

Cost-effectiveness analysis of Nouakchott 30kW photovoltaic container





Overview

This paper presents the performance evaluation and analysis of the first large-scale solar photovoltaic plant in Mauritania. The plant has a total capacity of 15 MWp and was installed in Nouakchott. The plant.

Can life cycle cost analysis be used in photovoltaic systems?

Solar energy, especially through photovoltaic systems, is a widespread and eco-friendly renewable source. Integrating life cycle cost analysis (LCCA) optimizes economic, environmental, and performance aspects for a sustainable approach. Despite growing interest, literature lacks a comprehensive review on LCCA implementation in photovoltaic systems.

What is NREL comparative PV LCOE calculator?

“NREL Comparative PV LCOE Calculator.” Version 2.0.0, August 2021 Note: We recommend including the URL for a specific commit if citing results from an unreleased version. This tool calculates levelized cost of energy (LCOE) for photovoltaic (PV) systems based on cost, performance, and reliability inputs for a baseline and a proposed technology.

Does LCOE measure cost-effectiveness of solar PV systems?

The LCOE for System- 3 was found to be 0.033 \$/kWh, indicating its cost-effectiveness in electricity generation compared to other integrated systems (Yang et al. 2019). Table 13 shows the economic analysis of solar PV systems through LCCA highlights the importance of using LCOE to measure long-term cost-effectiveness.

What are the uncertainties in LCCA of photovoltaic systems?

As for the uncertainties in LCCA of photovoltaic systems, many studies apply sensitivity analyses and probabilistic models. Sensitivity analysis helps evaluate how variations in financial parameters like discount rates, energy prices, and inflation influence long-term cost outcomes.



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(DOI: 10.11591/eei.v13i3.7092) This work examines a solar power plant connected to the Nouakchott electricity grid in Mauritania. Operating since 2013, the 15 MWp plant's reliability ...

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