High-pressure solar-powered containerized type for oil refineries

Overview

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

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

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. A validated ASPEN HYSYS model was used to investigate the products produced from heavy crude oil in the refinery. Using TRNSYS.

Built on the Solar Reactive Utilization framework, this study presents an innovative concept called the Solar Oil Refinery, applying solar energy in the energy-demanding oil refining. Herein, a solar multi-energies-driven hybrid chemical oil refining system, exemplified by residual oil cracking.

A study by ENEA and the University of Palermo has shown that integrating concentrated solar heat into oil distillation processes could significantly reduce CO2 emissions and methane consumption in refineries. While the energy transition is in progress, the shift to a world dependent on renewable.

A solar power tower at Crescent Dunes Solar Energy Project concentrating light via 10,000 mirrored heliostats, occupying an area of 13 million sq ft (1.21 km 2). Concentrated solar power (CSP), also called concentrating solar power or concentrated solar thermal, involves systems that collect solar.

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(PDF) Solar-assisted hybrid oil heating system for heavy refinery

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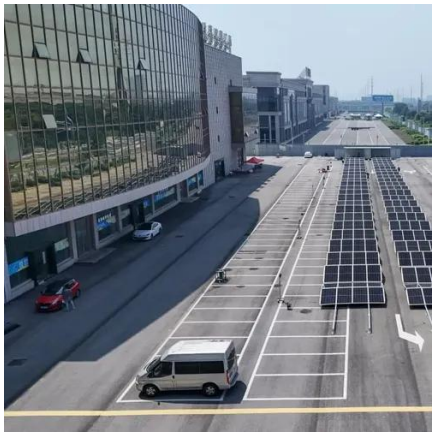
Using concentrated solar power for crude oil distillation: a step

A study by ENEA and the University of Palermo has shown that integrating concentrated solar heat into oil distillation processes could significantly reduce CO2 emissions ...



Solar-assisted hybrid oil heating system for heavy refinery ...

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

Solar-assisted hybrid oil heating system for heavy refinery ...

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[Thermodynamic and economic analysis of a novel ...]

Thermodynamic and exergoeconomic analyses and performance assessment of a new configuration of a combined cooling ...

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Herein, a solar multi-energies-driven hybrid chemical oil refining system, exemplified by residual oil cracking, has been ...

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Herein, a solar multi-energies-driven hybrid chemical oil refining system, exemplified by residual oil cracking, has been successfully developed and formulated in solar ...

Concentrated solar power

Concentrated solar power (CSP), also called concentrating solar power or concentrated solar thermal, involves systems that collect solar heat for multiple purposes like cooking, ...

Concentrated solar power integration with refinery process heaters

They explored an integrated system of various components into the entire plant, included solar energy in heating applications, and evaluated the major performance ...

[Analysis of a Solar-Assisted Crude Oil Refinery System]

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

Thermodynamic and economic analysis of a novel solar heating crude oil

Thermodynamic and exergoeconomic analyses and performance assessment of a new configuration of a combined cooling and power generation system based on ORC-VCR

[(PDF) Solar-assisted hybrid oil heating system for ...]

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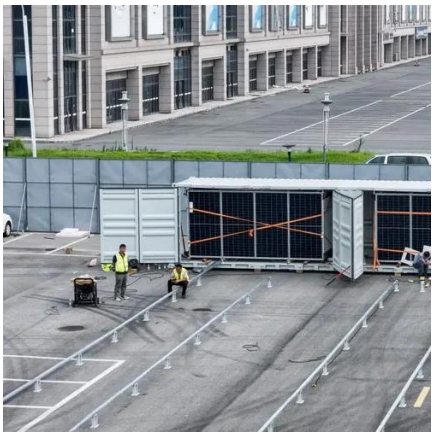

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