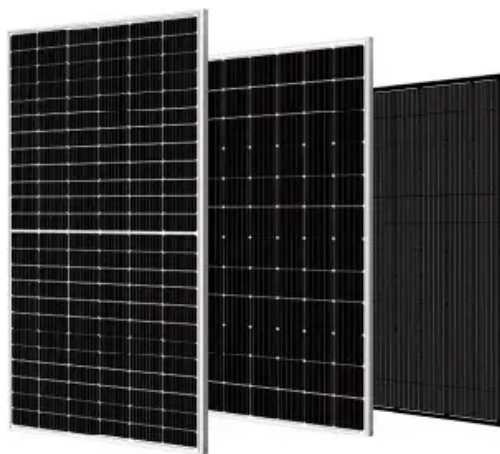


SolarInnovate Energy Solutions

Greenhouse solar air conditioning



Overview

How can solar power help greenhouses?

Thus, PV can contribute to sheltering the required energy of greenhouses in irrigation (pumping systems), heating (night), ventilation (hot climate), lighting (cloudy regions) and other energy requirements . In addition, some research focussed on the use of soil sensing in greenhouses .

Why is a solar cooling system inside a greenhouse necessary?

So, a solar cooling system inside greenhouses is necessary to get successful crops. For this, environmental monitoring of a smart solar cooling system is provided to reach high crops by supervising in real time the appropriate environment for the smart greenhouse.

What is a PV system in a greenhouse?

In greenhouse applications, PV systems are used to supply the cooling, ventilation and lighting systems . Thus, PV can contribute to sheltering the required energy of greenhouses in irrigation (pumping systems), heating (night), ventilation (hot climate), lighting (cloudy regions) and other energy requirements .

Can a photovoltaic system power a smart greenhouse?

The principal objective of this present research is to design a smart greenhouse prototype based on a photovoltaic (PV) system. This allows for powering the different parts of the greenhouse such as DC-air conditioning, fans, water pumps and electronic circuits.

Can solar power a greenhouse in a desert climate?

Thus, greenhouses are used to make suitable environmental conditions for getting a good production of the plantation. The use of solar energy for powering greenhouses in desert climates is one of the interesting applications of renewable energy sources and carries great significance.

Can a photovoltaic cooling system improve greenhouse productivity?

Conclusion and perspectives In this paper a smart greenhouse powered by a photovoltaic cooling system was designed and verified experimentally. It has been shown that the DC-cooling system contributes well to keeping an adequate environment inside the greenhouse, which significantly increases the crops' productivity.

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