EIEI POWER

Low-pressure photovoltaic energy storage container for Jordanian oil refinery

Overview

Oil shale (OS) can significantly enhance energy security and diversify the energy mix in countries like Jordan. However, OS extraction and utilization are always associated with negative environmental impacts.

Can a TRNSYS solar heating system be used in a refinery?

Using TRNSYS software, the proposed Parabolic Trough Collector (PTC)-based solar heating system paired with the boiler is modelled. Sensible thermal energy storage (TES) system is integrated into the refinery's process heating to handle the intermittent nature of solar energy.

Can solar energy systems decarbonize oil refineries?

Other studies in the literature considered coupling solar energy systems to oil refineries to decarbonize their operation. The applicability and feasibility of introducing a concentrated solar power (CSP) system to reduce partial reliance on process heaters of a crude oil refinery was studied by Danish et al.

Can solar energy drive crude oil refineries?

Employing solar energy to drive crude oil refineries is one of the investigated pathways for using renewable energy sources to support lowering the carbon emissions and environmental impact of operating the processing of fossil-based fuels.

Can a hybrid solar heating system be integrated with a storage tank?

Conclusion perature of heavy crude oil products before despatching from storage tanks. Due to the intermittent behaviour of solar energy, the solar hybrid system is integrated with a sensible heat storage tank. The suggested hybrid solar heating system for the renery was simulated using TRNSYS software, followed by experimental validation.

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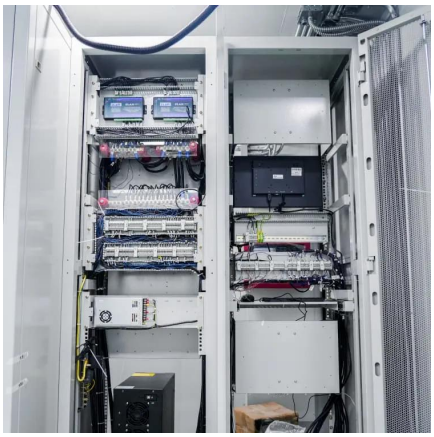

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Refining

Boilers system in offsite units produces high pressure steam that is used in special turbines to generate electrical energy for electrical motors in the process units. There is an electrical ...

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