

Can a hierarchical porous hybrid film harvest solar energy for generation?

Here, we present a hierarchical porous hybrid film composed of nanofibres of cellulose on which conductive metal-organic frameworks have been layered to enable photothermal conversion and regulation of ion transport that can harvest solar energy for generation of electricity.

Is a freestanding hybrid film suitable for solar power generation?

Solar energy fits well with the increasing demand for clean sustainable energy. This paper describes a freestanding hybrid film composed of a conductive metal-organic framework layered on cellulose nanofibres which enables efficient solar power generation.

Can solar PV help China's poorest?

A review of photovoltaic poverty alleviation projects in China: current status, challenge and policy recommendations. Renew. Sustain. Energy Rev. 94, 214-223 (2018). Murray, S. F. Solar PV can help China's poorest.

Are power construction projects sustainable?

The sustainable development of power construction projects (PCPs) is of great significance in solving the issue of high carbon emissions in the power industry. However, the profit-seeking nature of... Towards sustainable development goals: Assessment of wind and solar potential in northwest China.

Who provided the solar simulator?

The authors thank Dr Uwe Zimmermann for providing the solar simulator, Dr Zhaohui Wang and Xueying Kong for the kind help with materials synthesis, and Dr Shuang-shuang Zeng for the fruitful discussion on COMSOL simulation. N. S. Lewis, Science, 2007, 315, 798-801.

Airfoil printed circuit heat exchanger (PCHE) is considered as one of the competitive candidates in the 3rd generation of concentrating solar power (CSP) plant, where the molten salt and ...

Abundant solar resources in a region indicate high PV power generation ability. We expect this variable to have a positive effect on local household income. ... Wu, K., Qiu, Y. ...

energy technologies have experienced rapid advancements [3,4]. Solar thermal power is an important alternative solar power generation technology possessing the ability of heat storage ...

This paper describes a freestanding hybrid film composed of a conductive metal-organic framework layered on cellulose nanofibres which enables efficient solar power generation. The working principle, which is ...

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energy storage? ... Coupled optical and thermal performance of a fin-like molten salt ...

In this perspective paper, the present status and development tendency of concentrating solar power (CSP) are analyzed from two aspects: (1) Potential pathways to efficient CSP through ...

Hydropower can be an ideal compensation for fluctuant photovoltaic (PV) power due to its flexibility. In this study, a multiobjective optimization model considering energy generation and ...

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To reduce the levelized cost of energy for concentrating solar power (CSP), the outlet temperature of the solar receiver needs to be higher than 700 °C in the next-generation ...

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