

# New solar photovoltaic power generation patent

What are the patents on photovoltaic cells?

The patents on photovoltaic cells are concentrated in the area of semiconductors for the conversion of solar radiation into electric energy, in the area of generators for the direct conversion of light energy into electric energy and in the area of solar panels adapted for roof structures.

How has photovoltaic technology developed over the last 30 years?

Photovoltaic technology has developed rapidlyover the last thirty years. The main activities of photovoltaic patents began in the late 1950s and the main photovoltaic patent assignees at that time were involved in the space business ,. Patent data has been widely used in technology assessment and forecasting ,,,...

#### What are the patents for solar panels?

It is noted that the patents US20040163338A1 (Low profile mounting system), US20060086382A1 (Mechanism for mounting solar modules) and US20110209745A1 (Photovoltaic framed module array mount using asymmetric rail) have great influence on this route due to their BC and were developed respectively by Unirac Inc, PVT Solar Inc and GE. Fig. 5.

What is a photovoltaic energy payment program in China?

In China, it was launched in 2009 for installations with capacity over 50 kW, the solar photovoltaic energy payment program, which provides subsidy of US \$2.93/Wof photovoltaic solar energy generated. There are also incentives to use renewable energy in residences, such as the net-metering system.

What is the technological system of solar photovoltaics?

2. The technological system of solar photovoltaics The PV technological system is a power system comprises a sequence of interconnected components that work together to convert sunlight energy into electricity,utilize the generated energy, store it, or invert it (Fig. 1).

### Are solar photovoltaics a sustainable alternative?

Against the pressing challenges of climate change and fossil fuel depletion, renewable energy sources such as solar photovoltaics (PV) are considered a clean and sustainable alternative. PV technologies have grown into a substantial field of research and development through large stocks of scientific publications and patents.

Solar photovoltaic (PV) power generation is the process of converting energy from the sun into electricity using solar panels. Solar panels, also called PV panels, are ...

The patents on photovoltaic cells are concentrated in the area of semiconductors for the conversion of solar radiation into electric energy, in the area of ...



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According to Nature Communications, solar power is currently on track to become the world's dominant source of power by 2050. If you're innovating in the solar ...

The objectives of this research are to review solar technology development progress and describe the innovation path that has evolved for the solar power domain, and ...

DOI: 10.1016/J.RSER.2018.05.033 Corpus ID: 115667205; Photovoltaic technologies: Mapping from patent analysis @article{Sampaio2018PhotovoltaicTM, title={Photovoltaic technologies: ...

The expansion in population and new living standards of human life are the main reasons for increased energy consumption. In the current situation, traditional energy ...

This article investigates different technological innovations on solar PV energy. For this, patents on PV technologies classified as green energies were selected in the IPC ...

[1] Liwen Zhang, Juwei Zhang, Wei Tian and Xiaohong Zhang 2016 Solar photovoltaic power generation technology and its application [J] Applied Energy Technology 4 ...

Solar panels and securing brackets define each solar electric generation station. Each station has at least one generally East facing panel, at least one generally South ...

In conventional photovoltaic systems, the cell responds to only a portion of the energy in the full solar spectrum, and the rest of the solar radiation is converted to heat, which ...

Solar energy generation vs. capacity; Solar power generation; The cost of 66 different technologies over time; The long-term energy transition in Europe; Thermal efficiency factor applied to non-fossil energy sources to convert them ...

This chapter presents the important features of solar photovoltaic (PV) generation and an overview of electrical storage technologies. The basic unit of a solar PV generation system is a ...

Power generation through solar photovoltaic is at the top preference due to its proven advantages. ... The origin of the floating solar PV systems takes us to the US patent ...

Solar energy generation vs. capacity; Solar power generation; The cost of 66 different technologies over time; The long-term energy transition in Europe; Thermal efficiency factor ...

The photovoltaic service data of solar photovoltaic battery component, direct current header box and combining inverter is measured, shows and stored to the described grid-connected...



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Within the optical and thermal arrangement of solar PV panels, the patent entitled "Concentrating solar energy receiver" [90] is found to be highly influential, as it has ...

The third generation of photovoltaic technology does not rely on traditional PN junctions to separate photo-generated charge carriers, whereas the new devices include ...

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