

What is photovoltaic (PV) industry?

Photovoltaic (PV) industry is a strategic emerging industry in China, which provides risk resistance and autonomy for energy security by its technology innovation structure.

Is China's PV industry independent innovation capability improved?

From the perspective of total amount of technology patents registered in the PV industry, after nearly 40 years of development, China's PV industry independent innovation capability has been greatly improved.

Do R&D subsidies affect innovation in PV Enterprises?

With samples of Chinese listed PV enterprises from 2010 to 2019, this study finds R&D subsidies exert a notable positive impact on the innovation in PV enterprises. In small and medium enterprises (SMEs) and enterprises without state-owned shares, both R&D subsidies and non-R&D subsidies have positive impacts on the innovation.

How to foster advanced technologies in PV industry?

To foster advanced technologies in PV industry, demand-side R&D subsidies should be granted at proper rates [59, 63]. Thus, this article gives corresponding policy recommendations. Firstly, the government should attach importance to the positive signaling role of R&D subsidies policy and increase the amount of R&D subsidies to PV industry.

What are the characteristics of photovoltaic (PV) industry?

Permanence, cleanliness, and sustainability are the three main characteristics of photovoltaic (PV) industry. Currently, the world is facing severe environmental problems and expanding energy crisis, and China is making efforts for the exploration and layout of PV industry.

Why is technological innovation important in the PV industry?

Therefore, exploring the evolution of the technological innovation structure of the PV industry and its driving factors can help to point out the way to improve PV production capacity, which is of great significance to push China from a large PV industry country to a strong PV industry country.

Taking the patent as an indicator, the PV industry chain is cut from technological innovation and categorized into three segments: (i) The upstream is the mining and smelting of ...

photovoltaic enterprises, a genetic algorithm is proposed to optimize the manufacturing cost of photo- ... is an important support point for the reduction of photovoltaic costs in the future. The ...

A series of experimental studies on various PV support structures was conducted. Zhu et al. [1], [2] used

two-way FSI computational fluid dynamics (CFD) simulation to test the influence of ...

Meanwhile, the photovoltaic enterprises have entered the mature stage, with further expansion of knowledge needs to be kept secret, which further exacerbates investors' lack of understanding ...

The motive to pursue profit is the core power of independent innovation. As the production cost of PV has decreased, the operating profit of PV enterprises has increased. ...

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