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# Compressed Gas Energy Storage Project





## Overview

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What is a compressed air energy storage project?

A compressed air energy storage (CAES) project in Hubei, China, has come online, with 300MW/1,500MWh of capacity. The 5-hour duration project, called Hubei Yingchang, was built in two years with a total investment of CNY1.95 billion (US\$270 million) and uses abandoned salt mines in the Yingcheng area of Hubei, China's sixth-most populous province.

What is a 300 MW energy storage plant?

The \$207.8 million energy storage power station has a capacity of 300 MW/1,800 MWh and uses an underground salt cave. Chinese developer ZCGN has completed the construction of a 300 MW compressed air energy storage (CAES) facility in Feicheng, China's Shandong province. The company said the storage plant is the world's largest CAES system to date.

How much energy does a gas storage system produce?

This allows for a gas storage volume of nearly 700,000 cubic meters, translating into a single unit power output of up to 300 MW and a storage capacity of 1,500 MWh. The system conversion efficiency is about 70%. It can store energy for eight hours and release energy for five hours every day, and generate about 500 GWh of electricity annually.

What is energy storage No 1?

The “Energy Storage No. 1” project utilizes the caverns of an abandoned salt mine, reaching up to 600 meters of depth, as its gas storage facility. This allows for a gas storage volume of nearly 700,000 cubic meters, translating into a single unit power output of up to 300 MW and a storage capacity of 1,500 MWh.



## Compressed Gas Energy Storage Project

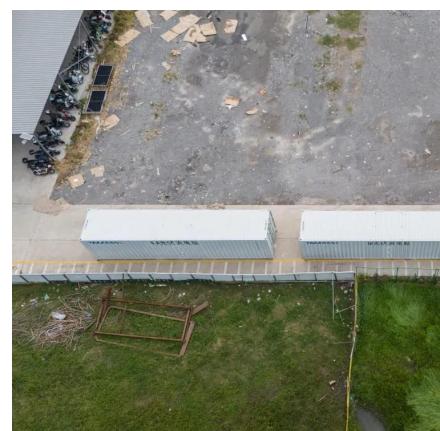


[World's first 300 MW compressed air energy storage plant ...](#)

Jan 9, 2025 · A photo of the pressure-bearing spherical tanks at the "Nengchu-1" project. Photo: Courtesy of Dongfang Electric Corp The world's first 300-megawatt compressed air energy ...

### Energy Storage No. 1: Opening a New Era of 300 Mw Compressed Gas Energy

Jan 14, 2025 · "Energy Storage No. 1" global first 300-megawatt compressed air energy storage demonstration project, invested and constructed by China Energy Engineering Group Co., ...



[World's largest compressed air energy storage facility ...](#)

Jan 10, 2025 · A 300 MW compressed air energy storage (CAES) power station utilizing two underground salt caverns in central China's Hubei Province was successfully connected to the ...

### [China's First 300,000 m<sup>3</sup> Large-Scale Gas Storage ...](#)

Aug 20, 2025 · The Zhangjiabei project is a milestone for the world's new-type compressed air energy storage entering the 100MW-level engineering stage. It greatly advanced the ...



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Sep 17, 2022 · Finally, the demand for marine energy storage technology is briefly summarized, and the potential application scenarios and ...



## [Compressed Air Energy Storage \(CAES\): A ...](#)

Jan 30, 2025 · The critical role CAES can play in achieving net-zero goals by reducing greenhouse gas emissions, enhancing grid stability, and ...



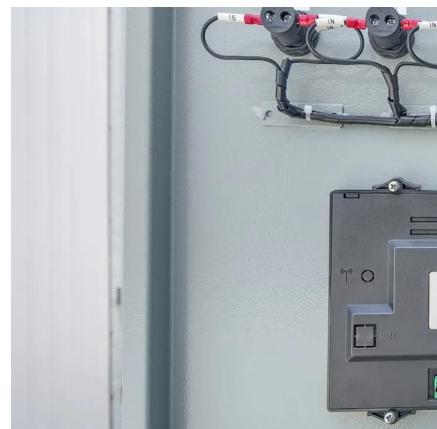
## [Gaelectric's Larne energy storage project gets ...](#)

Feb 20, 2017 · Gaelectric's compressed air energy storage (CAES) project in Larne, Northern Ireland is getting a EUR-90-million (USD 96m) ...



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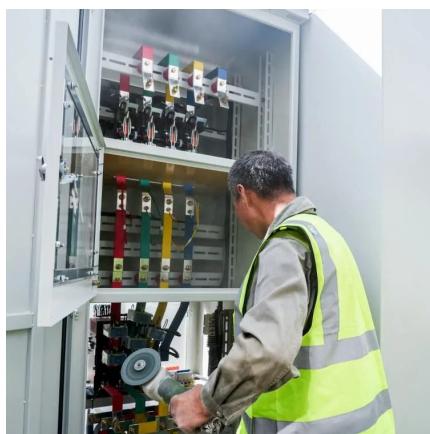
## [China unveils world's largest compressed air energy storage ...](#)

Dec 24, 2024 · The project plans to enable up to 2.8 GWh of electricity storage per full charge--more than any other CAES facility in the world.



## [World's largest compressed air energy storage project ...](#)

May 16, 2024 · Zhongchu Guoneng Technology Co., Ltd. (ZCGN) has switched on the world's largest compressed air energy storage project in China. The \$207.8 million energy storage ...



## [Compressed Gas Energy Storage: The Future of Large-Scale ...](#)

The energy transition demands solutions that overcome these constraints. Compressed gas systems operate at 70-80% round-trip efficiency - comparable to pumped hydro but without ...



### [World's first 300 MW compressed air energy ...](#)

Jan 9, 2025 · A photo of the pressure-bearing spherical tanks at the "Nengchu-1" project.  
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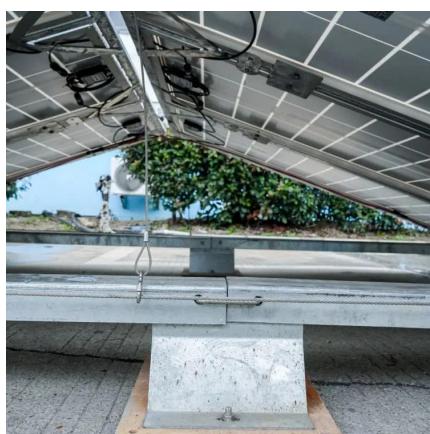


### [Compressed Gas Energy Storage Power Station Project: A ...](#)

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### [R& D Energy Storage Project , EDF](#)

Mar 9, 2023 · In this context, in 2022, a consortium of EDF, iO Consulting, and Hydrostor won £1 million from the United Kingdom (UK) government Department for Energy Security and Net ...



## 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, ...



## Compressed Air Energy Storage , SpringerLink

May 1, 2025 · The use of compressed air techniques for the storage of energy is discussed in this chapter. This discussion begins with an overview of the basic physics of compressed air  
...



## China's Newly Installed Capacity of Compressed Gas Energy Storage

Aug 12, 2025 · Since 2024, compressed gas energy storage has entered a new stage of rapid growth in installed capacity; in 2025, the installed capacity of operational, under-construction, ...



## World's largest compressed air energy storage goes online ...

Apr 10, 2024 · A compressed air energy storage (CAES) project in Hubei, China, has come online, with 300MW/1,500MWh of capacity.



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### [A comprehensive review of compressed air ...](#)

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