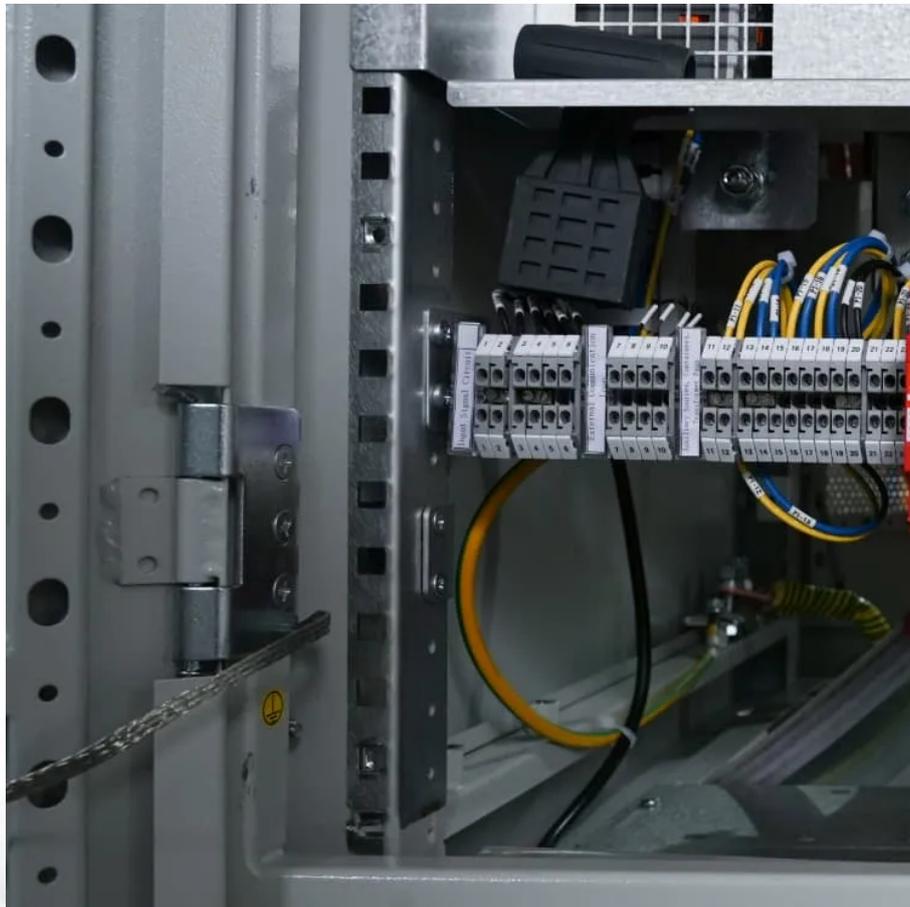


# **Chemical energy storage and solar thermal power generation energy storage**





## Overview

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What is thermochemical energy storage?

Opportunities Thermochemical energy storage can potentially provide large-scale energy storage at costs lower than current electrochemical storage technologies. TCES materials can in theory store thermal energy indefinitely in the form of chemical bonds. This can allow for long-term, seasonal storage.

What are thermal storage technologies?

1. Abstract Thermal storage technologies have the potential to provide large capacity, long-duration storage to enable high penetrations of intermittent renewable energy, flexible energy generation for conventional baseload sources, and seasonal energy needs. Thermal storage options include sensible, latent, and thermochemical technologies.

What is thermochemical energy storage (TCES)?

Thermochemical energy storage (TCES) reversibly converts heat into chemical bonds using a reactive storage medium. When the energy is needed, a reverse reaction combines the reactants, releasing energy. Table 1 summarizes the different thermal storage technologies and key attributes. Table 1. Summary of thermal storage technologies ~200 °C. 4.

Can high-temperature thermochemical energy storage be used in a central tower system?

This article presented an overview of high-temperature thermochemical energy storage to be used in a central tower system, which is divided into three large study groups: thermal energy storage, power cycle, and solar field. The new generations of solar thermal plants were shown.



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