Kongres Container

Ghana monocrystalline silicon bifacial double glass modules

Overview

This research aims to compare the energy output potential of land-based and floating bifacial photovoltaic (PV) systems of 50 MW and 400 kW with an existing land-based and floating monofacial PV system o.

Are bifacial solar panels better than monofacial?

The annual energy yield of the simulated monofacial PV system is 77.22 GWh while the bifacial PV system demonstrates the highest annual energy yield of 78.62 GWh. This result is consistent with the inherent advantage of bifacial panels in capturing reflected radiation, especially in well-illuminated environments.

How effective are bifacial PV modules?

The effectiveness of bifacial PV modules relies on how irradiance hits the back surface of the module, and this can be affected by different site-specific conditions like tilt angle, albedo, ground cover ratio, and ground clearance height .

Is Ghana developing a hybrid hydro-solar PV system?

With an installed capacity of 1 MW floating solar PV on the Bui hydro dam and 50 MW ground-mounted solar PV within the premises of the Bui hydropower plant, Ghana is a country making progress in the development of hybrid hydro-solar PV system [29, 30].

Which simulated monofacial PV system is suitable for further analysis?

To demonstrate that the land-based simulated monofacial PV system with a capacity of 50 MW is suitable for further analysis in comparison with the simulated bifacial PV system, the energy output of the field monofacial PV system is compared to the simulated monofacial PV system first.

What is a bifacial and monofacial PV system?

It serves as the real-world benchmark and represents the actual energy generation achieved by the monofacial PV system under consideration. The

annual energy yield of the simulated monofacial PV system is 77.22 GWh while the bifacial PV system demonstrates the highest annual energy yield of 78.62 GWh.

Is a high GCR a good bifacial PV system?

A high GCR of 0.6 for a land-based bifacial PV system and 0.7 for a floating bifacial PV system yielded a low bifacial gain of 2.0% and 3.50%, respectively. High GCR is undesirable for bifacial PV systems because they inhibit a significant portion of the backside irradiance gain .

Ghana monocrystalline silicon bifacial double glass modules

Contact Us

For catalog requests, pricing, or partnerships, please visit:
https://www.drugiswiatowykongrespolakow.pl