

# Sodium chloride solar power generation



**Higer conversion efficiency**

CAN/RS485/WIFI/4G  
Blue tooth communication

20 Kwh

30 Kwh

50 Kwh

Thick shell, well protection for inside cells

BMS customization supported



## Overview

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The Liquid Pathway proposes the use of low-cost molten chloride salts for energy storage, mated with an operationally flexible solar receiver that employs liquid-metal sodium for heat capture and transfer to the storage salt. The Facility to Alleviate Salt Technology Risks, or FASTR, system will help scientists research the next generation of concentrated solar power. Credit: Kevin Robb/ORNL Scientists at the U. Department of Energy's Oak Ridge National Laboratory have begun operating a unique system designed to. Decade-long growth in concentrating solar thermal power (CSP) deployment has resulted in over 6,000 MW of operational capacity today. hosts over a quarter of global capacity, though most CSP development today is occurring outside the U. In the past. Completed the TES system modeling and two novel changes were recommended (1) use of molten salt as a HTF through the solar trough field, and (2) use the salt to not only create steam but also to preheat the condensed feed water for Rankine cycle. Traditional thermal storage solutions, including mixed chloride salts and carbonates, have faced. The United States Department of Energy (DOE) established the Concentrating Solar Power Generation 3 (CSP Gen3) program to promote the development of advanced CSP systems capable of producing electricity at a levelized cost of energy (LCOE) less than \$60/MWh, based on criteria published in the CSP.

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### Molten Salt Storage for Power Generation

In commercial CSP plants, almost exclusively a non-eutectic salt mixture of 60 wt % sodium nitrate and 40 wt % potassium nitrate is utilized. This mixture is commonly referred to as ...

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### CONCENTRATING SOLAR THERMAL POWER GEN3 LIQUID

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The 'Liquid-Phase Pathway to SunShot' project proposes the use of low-cost molten chloride salts for energy storage, mated with a solar receiver that employs liquid-metal sodium for heat capture and

...



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### CSP Gen3: Liquid-Phase Pathway to SunShot

The Liquid Pathway proposes the use of low-cost molten chloride salts for energy storage, mated with an operationally flexible solar receiver that employs liquid-metal sodium for heat capture ...

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## Molten chloride salts for next generation concentrated solar power

Molten chloride salts are promising advanced high-temperature (400-800 °C) thermal energy storage (TES) and heat transfer fluid (HTF) materials in next generation concentrated solar ...

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## Progress in Research and Development of Molten Chloride Salt ...

In order to significantly reduce the levelized cost of electricity (LCOE) of the present commercial CSP plants, the next generation CSP technology with higher process temperature and ...

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## America's largest open-science chloride salt loop will accelerate clean

The facility uses a blend of sodium chloride, potassium chloride and magnesium chloride, a cost-effective mixture with a low melting point and favorable thermophysical properties.

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## A Review of High-Temperature Molten Salt for Third-Generation



By summarizing the latest progress and identifying future research directions, this work offers invaluable insights into the design and application of high-temperature molten salts in next ...

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## Study reveals molten salt boosts solar power efficiency

High-temperature molten salts are gaining traction in the renewable energy sector as effective thermal energy storage (TES) solutions for CSP plants. These salts can store heat ...



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## Redesigning the sodium-metal chloride battery for low-cost

Sodium-metal chloride batteries have been produced commercially for more than 25 years with more than 1 GWh sold, but their current cost point is too high for utility-scale grid storage.

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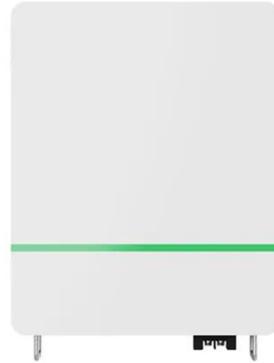
## Novel Molten Salts Thermal Energy Storage for Concentrating ...

Completed the TES system modeling and

two novel changes were recommended  
(1) use of molten salt as a HTF through  
the solar trough field, and (2) use the  
salt to not only create steam but also to

...

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