

How are photovoltaic power generation policies evaluated?

Initially, the evaluation of photovoltaic power generation policies mainly focused on qualitative evaluations, which revealed existing problems by sorting the types of policies and summarizing the impacts of their implementation (Huo and Zhang, 2012; Grau et al., 2012; Zhang et al., 2014; Yang and Zhao, 2018; Gao and Rai, 2019).

What are the policy goals of photovoltaic power generation?

The policy goals of photovoltaic power generation are divided into three aspects: improving technology and promoting production, promoting construction and application, and guaranteeing and maintaining application effects.

Are China's policies on photovoltaic power generation consistent?

The results show that changes in the degree of synergy between policy goals and measures tend to be consistent and that China's policies on photovoltaic power generation have gradually shifted to the combined use of different policy measures.

Who formulates policies on photovoltaic power generation?

Nevertheless, policies on photovoltaic power generation have been mainly formulated by a single department: the National Development and Reform Commission or the National Energy Administration. In addition, as shown in Fig. 1, before 2009, there were no multiple departments formulating or issuing policies without synergy between departments.

What is the synergy of photovoltaic policy goals in 2021?

The dual carbon goals offer opportunities for the development of the photovoltaic industry. Therefore, the overall degree of synergy reached a new high in 2021. In addition, combined with Fig. 1, the number of issued policies peaked in 2009 and 2013, but the synergy of policy goals remained the same in 2008 and 2012.

Why is the photovoltaic industry achieving a new high in 2021?

Hence, the focus of policies has shifted from industrial development, promotion, and application to maintenance and safeguarding of the operations of current projects. The dual carbon goals offer opportunities for the development of the photovoltaic industry. Therefore, the overall degree of synergy reached a new high in 2021.

The efficiency ( $\eta_{PV}$ ) of a solar PV system, indicating the ratio of converted solar energy into electrical energy, can be calculated using equation [10]:  $\eta_{PV} = P_{max} / P_{inc}$  where  $P_{max}$  is the maximum power output of the solar panel and  $P_{inc}$  is the incoming solar power. Efficiency can be influenced by factors like temperature, solar irradiance, and material ...

# Solar Photovoltaic Power Generation Project Policy

Provides an economic analysis of solar photovoltaic electricity generation technologies as well as the associated policies that have been devised and implemented to support renewable energy advances

Many studies have been carried out in the field of photovoltaic power generation. Agarwal et al. (2023) and Mukisa et al. (2021) have verified the feasibility of installing solar photovoltaic systems in buildings through mathematical modelling, providing a new solution for low-energy-efficient buildings. PV is extensively used, Liu et al. (2022a) proposed that an ...

China's 13th Five-Year Plan for Solar Energy Development contained specific goals for solar technology innovation, including commercialized monocrystalline silicon cells with an efficiency of at least 23% and commercialized multi-crystalline silicon cells with an efficiency of at least 20%.

In fact, the solar PV power generation subsidy downhill slope mechanism has been implemented, and new benchmark feed-in tariffs for solar PV power stations were released in 2018. On December 22, 2017, the National Development and Reform Commission issued the Notice on the Price Policy for Photovoltaic Power Generation Projects in 2018. For PV ...

This study designed an evaluation framework for China's PV industry policy from four dimensions (policy measure, policy type, policy strength, and policy issuing department) to categorize...

Since the concession period is one of the most crucial variables influencing the success of a photovoltaic (PV) power project under build-operate-transfer (BOT) mode, this paper presents a real ...

EU measures to boost solar energy include making the installation of solar panels on the ...

solar PV would represent the second-largest power generation source, just behind wind power and lead the way for the transformation of the global electricity sector. Solar PV would generate a quarter (25%) of total electricity needs globally, becoming ...

Offshore solar PV development policy in China. China possesses extraordinary potential for the development of offshore solar PV systems due to its extensive maritime territories exceeding 3,000,000 km<sup>2</sup> [8]. China has made significant advancements in offshore renewable energy, particularly in wind and solar PV power. Nevertheless, the policy and regulatory ...

Photovoltaic (PV) cells are the basic element for converting solar energy into electricity. PV cell technologies, energy conversion efficiency, economic analysis, energy policies, reviewed...

China's 13th Five-Year Plan for Solar Energy Development contained specific goals for solar technology innovation, including commercialized monocrystalline silicon cells with an efficiency of at least 23% and commercialized multi ...

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The literature shows that solar energy is a potential field and the policies are ...

Distributed-solar-photovoltaic (PV) generation is a key component of a new energy system aimed at carbon peaking and carbon neutrality. This paper establishes a policy-analysis framework for distributed-solar-PV generation based on a technical- and economic-evaluation model.

Photovoltaic power generation projects have sprung up everywhere and have also played a role in rural development and construction. In 2014, Yuexi, Funan, Sixian, Jinzhai, and Lixin, five poverty ...

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