Quasi-basin solar power generation

Water purification via interfacial solar steam generation exhibits promising potential. However, salt crystallization on evaporators reduces solar absorption and obstructs water supply. To address it, a waffle-shaped solar ...

Abstract: A novel configuration of solar chimney-PV-water desalination system is proposed to investigate the feasibility of integrating solar power with freshwater production.

It was applied to the planning and construction of the clean energy base in the Tibet-Sichuan section upstream of the Jinsha River, and the combined operation of the hydropower-photovoltaic-storage hybrid power ...

Solar still is a device that produces safe drinkable water through solar distillation process by utilizing solar energy that is a fresh, abundant and readily accessible energy resource [1, 2].

This study delves into the integration of solar PV collectors/systems with solar stills, distinguishing between thermal and electrical energy utilization in solar PV systems.

With the integration of salt gradient solar pond hybrid systems, a maximum lower convective zone (LCZ) temperature of 90 °C, more than 50 % energy/exergy efficiency, and power generation of...

In the current study, an experimental and theoretical analysis was performed to eval-uate the productivity of a modified solar still having an elevated basin. This improvement was achieved by raising the basin inside the ...

This article provides a comprehensive review based on the most recent accomplishments in the progress of solar pond technologies, salinity gradient solar ponds (SGSPs) for hybrid solar power generation, ...

Among various water treatment technologies, solar steam generation has received much attention because of the highest purification degree and the lowest carbon footprint (5 - 8). Particularly, ...

Energy-efficient desalination technologies are urgently needed to reduce reliance on conventional energy sources. This study introduces a novel integration of a thermal membrane with a stepped...

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