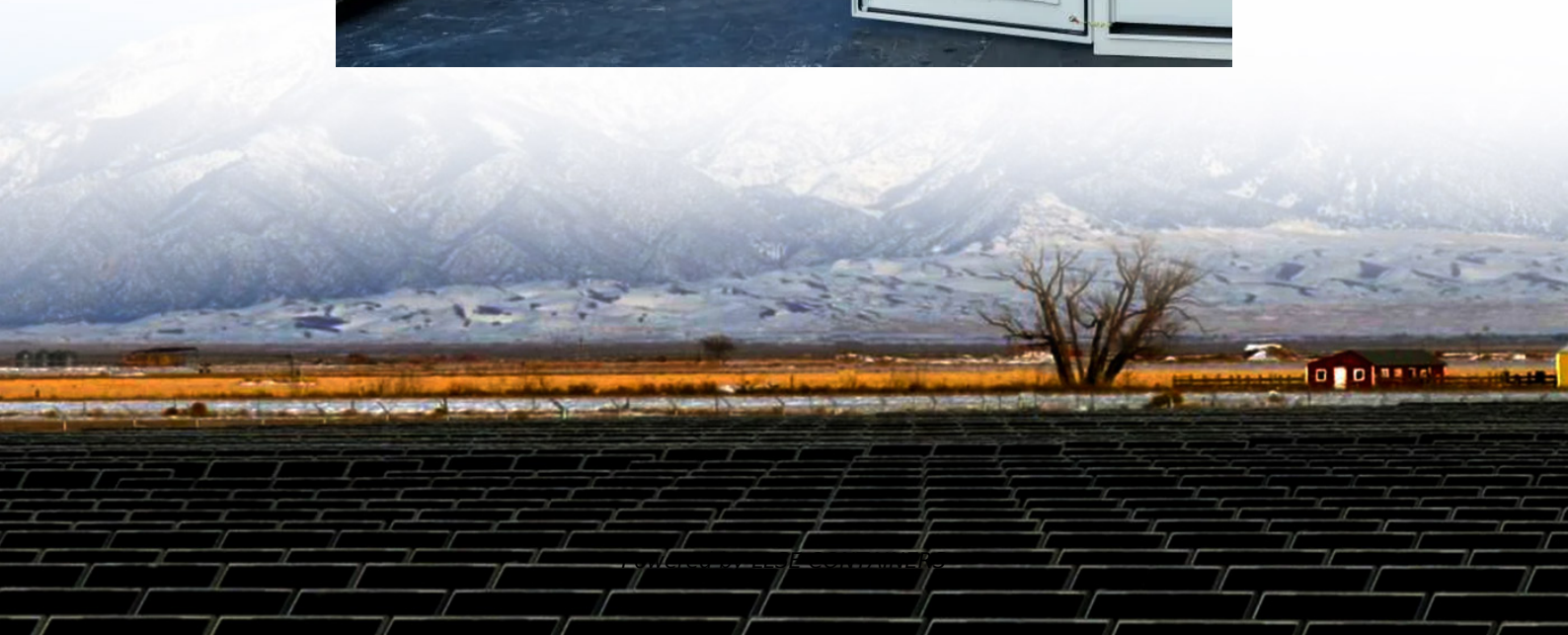


Organic silicon carbide solar container battery





Overview

Are coupled organic solar batteries efficient?

Coupled solar batteries enable direct solar-to-electrochemical energy storage but show low efficiencies due to insufficient solar spectrum utilization. Here, we report the exciton-coupled redox reactions over molecular photoelectrochemical materials for wide-spectrum, high-efficiency, coupled organic solar batteries.

What are organic batteries?

As an alternative, organic batteries offer active materials that are based upon the elements C, H, O, N, and S, which are earth abundant. Usually, organic batteries utilize organic materials in one or both electrodes.

Are organic batteries sustainable?

These organic compounds are often derived from abundant sources, including biomass or synthetic chemistry, making them far more sustainable in origin and disposal. Organic batteries make use of organic compounds – primarily carbon-based materials – as the active components in electrochemical reactions that generate electrical energy.

Are organic batteries a viable alternative to conventional lithium-ion batteries?

This publication is licensed for personal use by The American Chemical Society. This article is part of the Organic Battery Materials special issue. Organic batteries have gained immense interest recently as promising alternatives to conventional lithium-ion batteries.

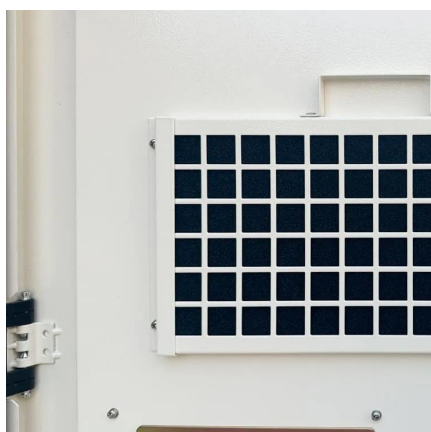


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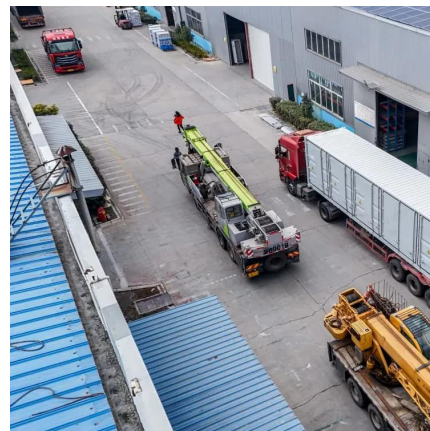
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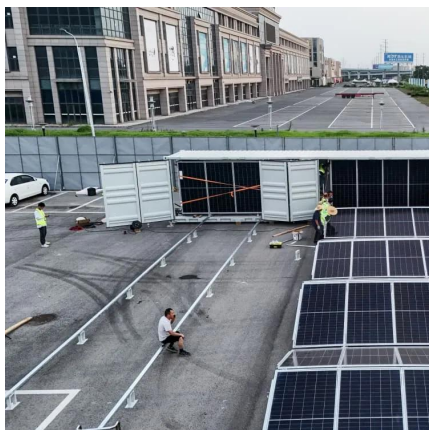
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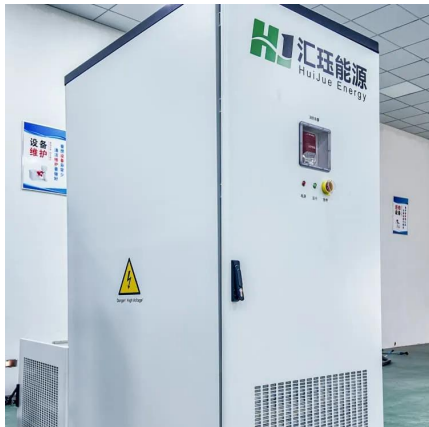
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