

Patent application for solar power generation machinery

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.

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/W of photovoltaic solar energy generated. There are also incentives to use renewable energy in residences, such as the net-metering system.

How many patents does General Electric have?

General Electric (a US multinational service and technology company) with 171 patents is in eighth position. GE Renewable Energy works with power generation and storage in hydroelectric power plants, wind and land-based wind turbines, solar panels, and innovative technologies such as biomass and tidal power.

How many patents does First Solar have?

In the ninth position, with 151 patents, is First Solar, a US company one of the largest manufacturers of photovoltaic solar modules with production units in the United States, Malaysia, Germany and Pakistan.

Why are photovoltaic cell patent registrations important?

Photovoltaic cell patent registrations are a valuable data set in the analysis and diffusion of PV technology and R&D activities. The dynamics of PV R&D activity is considered high, documented in a large increase in PV patent documents.

Which country has the most patent documents on photovoltaic cells?

The evolution of the total number of patent documents on photovoltaic cells per country in the period from 2004 to 2013 is shown in Fig. 7. It can be seen that the first two positions are occupied by the United States and China respectively, followed by Japan, Germany and South Korea. Fig. 7.

The application of solar energy in agriculture, including technologies such as solar greenhouses, grid power generation, and agricultural pumps, offers a sustainable and eco-friendly solution to ...

This application claims priority to Japanese Patent Application No. 2019-210338 filed on Nov. 21, 2019, incorporated herein by reference in its entirety. ... The solar panel 10 is a power generator that receives solar radiation so as to generate power, ... The drive battery 40 is connected to main equipment used for driving a vehicle (not shown ...

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The research status and future development arrangement of solar power generation technology in various countries around the world are investigated. The principles, applications, advantages and disadvantages of two common solar power generation technologies, photovoltaic power generation and photothermal generation are introduced.

Decreasing the levelized cost of renewable energy and improving the stability of power systems are the key requirements for realizing the sustainable growth of power production capacity. Concentrating solar power (CSP) technology with thermal energy storage can overcome the intermittent and unstable nature of solar energy, and its development is of great ...

2002-04-05 Priority to US10/116,857 priority patent/US7492120B2/en 2002-05-28 Application granted granted Critical ... Solar Power Generation Assembly and Method for Providing Same US20100033015A1 (en) ... Photovoltaic panel support and offshore photovoltaic power generation equipment US11855231B2 (en) 2006-12-06: 2023-12-26: Solaredge ...

Patent Number(s): 6904747 Application Number: 10/231,701 Assignee: General Electric Company (Niskayuna, NY) ... Heat exchanger for power generation equipment. United States: N. p., 2005. Web. ... Power generation plant integrating concentrated solar power receiver and pressurized heat exchanger. Patent Sakadjian, Bartelev B; Flynn, Thomas J; ...

A solar thermodynamic power generator includes: a quartz window placed on a metal shell to form an electromagnetic resonant cavity structure for receiving solar energy; a ceramic conduit placed in the metal shell, wherein a working medium is heated in the ceramic conduit by the solar energy; a heat exchanger placed in a vacuum insulation oil tank; a steam generator placed in the ...

1. A solar power generation and agricultural material dispersion system comprising: at least one system module comprising: a solar power generation panel having a solar energy collection surface disposed opposite a base surface, and at least four edges, the at least four edges including first and second edges disposed substantially parallel to one ...

Solar energy generation by region; 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 ...

Solar battery system, electronic equipment and structure JP6003048B2 ... 2015-01-22: ????? ??? ?????? ?????: Solar power generation system that performs maximum power point tracking for each unit group KR101629040B1 (en) * ... Information on the status of an ep patent application or granted ep patent:

Renewable energy production capacity is expected to double during the years 2019-2024, led by solar and wind power investments [1].As the share of weather-dependent renewable electricity generation increases,

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smart energy inventions are needed to enable the transition [2]. Park and Heo [3, p. 2] defined smart energy transition as a "series of activities or ...

The role of renewable energy in global power generation is growing -- particularly for solar power. Thanks to increasing innovation and decreasing costs, global solar capacity has doubled from 2018 to 2021. ...

A solar gas turbine power generation system based on a photothermal principle includes a gas turbine, a solar collector and a solar reflector, where the gas turbine includes a compressor impeller, a turbine, a recuperator and a combustion chamber, the recuperator includes an outer shell, an intermediate shell and an inner shell, a low ...

The space-based solar power generating system is comprised of a flexible thin film photovoltaic sheet supported as a sail in the solar wind. The solar wind provides pointing support, deployment support, and structure stiffness without a heavy backup structure. A high Isp electric propulsion system is used to counteract the force exerted on the sail by the solar wind.

With the continuous increase in global energy consumption, the development and utilization of renewable energy become imperative. However, the intermittency and fluctuation of wind and solar power ...

Many key aspects of society, such as transport, housing and health care, have been significantly improved by the advent of a range of electricity applications, and the power generation for ...

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