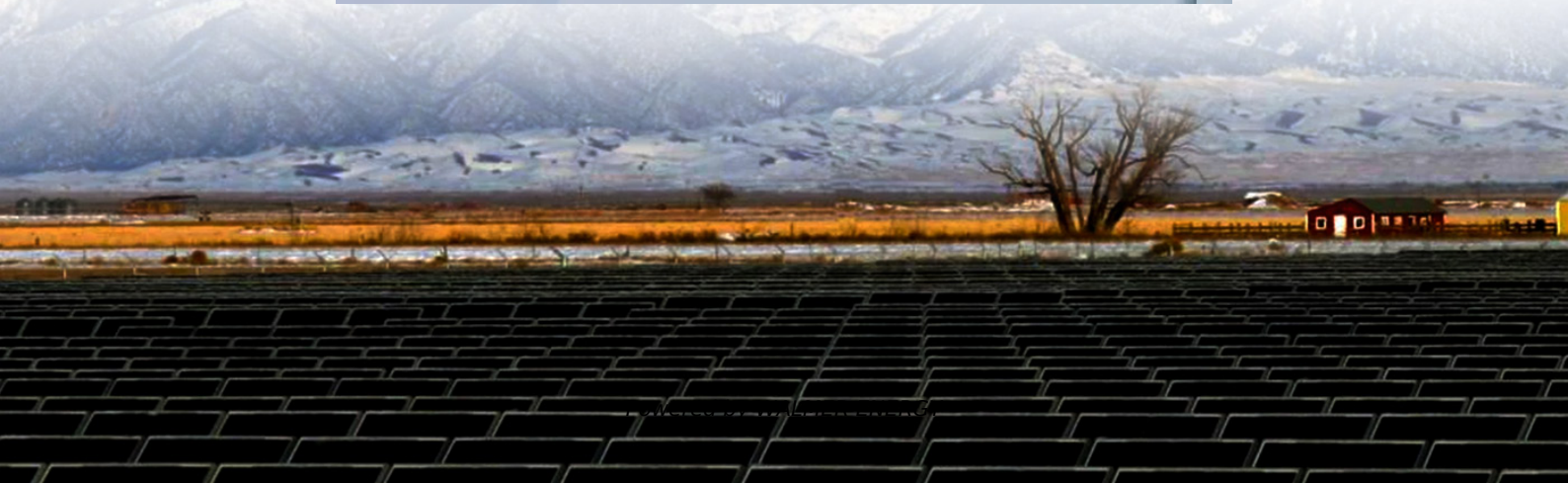


Cost-Effectiveness Analysis of Photovoltaic Containerized Circuits





Overview

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.

Why is levelized cost of energy important in PV power plants?

In addition, the levelized cost of energy (LCOE) is crucial in PV power plants because it provides a comprehensive measure of the average cost of electricity generation over the plant's lifetime, including initial investment, operation, maintenance, and decommissioning costs.

What is a solar photovoltaic system?

Solar photovoltaic (PV) systems convert solar energy into electrical energy using semiconductor materials that exhibit the photovoltaic effect. PV systems are a sustainable energy solution, contributing to reducing life cycle costs and environmental impacts in service life planning of buildings and assets (STANDARD-BS 2017).

Do solar systems need a life cycle cost analysis model?

However, while the upfront costs of solar installations have significantly decreased over the years, there remains a critical need for a comprehensive and adaptable life cycle cost analysis (LCCA) model tailored specifically to solar system projects (Rethnam et al. 2019).



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