

### JH Solar

# Analysis of patents for energy storage power supply





#### **Overview**

The global power industry experienced a 29% decline in the number of energy storage-related patent applications in Q1 2024 compared with the previous quarter. The total number of energy storage-related grants dropped by 6% in Q1 2024, according to GlobalData's Patent Analytics. GlobalData's.

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This paper primarily relies on the "WIPO IP Portal" website provided by the World Intellectual Property Organization to analyze the comprehensive strength of eight leading countries including the United States, China, France, the United Kingdom, Russia, Japan, Germany, and India. The analysis.

ons about funding for energy storage projects. This report is also notable for being the first output of a new cooperative relationship betwee the IEA and the European Patent Office (EPO). The EPO''s expertise on patent analysis is world class, and I am delighted e development of smart energy.



#### Analysis of patents for energy storage power supply



### Portable energy storage power supply

Currently, the most used energy storage devices include mobile power sources and energy storage power sources. The portable power source usually has only single 5V input and ...

#### EP4485746A1

An energy storage power supply includes a drive circuit of the energy storage power supply. The drive circuit of an energy storage power supply includes a charging control circuit, a first direct





## Energy storage and other enabling technologies, epo

The range of sources of renewable energy requires a leap forward when it comes to innovation in energy storage and other enabling technologies that will help achieve the energy transition, ...

#### CN218514108U

The application discloses energy storage power supply includes: a housing having a first side; a battery pack disposed within the housing and having a first outer wall opposite the first side; an ...



#### Lithium battery parameters





# Recent progress in electrolyser control technologies for hydrogen

Recent progress in electrolyser control technologies for hydrogen energy production: A patent landscape analysis and technology updates

#### ??????????????

This paper leverages patent data to explore the developmental trends and research status of emerging energy storage technologies in China, including electrochemical, compressed air, ...





# Analysis of recent development in energy storage technology in ...

The analysis focuses on various energy storage technologies with statistics on patents issued by researchers or institutions from these countries.



## Patent analysis for generating the technology landscape and

. . .

The rapidly growing state of energy consumption and the urgency of mitigating the harmful effects of climate change have accelerated our transition to renewable energy. This ...





## LG warns patent infringers as battery industry prepares for lawsuits

LG Energy Solution's Ochang, South Korea, offices. Image: LG Energy Solution. LG Energy Solution has said it will take a strong stance against those copying its technology ...

## Battery Energy Storage System for Emergency Supply and ...

This paper introduces the concept of a battery energy storage system as an emergency power supply for a separated power network, with the possibility of island operation ...





## **Electrical Power Generation Or Distribution System Patents and Patent**

The power demand-supply management apparatus requests the power supply system to supply the power to the power demand system in a power generation time zone of ...



## Patent analysis on green hydrogen technology for future

. . .

To make the patent database for the analysis, first, a comprehensive survey on green hydrogen projects worldwide was conducted and hydrogen-related technologies were ...





# Emerging topics in energy storage based on a large-scale analysis ...

Mejia and Kajikawa (2020) used a computational algorithm based on citation networks and thoroughly examined energy storage emerging topics by mining journal articles ...

#### Energy Storage Patent Background Analysis Report: Trends, ...

Let's face it, patents aren't exactly known for their Hollywood glamour. But in the world of energy storage, they're the backstage passes to the greatest energy revolution since the discovery of ...





## GS Yuasa Corp Patent: Power Supply Control for Energy Storage ...

Discover GS Yuasa Corp's innovative patent for a power supply control method in moving bodies, enhancing safety and efficiency by managing energy storage devices ...



#### US20220037881A1

Provided are an energy storage power supply, a parallel control device for energy storage power supplies and a parallel control method for energy storage power supplies.





### Demands and challenges of energy storage ...

Through analysis of two case studies--a pure photovoltaic (PV) power island interconnected via a high-voltage direct current (HVDC) system, and a 100% renewable energy autonomous power supply--the ...



Energy storage systems are essential in modern energy infrastructure, addressing efficiency, power quality, and reliability challenges in DC/AC power systems. Recognized for their indispensable role in ...





### **Energy Storage Technologies for Modern Power Systems: A**

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Power systems are undergoing a significant transformation around the globe. Renewable energy sources (RES) are replacing their conventional counterparts, leading to a ...



## Analysis of patents for energy storage materials

Abstract: Lithium-ion battery is the most promising and effcient secondary battery, and is also the fastest development chemical energy storage power supply. It has become a hot competition in ...







## **Energy storage patent analysis** report template

This joint study by the International Energy Agency and European Patent Office underlines the key role that battery innovation is playing in the transition to clean energy

### What are the patents for energy storage power supply?

As global energy demands continue to escalate, the outlook for energy storage patents remains exceptionally promising, bolstered by significant investments in research and ...





#### US20220037904A1

In the energy storage power supply, the parallel control device for energy storage power supplies, and the parallel control method for energy storage power supplies provided by embodiments of ...



# Technologies and economics of electric energy storages in power ...

As fossil fuel generation is progressively replaced with intermittent and less predictable renewable energy generation to decarbonize the power system, Electrical energy ...





## The intellectual property enabling gigafactory battery cell ...

Driven by the increasing demand for energy storage solutions in various applications, including electric vehicles and renewable energy systems, the lithium-ion battery ...

## Energy Storage related patent filings decreased in the power

Analysis of patenting activity by companies shows that Contemporary Amperex Technology

filed the most energy storage patents within the power industry in Q1 2024.





#### China Surpasses Japan to Lead Global Hydrogen Energy Patent

• • •

As reported by United News, the study conducted by Astamuse analyzed approximately 180,000 patents in the hydrogen energy sector from 2013 to 2022. This analysis ...



#### CN102709988A

The invention discloses an energy-saving power supply, which comprises a wind driven generator, a solar battery pack, a charging controller, an energy storage battery, an inversion ...





## Innovation in batteries and electricity storage - A ...

EPO's first joint study with the International Energy Agency underlines the key role that battery innovation is playing in the clean energy transition.

### **Energy Storage Technology - Patent Data ...**

Discover what our patent data analysis reveals about innovation in dual chemistry batteries, an important energy storage technology used in many sectors.





#### US20240405586A1

An energy storage apparatus includes an energy storage unit and a conversion unit. The conversion unit may be configured to: obtain a given port voltage of the conversion unit based



#### Research Status and Development Trend of Gravity Energy Storage

The results of patent analysis show that more and more new renewable energy generation systems based on gravity energy storage systems have emerged in recent years. ...





### Analysis of Innovation Trends in Energy Storage Safety ...

Based on the data of invention patents, this paper analyzes the innovation situation of global energy storage safety technology, providing a reference basis for future ...

## **Battery Energy Storage Systems Report**

This information was prepared as an account of work sponsored by an agency of the U.S. Government. Neither the U.S. Government nor any agency thereof, nor any of their employees,



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