

Can molten salt thermal storage technology be used in solar power generation?

CI Junchang. Progress in the engineering application of molten salt thermal storage technology in the field of solar thermal power generation [J]. Southern energy construction, 2025, 12 (5): 85-99. DOI: 10.16516/j.ceec.2024-407

What is molten salt energy storage?

Solar power, which is one of the most abundant and sustainable energy sources, has attracted a lot of attention for its clean and renewable attributes amid a growing global demand for renewable energy. Molten salt (MS) energy storage technology is an innovative and effective method of thermal energy storage.

What are molten salts used for?

Molten salts consist of alkali metal or alkali metal halides and oxygen-containing salts. Molten salts can form corresponding ionic melts at high temperatures, so they have a wide range of applications in chemical energy storage, solar energy, hydrogen energy, nuclear energy, nuclear industry, aerospace, and other fields.

Which molten salt mixture is used for direct thermal energy storage?

Gomez J.C., Calvet N., Starace A.K., Glatzmaier G.C. Ca (NO<sub>3</sub>)<sub>2</sub>--NaNO<sub>3</sub>--KNO<sub>3</sub> molten salt mixtures for direct thermal energy storage systems in parabolic trough plants. J. Sol. Energy Eng. 2013;135:021016. doi: 10.1115/1.4023182. [DOI][Google Scholar]57.

In 2020, the German Aerospace Center commissioned MAN Energy Solutions to build a molten salt storage system for its solar research facility in Jülich, Germany. The system heats the ...

Denmark launches a 1 GWh molten salt battery by Hyme Energy and Sulzer, enabling long-duration energy storage, up to 90% efficiency and industrial heat applications.

This study critically reviews the key aspects of nanoparticles and their impact on molten salts (MSs) for thermal energy storage (TES) in concentrated solar power (CSP).

To provide an overview of the development of molten salt thermal storage technology in the field of concentrated solar power (CSP) generation and explore its significant role in achieving China's "dual ...

Guided by phase diagrams, multicomponent molten salts are systematically engineered to achieve desirable thermal properties. The review provides a detailed synthesis of compositions and ...

As the global energy landscape continues to shift towards renewable sources, MS energy storage technology will play an increasingly vital role in ensuring the reliability and stability of solar power ...

China's solar thermal power generation companies have mastered the core technology of building large-scale molten salt tower thermal power stations, and are ready to ...



# Leading solar molten salt power generation

Concentrated solar power (CSP) plants with thermal energy storage (TES) system are emerging as one kind of the most promising power plants in the future renewable energy system, ...

Molten salt (MS) energy storage technology is an innovative and effective method of thermal energy storage. It can significantly improve CSP (concentrated solar power) systems" stability...

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