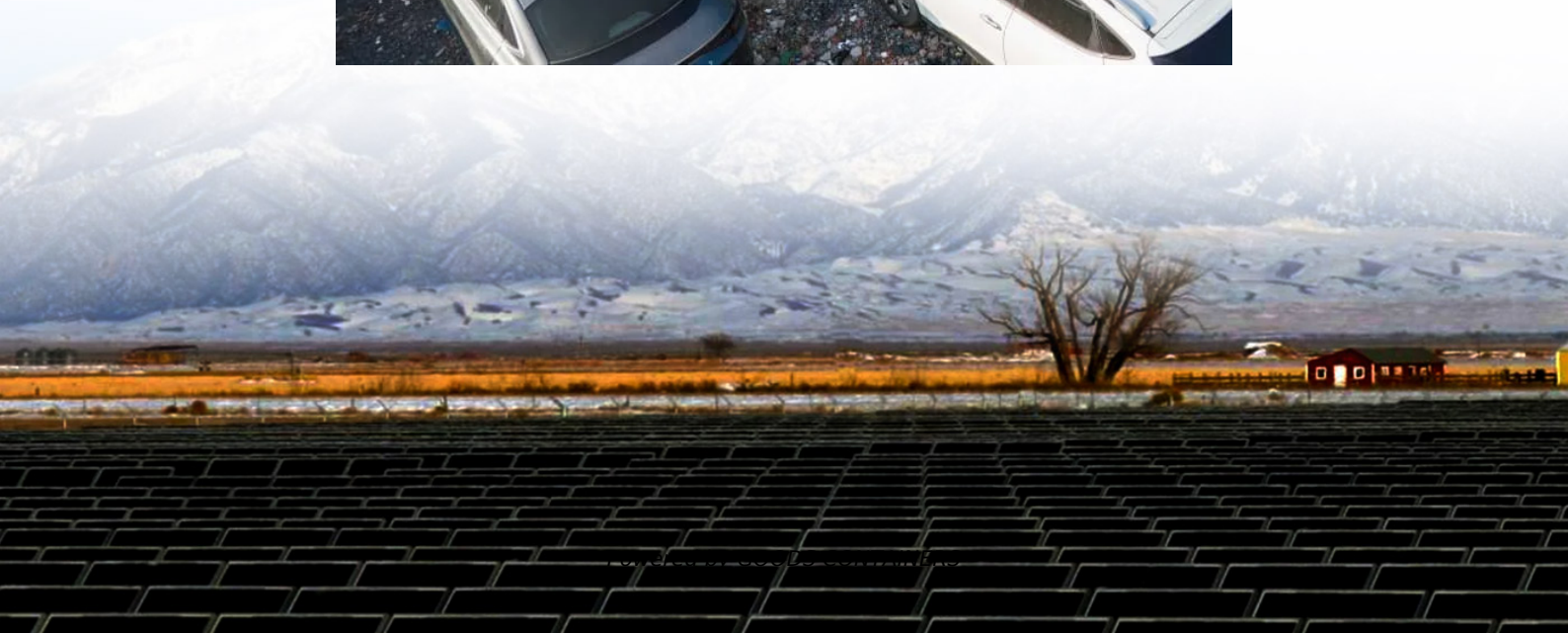


Magnesium antimony solar container battery





Overview

What is a Magnesium-antimony (Mg||Sb) liquid metal battery?

A high-temperature (700 °C) magnesium-antimony (Mg||Sb) liquid metal battery comprising a negative electrode of Mg, a molten salt electrolyte (MgCl₂-KCl-NaCl), and a positive electrode of Sb is proposed and characterized. Because of the immiscibility of the contiguous salt and metal phases, they stratify by density into three distinct layers.

What is a high-temperature Magnesium-antimony (Mg||Sb) battery?

A high-temperature (700 °C) magnesium-antimony (Mg||Sb) liquid metal battery comprising a negative electrode of Mg, a molten salt electrolyte (MgCl₂-KCl-NaCl), and a positive electrode of Sb is proposed and characterized. Because of the immiscibility of the contiguous salt and metal phases, they stratify by density into three distinct layers.

Can magnesium batteries power EVs?

Support CleanTechnica's work through a Substack subscription or on Stripe. With relatively low costs and a more robust supply chain than conventional lithium-ion batteries, magnesium batteries could power EVs and unlock more utility-scale energy storage, helping to shepherd more wind and solar energy into the grid.

What is a quasi-solid-state magnesium-ion battery?

We designed a quasi-solid-state magnesium-ion battery (QSMB) that confines the hydrogen bond network for true multivalent metal ion storage. The QSMB demonstrates an energy density of 264 W·hour kg⁻¹, nearly five times higher than aqueous Mg-ion batteries and a voltage plateau (2.6 to 2.0 V), outperforming other Mg-ion batteries.



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Magnesium-Antimony Liquid Metal Battery for Stationary Energy Storage

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