

Solar panels for light wave power generation





Overview

How do solar panels work?

Light behaves as both a wave and a particle—a duality that forms the basis for how solar panels work. Each “particle” of light, known as a photon, carries a discrete amount of energy determined by its frequency, and when these photons strike certain materials, they can release electrons—a principle at the core of solar power.

What is wavelength-selective solar photovoltaic (WSPV)?

This is where the concept of wavelength-selective solar photovoltaic (WSPV) technologies comes into play. These technologies consider the absorption profiles of plants, and they allow for the transmission of light at the wavelengths most useful for photosynthesis while reflecting or absorbing less useful ones to be converted to electricity.

How do solar photovoltaic cells work?

Solar photovoltaic cells are grouped in panels, and panels can be grouped into arrays of different sizes to power water pumps, power individual homes, or provide utility-scale electricity generation. Source: National Renewable Energy Laboratory (copyrighted).

What is a photovoltaic (PV) cell?

A photovoltaic (PV) cell, commonly called a solar cell, is a nonmechanical device that converts sunlight directly into electricity. Some PV cells can convert artificial light into electricity. Sunlight is composed of photons, or particles of solar energy.



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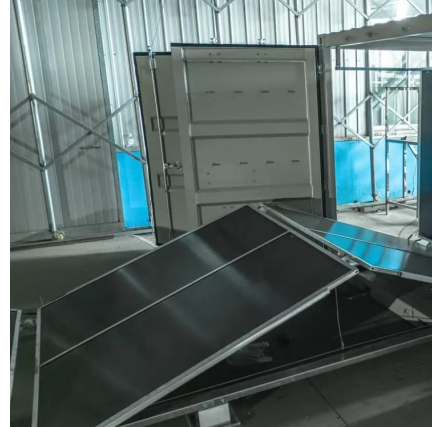


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