

# Overview of 100mw air energy storage project

What is compressed air energy storage (CAES)?

Among the different ES technologies, compressed air energy storage (CAES) can store tens to hundreds of MW of power capacity for long-term applications and utility-scale. The increasing need for large-scale ES has led to the rising interest and development of CAES projects.

What is the Zhangjiakou 100 mw advanced CAES project?

The Zhangjiakou 100-MW advanced CAES project R&D team has been focusing on CAES technology since 2004. This project was launched in 2018. The system utilizes artificial air storage vessel to improve energy storage density and reduce dependence on large gas storage cavern. Recycling compression heat solves the dependence on fossil fuels.

What is energy storage & why is it important?

Energy storage (ES) plays a key role in the energy transition to low-carbon economies due to the rising use of intermittent renewable energy in electrical grids. Among the different ES technologies, compressed air energy storage (CAES) can store tens to hundreds of MW of power capacity for long-term applications and utility-scale.

How many mw can a compressed air system produce?

CAES systems are categorized into large-scale compressed air ES systems and small-scale CAES. Large-scale systems are capable of producing >100 MW, while the small-scale systems only produce 10 MW or less. Moreover, the reservoirs for large-scale CAES are underground geological formations such as salt formations, host rocks and porous media.

How much money do you need to invest in energy storage?

Most investment levels are in the \$10 million to \$30 million range and require investments over 3 to 5 years. Compressed air and hydrogen energy storage systems and demonstration projects require significant investments and industry collaboration.

Does Kansas have a compressed air energy storage Act?

For example, the state of Kansas has facilitated these processes with their Compressed Air Energy Storage Act, effective since 2009. A study that reports on promising locations, permitting processes and challenges, and mitigating solutions would help developers navigate these issues during the planning phase.



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