

# **Off-grid cost of photovoltaic containerized systems for mining**





## Overview

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How can centralized PV generation improve energy structures in mines?

These attributes make them an effective complement to large power grids and a substitute for 'greenfield' energy projects. Viewing such deployments as a specialized form of centralized PV generation can contribute to the optimization of energy structures in mines.

Should PV systems be integrated with abandoned land in open-pit mines?

In this context, integrating PV systems with abandoned land in open-pit mines offers a mutually beneficial solution that can enhance land use while promoting renewable energy generation. This approach avoids encroaching on productive land and leverages the existing mining infrastructure.

Should solar PV be installed in mining areas?

If future PV projects continue to follow current land-use patterns at the country level under a business-as-usual scenario, then installing solar PV systems on 65,488 km<sup>2</sup> of global mining areas could prevent the occupation of 28,311 km<sup>2</sup> of cropland for solar development.

Can centralized future-oriented solar power generation projects be installed globally?

This study focuses on where and how much centralized future-oriented solar PV power generation projects can be installed globally. It applies a method combining RANN and GEE to solar power site modelling, which helps to identify suitable areas and site selection criteria more accurately for PV power generation.



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Deploying photovoltaic systems in global open-pit mines for ...

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