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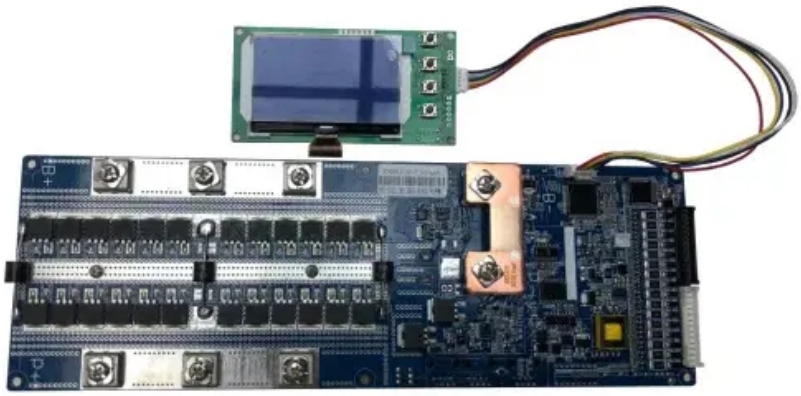
Germany Hamburg sulfuric acid solar container outdoor power



Overview

Can a sulfur-based solar energy storage system be used for solar power?

The sulfur-based technology for the storage of solar energy will be tested at the Jülich solar power tower. (Photo: DLR) Researchers of Karlsruhe Institute of Technology (KIT) and their European partners plan to develop an innovative sulfur-based storage system for solar power.

Is elemental sulphur better than molten salt for solar energy storage?

Molten salts are currently state-of-the-art for solar thermal energy storage. But elemental sulphur has more than an order of magnitude greater energy storage capacity, and is ideally suited to seasonal thermal energy storage, DLR Institute of Future Fuels research head Christian Sattler noted in a call from Germany.

Can solar thermal plants decompose sulphuric acid?

A solar thermal plant can provide the high temperatures required for the decomposition of sulphuric acid using concentrated solar radiation. The resulting products, sulphur dioxide (SO 2) and water (H2O), can then be reused to obtain sulphur in a process referred to as disproportionation.

Can solar power be stored in sulfur?

Researchers of Karlsruhe Institute of Technology (KIT) and their European partners plan to develop an innovative sulfur-based storage system for solar power. Large-scale chemical storage of solar power and its overnight use as a fuel are to be achieved by means of a closed sulfur-sulfuric acid cycle.

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The focused sunlight of the solar power plant supplies the process heat with the energy and temperature required to close the sulfur cycle and to ...

Together with European research partners, the German Aerospace Center (Deutsches Zentrum für Luft- und Raumfahrt; DLR) has developed a process that can ...

The sulphur produced can then be easily transported to regions with less sunlight. Pilot

operation of the solar power plant using ...

Germany''s push toward renewable energy just got a major boost with Hamburg''s new energy storage base. Designed to store excess wind and solar power, this facility addresses one of ...

How a breakthrough solar thermochemistry process that uses direct solar heat to cycle between sulphur and sulphuric acid would generate "virtually unlimited" seasonal thermal ...

The overall objective of PEGASUS is the development and demonstration of an innovative solar tower receiver utilizing solid particles (proppants), combined with a novel thermochemical solar ...

How a breakthrough solar thermochemistry process that uses direct solar heat to cycle between sulphur and sulphuric acid would ...

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The long-term goal of PEGASUS is the development of an innovative solar-energy power station. The solar energy is concentrated using mirrors; an absorber stores the ...

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The focused sunlight of the solar power plant supplies the process heat with the energy and temperature required to close the sulfur cycle and to convert sulfuric acid back into sulfur ...

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