

Can solar energy efficient use lignite pre-drying and waste heat?

Based on the unique characteristics of the solar-driven heat pump, lignite pre-drying and waste heat in lignite-fired power plants, there exists a potential for solar energy efficient utilization: driving absorption heat pump for lignite pre-drying cooperating with waste heat recovery.

Can solar energy generate high salinity seawater?

These results confirm that the salinity of the fixed domain seawater in the Janus evaporator-based solar desalination system increased steadily, which identifies this strategy for generating high salinity seawater using solar energy as a sustainable, RED-based power generation strategy.

Can solar energy be used for desalination-power generation-cultivation Trinity?

Here we present an integrated desalination-power generation-cultivation trinity system. All from solar energy, we could obtain fresh water, electric power and crop cultivation media.

How lignite pre-drying and waste heat recovery improve regenerative system?

(2) Because of lignite pre-drying and waste heat recovery, the energy input and heat loss of boiler are optimized in the proposed SAPG, which clearly leads to 99.9 MW th of energy input increase of regenerative system (from 1,324.6 MW th to 1,424.5 MW th).

Efficient utilization of lignite for power generation as well as development of solar-coal hybrid energy conversion systems are being aggressively researched currently. This paper proposed ...

A novel integrated solar-hybrid lignite upgrade and utilization system incorporating solar energy collection, lignite drying, pyrolysis, gasification, and a power generation unit is proposed in ...

An efficient solar/lignite hybrid power generation system was proposed in the paper, in which solar energy was amplified in solar-driven heat pumps cooperating with waste heat recovery ...

Nowadays, solar energy for electricity generation is applied on the wide range between small roof-top PV systems and large utility scale solar parks. In contrast to the modular solar PV, ...

An integrated system based on clean water-energy-food with solar-desalination, power generation and crop irrigation functions is a valuable strategy consistent with sustainable development.

The novel advancements of hybrid systems and poly-generation energy systems for power generation and water desalination with a focus on the improvement of overall energy/exergy ...

A new solar-aided power generation system is proposed. It is based on the unique characteristics of non-concentrating and concentrating solar energy a...

The properties of solar thermal energy storage materials Applications like house space heating require low

temperature TES below 50 °C, while applications like electrical power generation require high ...

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