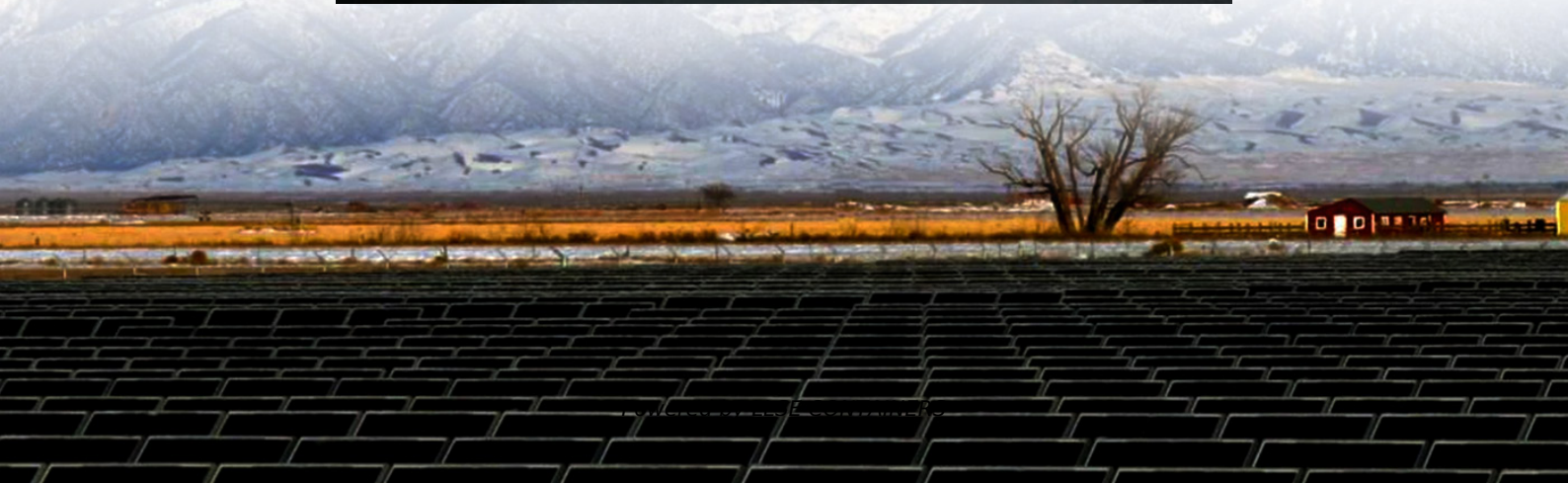


500kW Photovoltaic Container for Agricultural Irrigation in Eastern Europe





Overview

Can solar water pumping systems improve water management in agricultural operations?

This systemic approach offers a robust and sustainable method to improve water management in agricultural operations, contributing to sustainable development goals and resilience to climate change. Keywords: Solar Water Pumping Systems, Environmental Impact, Agricultural Irrigation, Climate Resilience.

What is agrivoltaics?

Agrivoltaics is the dual use of land by combining agricultural crop production and photovoltaic (PV) systems. In this work, we have analyzed three different agrivoltaic configurations: static with optimal tilt, vertically mounted bifacial, and single-axis horizontal tracking.

Can solar photovoltaic-thermal irrigation be used in agricultural systems?

Author to whom correspondence should be addressed. This research focuses on developing an intelligent irrigation solution for agricultural systems utilising solar photovoltaic-thermal (PVT) energy applications. This solution integrates PVT applications, prediction, modelling and forecasting as well as plants' physiological characteristics.

What is the potential capacity for agrivoltaic in Europe?

Overall, the potential capacity for agrivoltaic in Europe is 51 TW, which would result in an electricity yield of 71,500 TWh/year. Solar photovoltaics (PV) has shown a fast deployment in the last decade and its cumulative global capacity attained 942 GW in 2021 1, 2; see Figure 1A.



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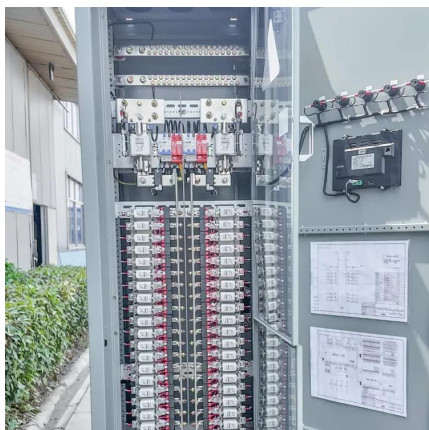


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