

# Coal Power New Energy Storage





## Overview

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Can coal power plants be converted into energy storage and zero-carbon data centers?

This paper investigates a retrofitting strategy that turns coal power plants into thermal energy storage (TES) and zero-carbon data centers (DCs). The proposed capacity expansion model considers the co-locations of DCs, local renewable generation, and energy storage with the system-level coal retirement and retrofitting.

How can we repurpose coal power plants into storage systems?

Pathways for repurposing coal power plants into storage systems through Carnot Batteries schemes (Chile). Feasibility study of retrofitting Coal Power Plants in Chile (Chile). Conversion of the Guacolda thermoelectric plant to green ammonia (Chile).

Why should we convert coal-fired power plants into energy storage systems?

For instance, in the United States, converting coal-fired power plants into energy storage systems provides economic benefits, including reduced decommissioning costs, job preservation, enhanced grid reliability, and smoother integration of renewable energy.

Can thermal energy storage improve the flexibility of coal-fired power plants?

At present, large-scale energy storage technology is not yet mature. Improving the flexibility of coal-fired power plants to suppress the instability of renewable energy generation is a feasible path. Thermal energy storage is a feasible technology to improve the flexibility of coal-fired power plants.



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Conclusion Finally, according to the application characteristics of coupled energy storage technology for coal-fired cogeneration units, the paper puts forward suggestions on the aging ...

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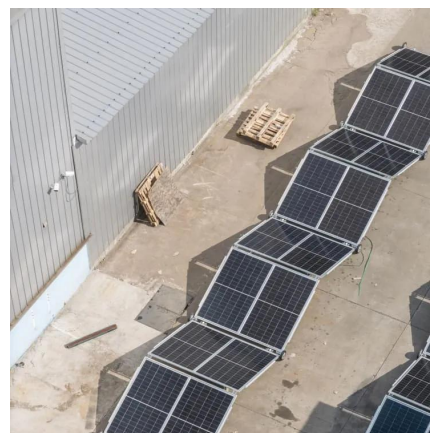
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