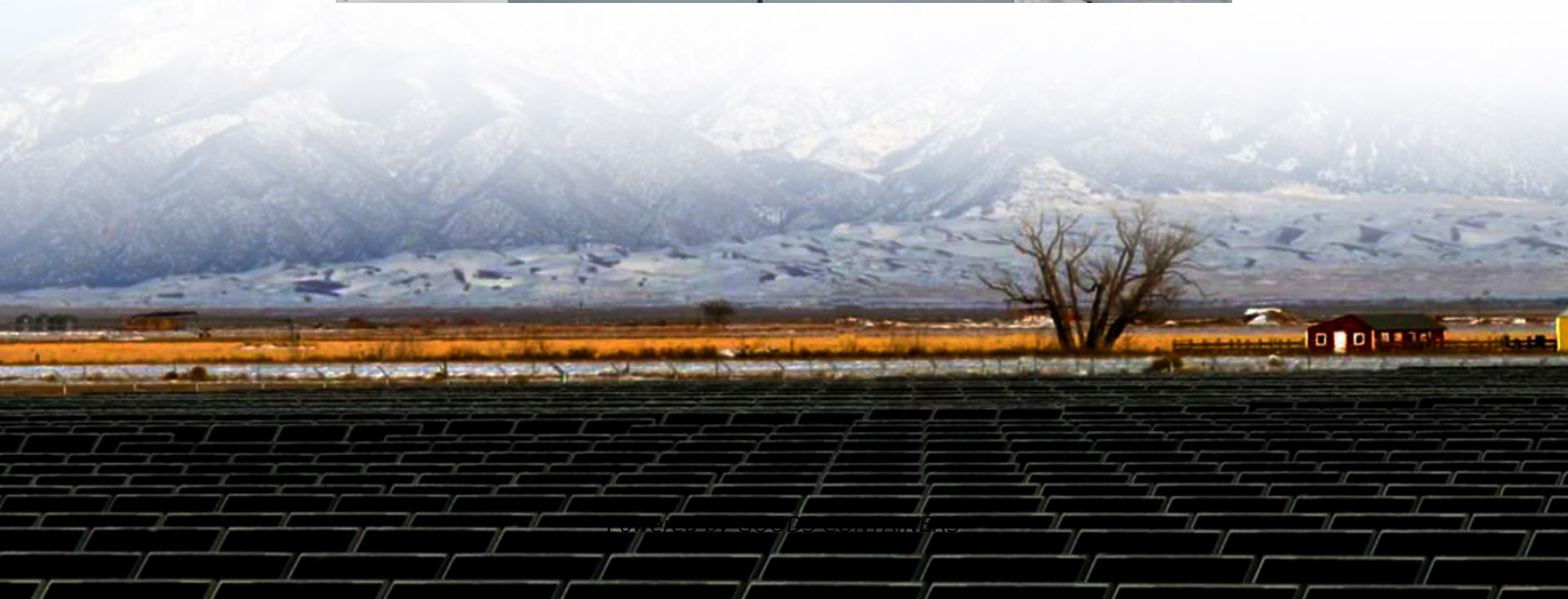


Solar Street Light Composition





Overview

What are the components of a solar street light?

The main components of a solar street light are solar panel, light source, rechargeable battery, charge controller and interconnecting cables. The key role of a solar panel composed of multiple solar cells is to absorb solar energy and convert it into usable electricity to illuminate the solar street light.

What is a solar street light?

A solar street light is a renewable energy-based outdoor lighting system that operates using solar power. It consists of photovoltaic panels (solar panels) that absorb sunlight, convert it into electrical energy, and store it in batteries to power LED or CFL lamps during nighttime.

How to design a solar street light?

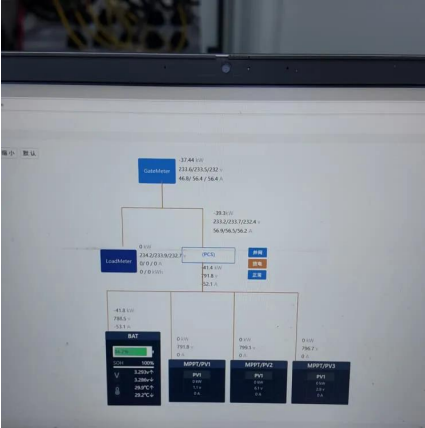
1. Solar Street Lighting Demand Design Formula: $P_{LED} = E \times A / (\eta \times U \times K)$
Example: Road width 6m, distance between lights 25m, target illuminance 20 lx → $P_{LED} = 20 \times (6 \times 25) / (0.85 \times 0.5 \times 0.75) = 20 \times 150 / 0.32 \approx 94W$ → Choose a 100W LED module (Luminous flux 15,000 lm)
2. Solar Street Light Photovoltaic System Capacity Calculation Steps: 3.

How a solar street light works?

The main components of a solar street light are solar panel, light source, rechargeable battery, charge controller and interconnecting cables, these light works automatically from dusk till dawn and use only green and renewable solar energy for their operation.



Solar Street Light Composition



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