

# **Solar-powered containerized bidirectional rechargeable batteries for chemical plants vs photovoltaics**





## Overview

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Can solar energy be used in rechargeable batteries?

Therefore, the exploitation of solar energy in rechargeable batteries could not only achieve the large-scale application of solar energy, but also assist the conventional rechargeable batteries in saving the input electric energy. Fig. 1. The energy storage mechanisms of photovoltaic cells (a) and rechargeable batteries (b).

Are solar batteries the future of energy storage?

Solar batteries present an emerging class of devices which enable simultaneous energy conversion and energy storage in one single device. This high level of integration enables new energy storage concepts ranging from short-term solar energy buffers to light-enhanced batteries, thus opening up exciting vistas for decentralized energy storage.

Why is photocatalyst important for solar energy storage in rechargeable batteries?

For the in-depth development of the solar energy storage in rechargeable batteries, the photocatalyst is a pivotal component due to its unique property of capturing the solar radiation, and plays a crucial role as a bridge to realize the conversion/storage of solar energy into rechargeable batteries (Fig. 1c).

Can solar energy be converted into solid-cathode based Li-ion batteries?

The compatible strategies on the direct conversion of solar energy into the solid-cathode based Li-ion batteries will speed up the commercialization and industrialization of solar energy in rechargeable batteries.



## Solar-powered containerized bidirectional rechargeable batteries for



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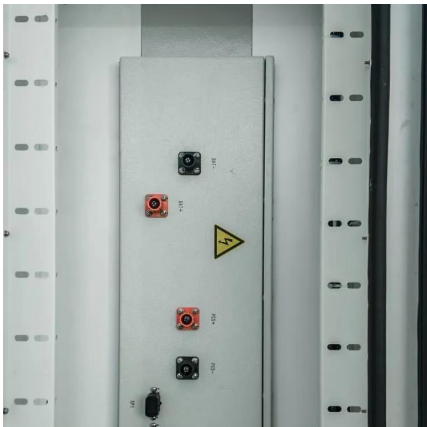
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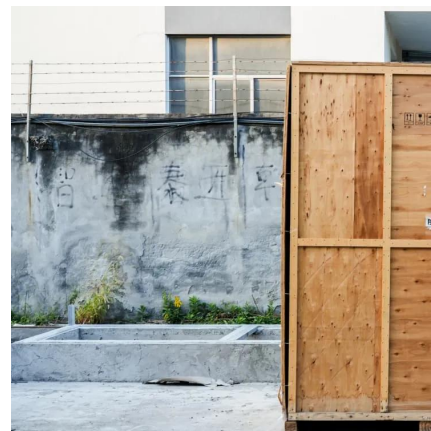
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