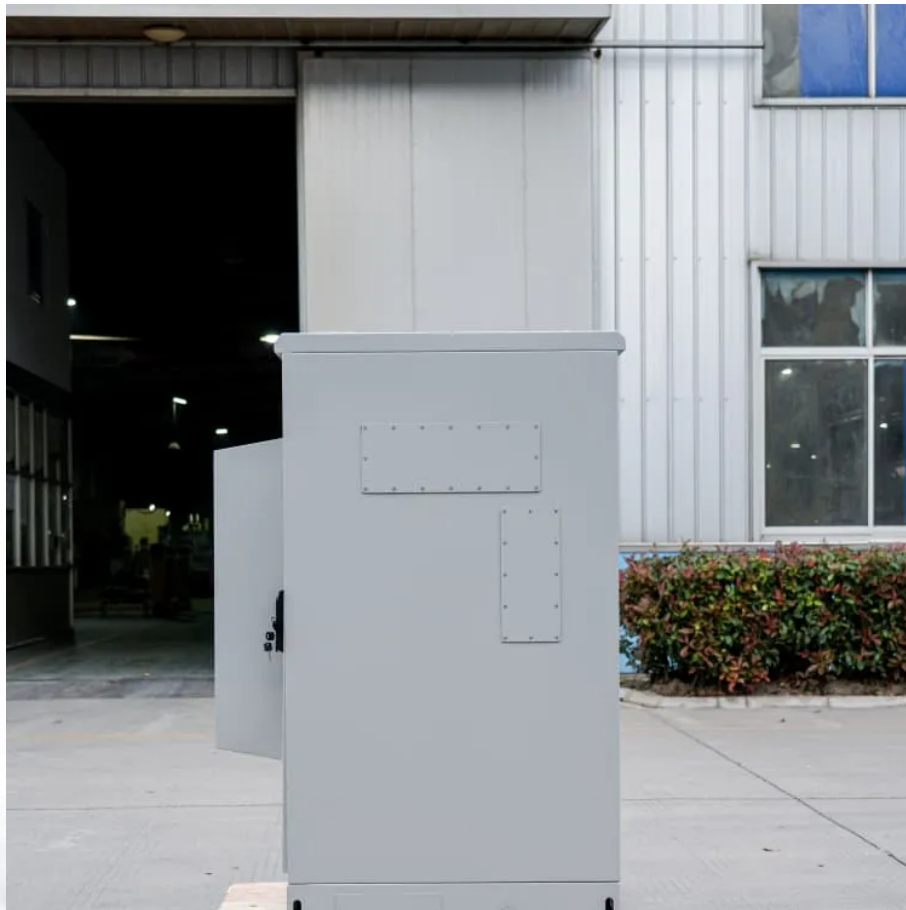


Comparison of a 30kWh photovoltaic container used in a water plant with solar energy





Overview

Water and energy are intimately related, as water is required for energy applications and energy is required for water-based technologies. Two large groups of photovoltaic adoptions have been identified.

What is a dual use of water for solar PV based electric power production?

This dual use of water for both solar PV based electric power production and aquaculture is called aquavoltaic. The electric energy generated by the aquavoltaic system can be used to power aeration units, light emitting diodes, water pumps of the aquaculture tank, and other electric loads like lights, fans, fridges etc., [166].

What are the different types of photovoltaic systems?

The schematic representing this adoption is shown in Fig. 10. Adoptions that fall under this category are floating photovoltaic system, agrivoltaic system, aquavoltaic system, water based photovoltaic/thermal system (PV/T), submerged photovoltaic, hybrid PV-solar distillation system, and solar PV - water disinfection system.

How difficult is over-water photovoltaic system?

Compared with the fixed pile photovoltaic system used on land, the biggest difficulty of the over-water photovoltaic system is the installation of the columns. Shunli et al. developed a walking mechanism for a construction platform on water.

What is floating PV & agrivoltaic system?

In case of floating PV and agrivoltaic system, the generated electricity is pumped to the grid and these systems also prevent water evaporation from water bodies and soil, respectively thereby the cost associated with water supply is eliminated.



Comparison of a 30kWh photovoltaic container used in a water plan

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Review of recent water photovoltaics development , Oxford Open Energy

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