

Lobamba Off-Grid Solar Containerized Single-Phase for Refineries





Overview

What is a feasibility study of energy integration in grid-connected oil and gas industries?

Feasibility study of energy integration in grid-connected oil and gas industries. Considering a hybrid model of renewable energies including solar, wind, and biomass alongside a combined cycle gas power plant and grid. Examining the impact of reduced grid capacity to purchase energy from grid. Analyzing sensitivity to economic instabilities.

Can biomass energy be used to power a refinery?

If harnessed effectively, this biomass energy could significantly contribute to meeting a portion of the refinery's energy needs. Currently, the solid residue resulting from the municipal wastewater treatment process is being disposed of.

Can a hybrid system meet the energy demands of a large-scale industry?

As mentioned, this article aims to conduct a technical-economic analysis of a hybrid system comprising PV, wind, biomass, the dedicated NGCC power plant, and the grid to meet the energy demands of a large-scale industry with high energy consumption and environmental pollutant emissions.

Why should oil refinery plants use hybrid energy systems?

This significantly enhances the economic viability and environmental sustainability of the oil refinery plant, contributing valuable insights into the optimal configuration of hybrid energy systems for large-scale industrial applications and addressing the challenges of energy security, cost-effectiveness, and environmental impact.

1. Introduction



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