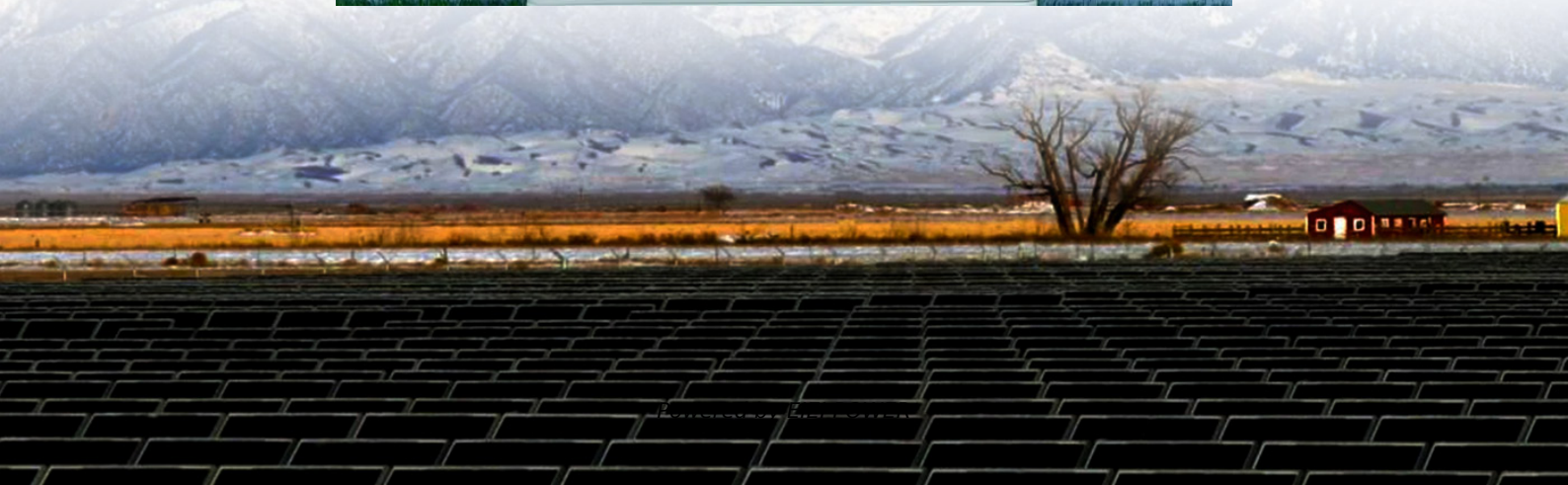


# Characteristics of Liquid Flow solar container energy storage system





## Overview

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Is liquid air energy storage a promising energy storage technology?

Liquid air energy storage (LAES) is a promising energy storage technology for its high energy storage density, free from geographical conditions and small impacts on the environment. In this paper, a novel LAES system coupled with solar heat and absorption chillers (LAES-S-A) is proposed and dynamically modeled.

What are the innovations in liquid air energy storage system (LAES-s-a)?

The innovations and main contents are as follows: A novel liquid air energy storage system coupled with solar heat and absorption chillers (LAES-S-A) is proposed and dynamically modeled in detail. Solar heat is used for enhancing the output power of the air turbines and the absorption chillers utilize the waste heat to produce cooling energy.

Are solar-assisted solar heat collection systems dynamic?

Although researchers have proposed many novel hybrid LAES systems, very few of them analyze the dynamic characteristics. To deeply reveal the dynamic performances of such systems, a novel solar-assisted LAES system is proposed and dynamically modeled. The dynamic responses under two solar heat collection strategies are studied.

What is energy storage process?

Energy storage process (charging cycle): During valley hours, the air (state A2) is compressed by four-stage air compressors (AC) and the air compression heat is transferred to the thermal oil which is then stored in the thermal oil storage tank (TOST). After being cooled by the methanol and propane in cold boxes, the air (state A12) is liquefied.



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### Dynamic characteristics of a novel liquid air energy storage system

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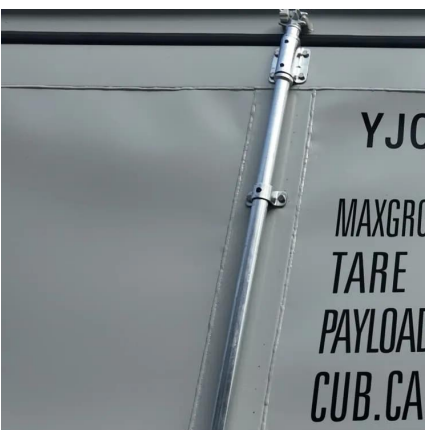
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