Cost-effectiveness analysis of 500kW solar cabinets for agricultural irrigation

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To achieve this objective, the energy efficiency levels of pumping stations, the cost of PV system installation, and mechanisms of government support were analysed.

It will analyze various solar technologies deployed across different agricultural applications and assess their feasibility and viability based on performance, costs, socio-economic and environmental factors ...

Abstract Solar-Powered Irrigation Systems (SPIS) have emerged as a sustainable solution to enhance agricultural productivity, particularly in regions facing unreliable or limited access to energy sources.

Financial analysis revealed a positive net present value of $13,097.77, a short payback period of 1.3 years, and favorable profitability, demonstrating the economic viability of the solar project.

We systematically review the literature to assess the impact of AVS design, layout and position in the landscape on agri-food production and energy generation, profitability and ...

The Tariff Analysis and Cost-Benefit Tool for Solarizing Irrigation (TACTS) has three sections, each serving a unique objective and relevant to distinct groups of stakeholders.

The Compendium on Climate-Smart Irrigation (forthcoming; URL) provides a broader picture of irrigation and climate change, including sustainability aspects, also relevant to SPIS.

To promote similar installations for agriculture irrigation, this study offers a holistic methodology and in-depth analysis that are applicable on a global scale.

In this paper, two different agricultural fields in Tamil Nadu, India that deploy flood irrigation and drip irrigation are taken as a case study.

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In this study, a techno-economic analysis of a grid-connected solar photovoltaic (PV) system was carried out for the electrical energy needed in irrigation of an agricultural area located...

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