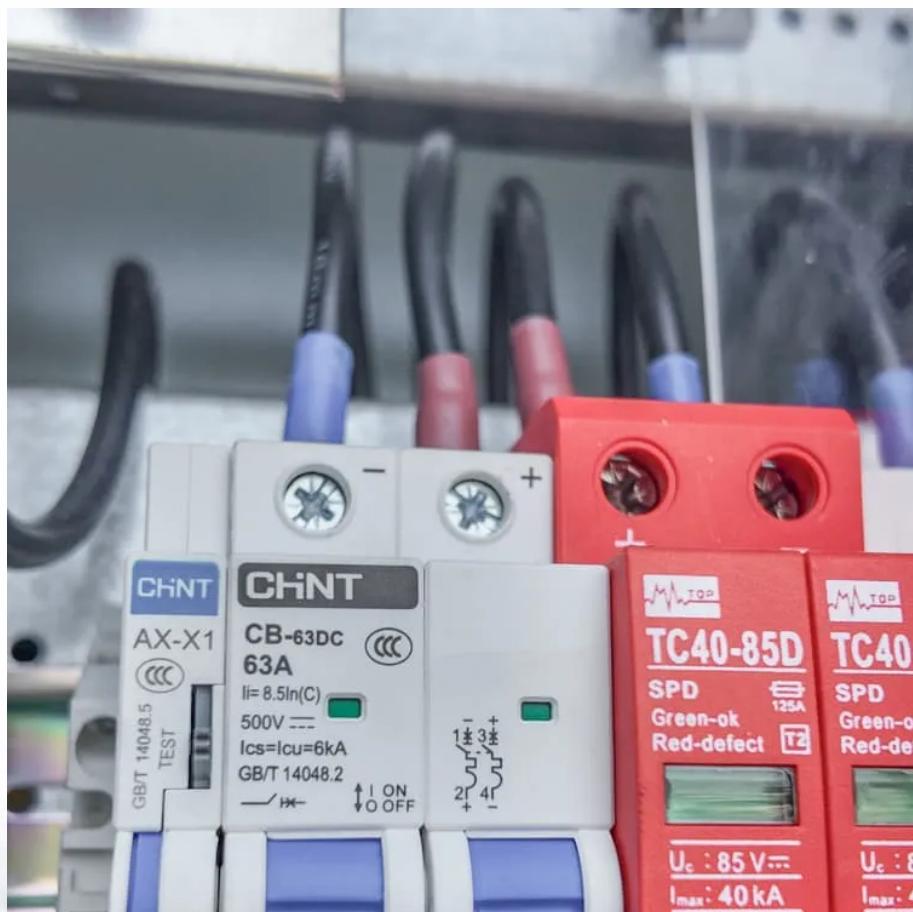




FTMRS SOLAR

Lisbon Liquid Cooling Energy Storage Air Cooling Energy Storage





Overview

How can liquid air be produced from LNG regasification?

Che et al. proposed to produce liquid air by using cold energy from the LNG regasification process on-site, after which the liquid air is transported to a cold storage room for electricity supply (through a direct expansion cycle) and direct cooling supply (-29°C).

How does LNG liquefy air?

In the charging process, the ambient air is purified, compressed, cooled and then expanded to be liquefied, where compression heat is stored to improve power generation during discharging; meanwhile, the cooling input, such as cold exergy from LNG, can contribute to liquefying more air.

Why do we use liquids for the cold/heat storage of LAEs?

Liquids for the cold/heat storage of LAES are very popular these years, as the designed temperature or transferred energy can be easily achieved by adjusting the flow rate of liquids, and liquids for energy storage can avoid the exergy destruction inside the rocks.

What is liquid air energy storage?

Concluding remarks Liquid air energy storage (LAES) is becoming an attractive thermo-mechanical storage solution for decarbonization, with the advantages of no geological constraints, long lifetime (30-40 years), high energy density (120-200 kWh/m³), environment-friendly and flexible layout.



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