



LLSE CONTAINERS

# Solar-powered container DC power supply for oil refineries





## Overview

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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. A validated ASPEN HYSYS model w.

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 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.

How can solar power improve oil and gas production?

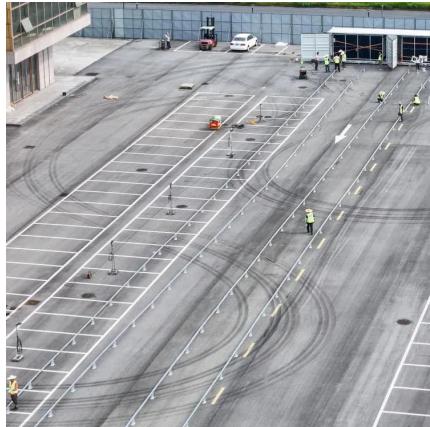
The oil and gas industry, a cornerstone of global energy production, is increasingly integrating solar power to enhance efficiency, reduce costs, and meet sustainability targets. Siemens Solar has pioneered this unexpected yet transformative application, deploying photovoltaic (PV) systems to power remote oil fields, pipelines, and refineries.

Can solar energy be used in the oil industry?

In Absi Halabi et al. , the application of solar energy in the oil industry is reviewed. As noted there, petroleum (oil) energy is the major contributor to energy inputs worldwide, with 34.25%, meaning 172 EJ (Exa Joules = 10<sup>18</sup> J).



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