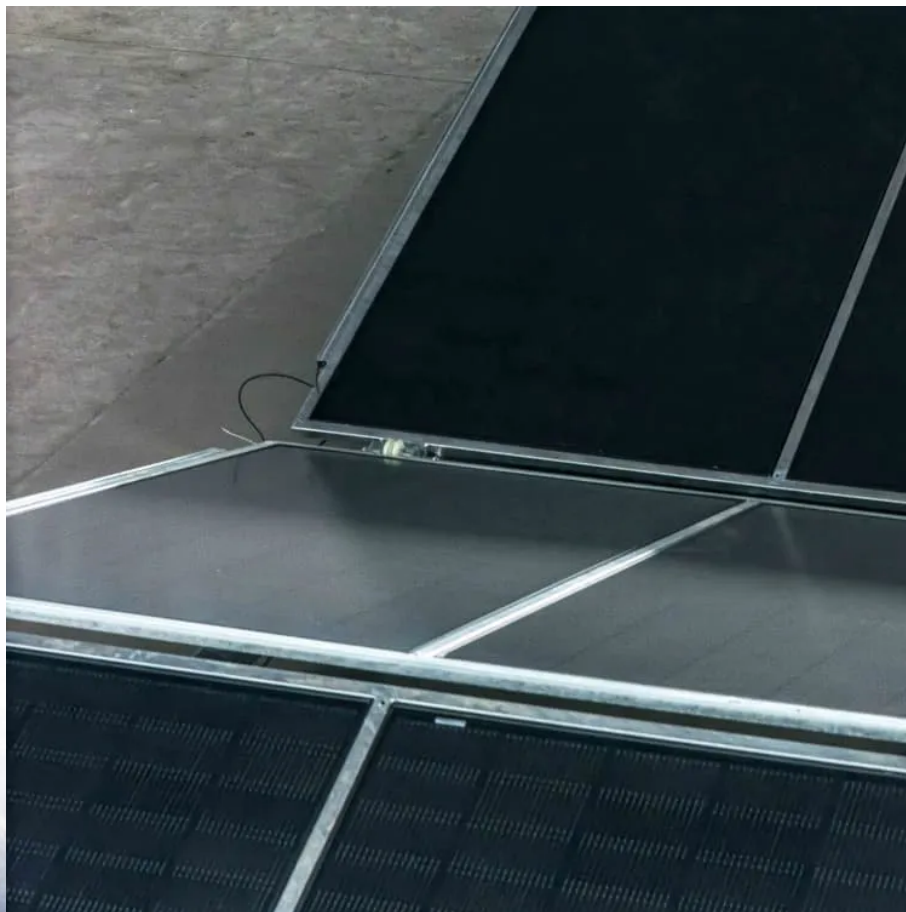


Bulk Procurement of Grid-Connected Photovoltaic Containers for Agricultural Irrigation





Overview

Are solar-powered irrigation systems sustainable?

Solar-powered irrigation systems (SPIS) are a clean technology option for irrigation, allowing the use solar energy for water pumping, replacing fossil fuels as energy source, and reducing greenhouse gas (GHG) emissions from irrigated agriculture. The sustainability of SPIS greatly depends on how water resources are managed.

Can a large scale PV power plant afford agricultural irrigation energy requirements?

Also, a large scale PV power plant alone can afford some agricultural irrigation energy requirement of a region. In this study, the actual generation data from a power plant located in Bursa province in northwestern Türkiye, during its initial six years of operation have been analyzed.

What is a solar-powered irrigation system (Spis)?

In a solar-powered irrigation systems (SPIS), electricity is generated by solar photovoltaic (PV) panels and used to operate pumps for the abstraction, lifting and/or distribution of irrigation water. SPIS can be applied in a wide range of scales, from individual or community vegetable gardens to large irrigation schemes.

Is solar energy a viable solution to Türkiye's growing energy demand?

Concentrating solar power technologies offer potential solutions to Türkiye's growing energy demand (Kaygusuz, 2011). Kumar and Sudhakar (2015) highlight grid-connected systems as the optimal choice among renewable sources. Literature on solar energy, particularly in Türkiye, has been a focus of several studies.



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