

Photovoltaic panels greenhouse solar energy in Benin





Overview

How much does a photovoltaic power plant cost in Benin?

Photovoltaic power plants' levelized cost of energy ranges from 0.11 USD/kWh to 0.125 USD/kWh. Incentives and subsidies could lower the levelized cost of energy and increase solar photovoltaic investment in Benin. About 60.0% of Benin's population currently lacks access to reliable electricity to perform their daily activities.

Should Benin implement a grid-tied solar photovoltaic project?

The country must foster the development of policies that can accelerate the deployment of renewable energy projects and promote the use of new technologies for a cleaner and safer environment. The study results could guide Benin and other developing countries willing to implement a utility-scale grid-tied solar photovoltaic project.

Can solar power improve living standards in Benin?

The Benin Republic has abundant solar energy resource, which could be harnessed efficiently to increase its access rate to electricity and improve living standards. This study evaluates the techno-economic viability of installing a 10.0 MW utility-scale grid-tied solar photovoltaic (PV) system in seven cities located in Benin.

Are solar PV projects feasible in Benin?

This study considers a 10.0 MW grid-tied system in seven different regions to evaluate the feasibility of solar PV projects in Benin. Grid-connected solar PV systems have two main components: the PV array and the inverter. The connection to the national grid is done using appropriate inverters that must be carefully selected (Etier et al., 2015).

Could incentives and subsidies increase solar PV investment in Benin?

The findings show that incentives and subsidies could lower the LCOE and



increase solar PV investment in Benin. Investing in utility-scale PV systems could help Benin increase its electricity access rate and mitigate greenhouse gas emissions for sustainable development.

Could a solar power plant increase Benin's electricity rate?

Based on this current data, it can be deduced that using the 10.0 MW solar power plant for electricity generation could increase Benin's electricity rate by about 1.8%. This means that putting in the 10.0 MW at all the suggested sites could give about 12.0% more people access to electricity.



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The expansion of solar power in Benin is expected to have a transformative impact on the country's energy sector. By increasing the share of renewable energy in the national ...

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In active solar greenhouses, solar technology systems, such as photovoltaic (PV) panels or solar thermal collectors, are used to produce



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