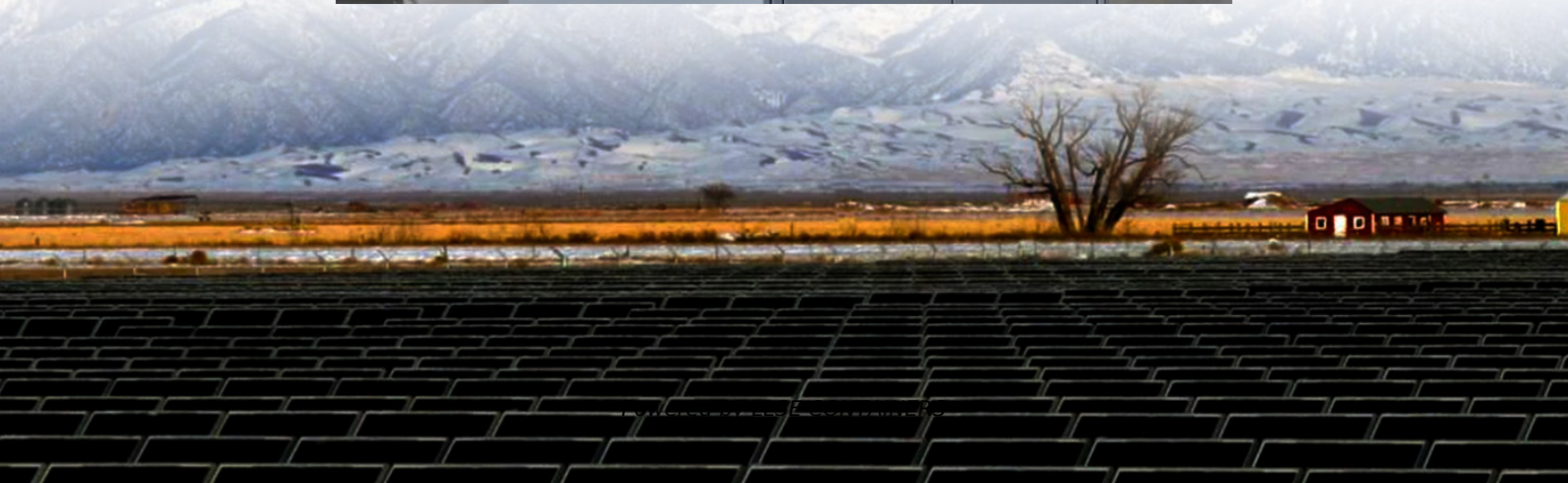


Fast charging of solar-powered containers used in oil refineries in Accra





Overview

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.

How efficient is solar energy in crude oil heating?

The thermodynamic analyses described earlier is utilized to assess the system performance. The energy and exergy efficiencies of the system are found to be 60.94% and 19.34%, respectively. Furthermore, for a 10% solar share in crude oil heating, 11,950 tons of CO₂ emission are avoided per year.

Is pumped-hydroenergy storage a peaking power plant in India?

Jacob AS et al (2021) Techno-economic analysis of pumped-hydroenergy storage as peaking power plants in India for high renewable energy scenarios. In: Mohapatro S, Kimball J (eds) Proceedings of Symposium on Power Electronic and Renewable Energy Systems Control. Springer Singapore, Singapore, pp 307–316



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

Jun 6, 2024 · With the growing urge to decarbonize the energy sector, actions toward reducing emissions of the oil and gas sector can contribute to bringing large cuts to carbon emissions. ...

[Full article: Smart charging with demand response and ...](#)

Jul 20, 2024 · Our results suggest charging in time periods with lower energy prices, effectively shifting mid-day charging to off-peak hours for demand response (e.g. early-day cooling), while ...



Supplying Solar Powered Offshore Containers - VG Offshore Containers

...

Apr 23, 2024 · Environmental Impact: Solar-powered offshore containers significantly reduce the reliance on traditional fossil fuels, a paradox or trade-off of the detriments of oil exploration. By ...

[Analysis and assessment of using an integrated solar energy ...](#)

Aug 1, 2019 · In large crude oil refineries, keeping emission levels low and minimizing energy losses can primarily be controlled by performing thermo-economic and environmental



...



[Achieving Sustainable Transport with Solar-powered DC ...](#)

Oct 31, 2023 · The system discussed in this article indicates that large scale implementation of solar powered DC charger systems can aid in attaining a more sustainable future for ...



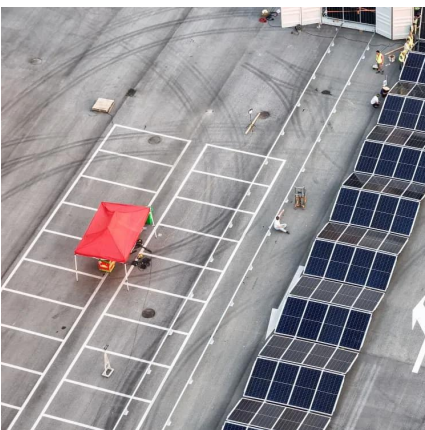
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Accelerating green shipping with spatially optimized offshore charging

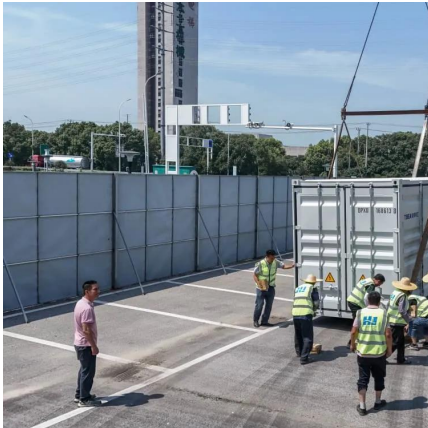
Jan 9, 2025 · Offshore charging stations could be a promising solution to enhance green shipping. This research considers their optimal placement and sizing, extending the economic range of ...





[Planning and Optimisation of Renewable Energy Systems for ...](#)

Nov 12, 2024 · Subsequently, other studies focused on optimising the use of multiple energy storage options in renewable energy systems. Qi et al. (2023) explored numerous approaches ...



[Solar-assisted hybrid oil heating system for heavy refinery ...](#)

Sep 1, 2023 · 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 ...

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