

How effective is China's net-metering policy for distributed PV systems?

The effectiveness of China's net-metering policy for distributed PV systems is examined using cost-benefit analysis. The design of net-metering policy should take regional solar radiation and electric demand into consideration. China's future net-metering subsidy should be designed ranging from 0.05 to 0.27 yuan/kWh.

Does China have a net metering policy?

Since 2013, China has implemented a net-metering policy to encourage residential customers to adopt the distributed PV power generation system. Against this background, the users of the distributed PV system can not only produce electricity for their own energy use, but also sell electricity to a power grid to make a profit.

How should China's net-metering policy be designed?

The design of net-metering policy should take regional solar radiation and electric demand into consideration. China's future net-metering subsidy should be designed ranging from 0.05 to 0.27 yuan/kWh. Policy implications are given to promote sustainable development of China's PV industry.

How is solar radiation calculated in China?

Solar radiation under standard test conditions equals 1000 W/m^2 . The electricity generation is evaluated on an hourly basis and the annual generation potential per square meter in China is calculated by equation (10). The total annual generation for a PV farm is calculated by equation (11).

Is solar PV a viable option in China?

He and Kammen evaluated the provincial level technical potential of solar PV in China by using solar radiation data from 200 representative locations. It was estimated that the installed capacity and annual generation potential in China were 4,700-39,300 GW and 6,900-70,100 TWh respectively.

Which countries have benefited from net metering?

Apart from China, the residential and commercial segments in many countries such as Denmark, Italy, Lithuania, and the Netherlands have benefited from the net-metering policy. In China, this policy stimulated further expansion of the distributed PV market, but the problem of an excessive financial gap arose.

For actual power generation, a detailed plant-level dataset is first established by this study which integrates technical, operational, and geospatial information from 145 solar ...

For instance, the electricity generation from solar power increased from only 22 GWh in 2000 up to 223 800 GWh in 2019, accounting for a 3.05% share in the national power generation mix.

In this paper, policy and semi-private operator model were proposed where solar-powered mini-grids and smart metering systems will provide a sustainable solution to the energy crisis by increasing ...

To facilitate deep penetration of solar energy in smart grids, we need high observability of solar generation at the edges of the grid. Current advanced metering infrastructures (AMI) only monitor the aggregated measurements from net-metered households, but disaggregated consumption and solar generation components are required for grid optimizations. We propose an unsupervised ...

The Global Solar Atlas provides a summary of solar power potential and solar resources globally. It is provided by the World Bank Group as a free service to governments, developers and the ...

Accurate solar power generation forecasting is paramount for optimizing renewable energy systems and ensuring sustainability in our evolving energy landscape. This study introduces a pioneering approach that synergistically integrates Boosting Cascade Forest and multi-class-grained scanning techniques to enhance the precision of solar farm power ...

Following worldwide trends, China's newly installed PV capacity increased rapidly after 2012. In 2013, China achieved the world's largest combination of solar PV installations, with 12.92 GW connected to the grid, and it was followed by Japan with 6.9 GW om 2011 to 2013, the newly installed PV capacity of the Asia-Pacific (APAC) region, including China, was still ...

Net metering works by using a bidirectional meter that measures the net electricity flow between the solar power system and the grid. When the solar power system produces more electricity than it ...

Company profile for installer Shanghai Electric Power Generation Engineering Co., Ltd - showing the company's contact details and types of installation undertaken. ... is one of the largest integrated equipment manufacture and ...

Solar Irradiance & On Grid Solar Power Systems with Net Metering in Pakistan . Haleema Qamar*, Hafsa Qamar, Muhammad Umair Khan . Faculty of Electronic Engineering, Ghulam Ishaq Khan Institute of Engineering Sciences and Technology, Topi, Pakistan . A R T I C L E I N F O A B S T R A C T . Article history: Received: 24 April, 2016

China is abundant with solar energy resources, and has made significant progress in its promotion of solar PV power generation. In 2014, the newly installed capacity reached 1.06 million kW and the total installed capacity reached 2.805 million kW (National Energy Administration, 2014).

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