

Corrosion-resistant off-grid solar container for oil refineries in N Djamena





Overview

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 support the decarbonization of crude oil refineries?

Solar energy has great potential to support the decarbonization of crude oil refineries in different pathways . As is well known, the methods and industries of exploiting, refining, transporting, and trading crude oil are well established.

Can solar-assisted petrochemical refineries 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.

Can a high-temperature solar tower integrated system power a petrochemical refinery?

Green hydrogen and power production using a high-temperature solar tower integrated system have been previously investigated but not in the context of a petrochemical refinery. Hydrogen is a significant raw material in petrochemical hydrogenation process (e.g., hydrocracking, hydrotreating), whereas steam has multiple uses within a refinery.

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.



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Oil and Gas Corrosion Prevention

The dry corrosion process also includes oxidation, carburization, and metal dusting, but the most relevant for oil refining is attributed to the presence of sulfur, naphthenic acids, or both. This ...

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