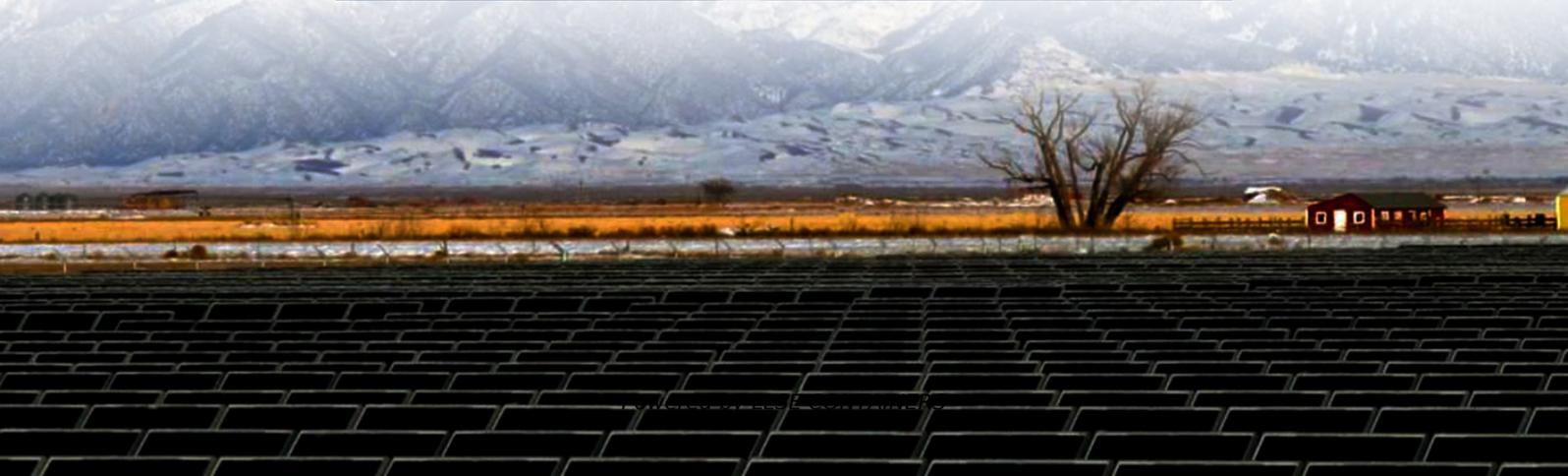


Single-phase mobile energy storage container for agricultural irrigation





Overview

Can solar energy be used in agriculture?

Solar energy is among the promising alternatives in irrigation systems that can be applied in agricultural activities to reduce electricity usage and minimize the consumed fossil fuel, especially for farmers in rural areas .

Can a portable solar-powered irrigation pump be used for IoT-based irrigation systems?

A portable solar-powered pump for the IoT-based irrigation system was fabricated. The hardware development of the IoT-based system was carried out by utilizing the NodeMCU ESP8266 Wi-Fi module as a microcontroller, and sensors were selected to measure the considered parameters.

Is a smart irrigation system a cost-effective solar-powered water pump with IoT integration?

The smart irrigation system includes a NodeMCU microcontroller, moisture and temperature/humidity sensors, and a relay board. The main contribution of this study is to design and fabricate a cost-effective solar-powered water pump with IoT integration for the smart irrigation system.

What are irrigation technologies?

Irrigation technologies change rapidly from traditional irrigation activities that mainly depend on farmers to modern farm machinery that utilizes various machines and systems for water pumping and plantation process . The water pump is primarily used for irrigation and livestock watering.



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