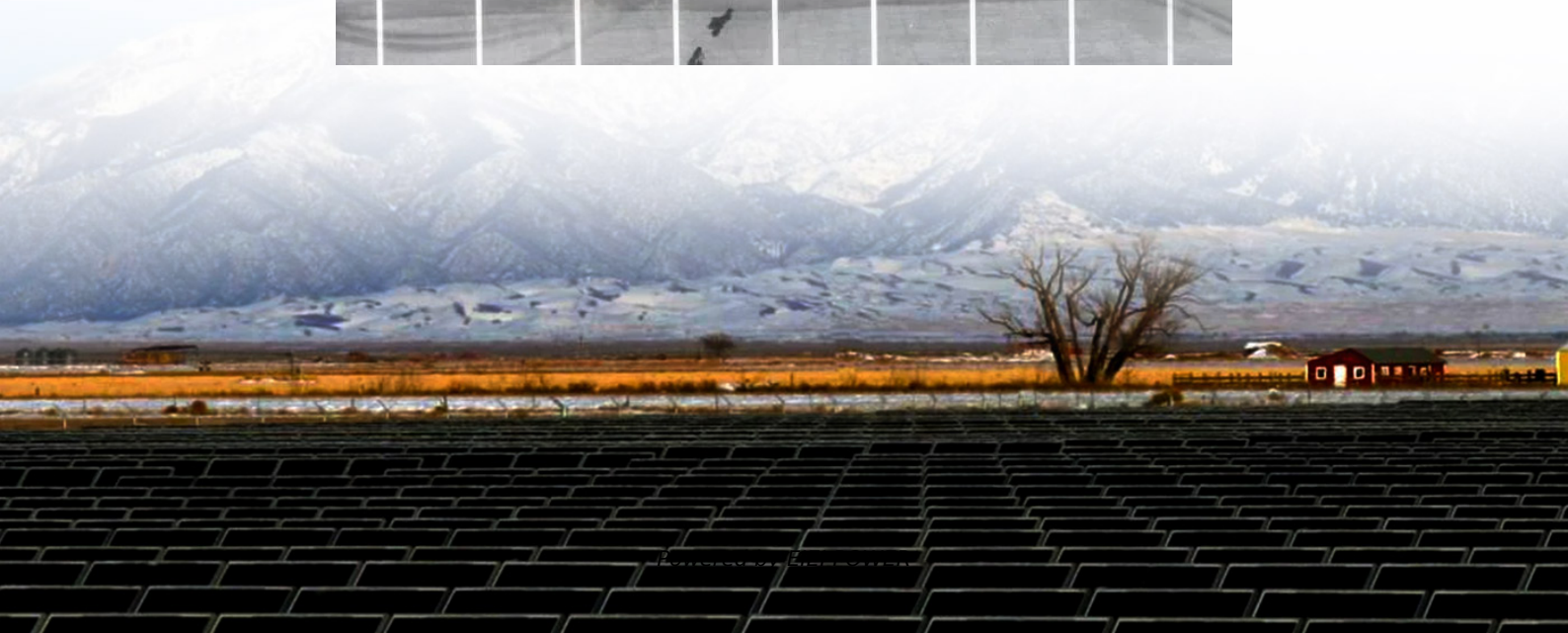


# Compressed air energy storage ORC generator set





## Overview

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Can a compressed air energy storage system store large amounts of energy?

The compressed air energy storage system described in this paper is suitable for storing large amounts of energy for extended periods of time.

Is Orc-based waste heat recovery system a good choice for CAEs?

This paper studied the optimal scheme of ORC-based waste heat recovery system for CAES considering various system layouts and working fluid types. Single-objective optimization results show that using SORC will cause a 52.8 %–56.7 % increase in net present value while a 1.8 %–2.0 % decrease in net output power, compared to using PORC.

Can ORC technology improve the efficiency of CAES?

The application potential of ORC technology in enhancing the efficiency of CAES is quantitatively assessed. The main conclusions are as follows: For the waste heat recovery system, using SORC will cause a 52.8 %–56.7 % increase in net present value while a 1.8 %–2.0 % decrease in net output power, compared to using PORC.

What is compressed air energy storage (CAES)?

Compressed Air Energy Storage (CAES) can realize long-time electricity storage, while also having superiorities of low-cost and long lifetime compared with the traditional battery . During charging, CAES utilizes the extra electricity to pressurize air into a cavity .



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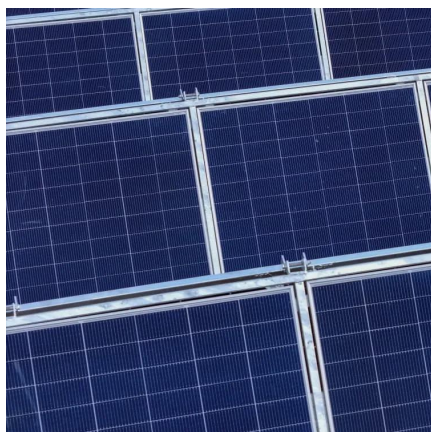


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energy storage system that compresses air ...

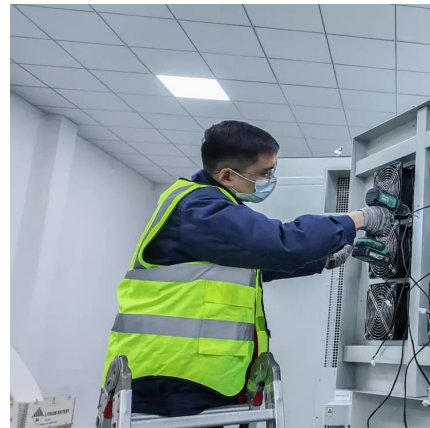


### Combined SCAES-ORC, A New Concept of Electricity Storage ...

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### Performance evaluation of a combined heat and compressed air energy

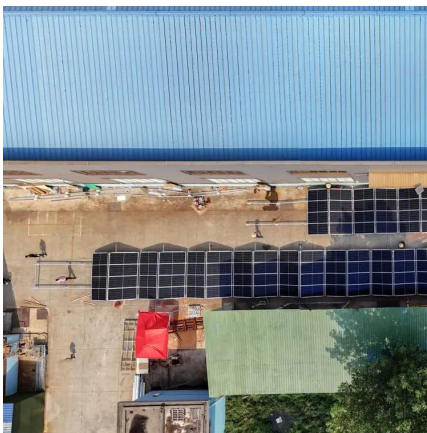
Oct 1, 2019 · In this paper, a combined heat and compressed air energy storage (CH-CAES) system integrated with organic Rankine cycle (ORC) is proposed.





### [Technology Strategy Assessment](#)

Jul 21, 2023 · About Storage Innovations 2030  
This technology strategy assessment on compressed air energy storage (CAES), released as part of the Long-Duration Storage Shot, ...



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May 28, 2025 · The compressed air energy storage system described in this paper is suitable for storing large amounts of energy for extended periods of time. Particularly, in North America, ...



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