

Title: Solar energy storage cabinetized automated type for oil refineries

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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 hybrid system generate steam in oil refinery?

Conclusion The present study investigates the feasibility of solar hybrid system to generate steam in the oil refinery to maintain the temperature 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.

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 a solar hybrid system be integrated into a refinery?

The amount of fuel and cost savings by the integration of a solar hybrid system into the refinery and the payback period of the system by using different types of fuel in the furnace are shown in Table 6. Table 6. Payback period of the proposed system by using different fuel.

The present study investigates the feasibility of solar hybrid system to generate steam in the oil refinery to maintain the temperature of heavy crude oil products before despatching from ...

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Source: <https://www.spmgsa.co.za/Sun-03-May-2020-17649.html>

gas-burning techniques during the crude oil heating process. To address the ...

This paper proposes a solar-assisted method for a petrochemical refinery, considering hydrogen production deployed in Yanbu, Saudi Arabia, as a case study to ...

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The purpose of this study is to investigate the potential use of solar energy within an oil refinery to reduce its fossil fuel consumption and greenhouse gas emissions.

Website: <https://www.spmgsa.co.za>

