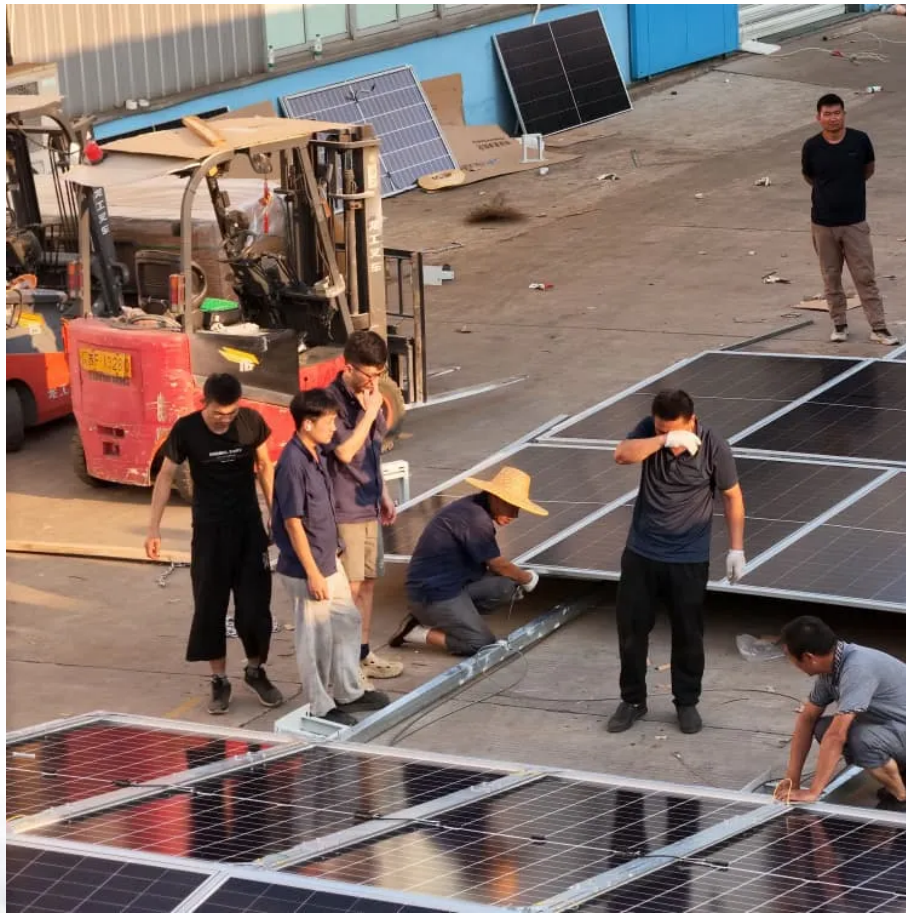


Antimony solar container battery research and development





Overview

Could antimony-based materials be the future of solar energy?

By addressing these challenges, perovskites inspired materials (PIMs), specifically, Antimony-based could play a pivotal role in the next generation of solar cells, contributing to the global pursuit of renewable energy solutions. Niket Anand Raval: Writing - review & editing, Writing - original draft, Data curation, Conceptualization.

Can antimony materials be used in commercial production?

The composite modification means can realize more considerable electrochemical performance enhancement [5, 58]. Therefore, choosing pure antimony material may be one of the first choices for commercial production. In the sequel, we present applications of Sb-based anode materials and their derivatives and discuss their practical feasibility.

Can antimony be used as an anode material for Dib full cells?

Among various anode materials, elements that alloy and dealloy with lithium are assumed to be prospective in bringing higher capacities and increasing the energy density of DIBs. In this work, antimony in the form of a composite with carbon (Sb-C) is evaluated as an anode material for DIB full cells for the first time.

Are amorphous antimony-based materials possible?

However, it is possible to broaden the idea and develop more novel antimony-based materials, such as amorphous antimony-based metals, antimony quantum dots, antimony-rich materials, and single antimony atom potassium storage. Amorphous materials are of interest to researchers because of their high buffering capacity.



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[Evolution and state-of-the-art development of antimony ...](#)

Jan 15, 2025 · While significant research has focused on the photovoltaic potential of antimony-based PIMs, their unique properties extend beyond solar energy conversion some of the ...

[High-performance antimony selenide solar cells enabled by ...](#)

Jun 18, 2025 · Solar cells, serving as the core technology for solar energy conversion, have witnessed remarkable progress in recent years. Among various materials, the emerging ...



Nankai University Team Makes Breakthrough in the Field of Antimony

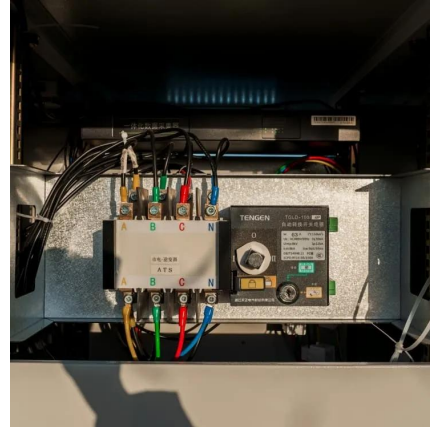
Jun 18, 2025 · The teams conducted in-depth research into the key scientific problem of carrier loss in antimony selenosulfide ($Sb_2(S,Se)_3$) solar cells, and innovatively came up with a multi ...

[Development and theoretical investigation of antimony ...](#)

3 days ago · Article Open access Published: 09 December 2025 Development and theoretical investigation of antimony-based halide perovskite solar cell using kesterite as hole



transport ...



Research progress of antimony

In addition, this review considers antimony bismuth alloy as an example to discuss binary alloy anodes. Finally, future research considerations such as the design of composite materials, ...

Recent advances in antimony-based anode materials for ...

Sep 1, 2025 · This review discusses various antimony-based anode materials applied to potassium ion batteries from various perspectives, including material selection, structural ...



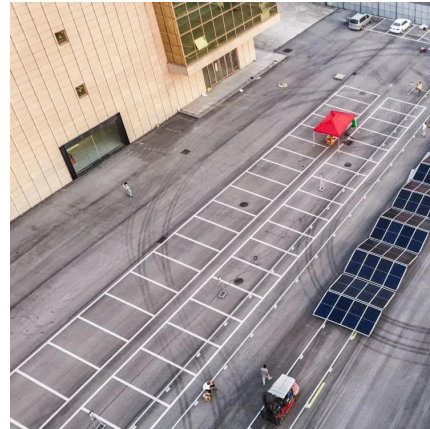
Antimony nanoparticles encapsulated in three-dimensional

Feb 3, 2025 · Antimony (Sb) is regarded as a potential candidate for next-generation anode materials for rechargeable batteries because it has a high theoretical specific capacity, ...



[Evaluating a Dual-Ion Battery with an Antimony-Carbon ...](#)

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[Angewandte Chemie International Edition](#)

Mar 5, 2025 · However, the severe Sb 3+ hydrolysis reaction drastically hinders the development of aqueous antimony batteries. Herein, we address this issue by employing a concentrated ...



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Aug 22, 2023 · The work explores novel dual-ion batteries that use an antimony-containing anode and a graphitic cathode. The results ...



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