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New air compression energy storage project

Overview

The world's first 300-megawatt compressed air energy storage (CAES) demonstration project, "Nengchu-1," has achieved full capacity grid connection and begun generating power in Yingcheng, Central China's Hubei Province, a milestone for China's energy storage technologies.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 power does a new energy storage facility provide?

The $207.8 million facility boasts an energy storage capacity of 300 MW/1,800 MWh and occupies an area of approximately 100,000 m2. According to ZCGN, it is capable of providing uninterrupted power discharge for up to six hours, ensuring power supplies to between 200,000 and 300,000 local homes during peak consumption periods.

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.

How can CAES technology contribute to a low-carbon energy grid?

The Jintan project exemplifies the potential of CAES technology to contribute to a low-carbon energy grid. By leveraging existing salt caverns for energy storage and integrating innovative designs, the project offers a sustainable solution to the intermittency of renewable energy sources.

How can a quick-start air turbine help a low-carbon energy grid?

The quick-start air turbine enables rapid response during peak-shaving operations, improving grid stability. These advancements not only enhance reliability but also position the facility as a model for future CAES projects worldwide. The Jintan project exemplifies the potential of CAES technology to contribute to a low-carbon energy grid.

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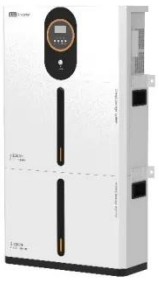

DOE offers US$1.76 billion to Hydrostor for A-CAES project

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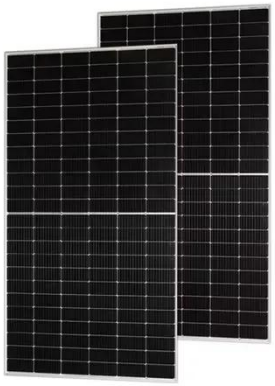

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Compressed Air Energy Storage , SpringerLink

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