

Research on energy storage industry patents at home and abroad

Which patents are related to the application of rechargeable batteries?

Rather related to the application of rechargeable batteries is the patent family encompassing "implantable device with improved battery recharging and powering configuration", showing that innovation in energy storage is also driven by medical technologies. The other cell patents are mostly related to inventions for improved electrodes. 3.3.

How many patents are there in the battery industry?

Research and development in the battery industry have led to a notable increase in patent filings at the United States Patent and Trademark Office (USPTO), climbing from 3,773 in 2010 to 5,319 in 2019 (see Figure 1). But as more players enter the market and obtain patent protection for their innovations, IP disputes among competitors are heating up.

Why is energy storage important?

Energy storage is an important technology and basic equipment for building a new type of power system. The healthy development of the energy storage industry ca

How has technology impacted the battery industry?

With these technical advances comes an increase in legal activity, including intellectual property (IP) filings and litigation. Research and development in the battery industry have led to a notable increase in patent filings at the United States Patent and Trademark Office (USPTO), climbing from 3,773 in 2010 to 5,319 in 2019 (see Figure 1).

Should battery and EV companies focus on patent strategy?

Battery and EV companies should focus on patent strategy beyond prosecution and enforcement. Companies should align their patent strategy with their overall business plan to ensure that a patent portfolio realizes its full economic potential and generates revenue for the company by protecting investments.

Are improved lithium modules still a viable technology?

Nevertheless, the volume of patent filings in technologies related to lithium remains unchallenged. Patent applications in this area are still growing, which indicates that the introduction of improved modules will continue. Using citation analysis, we have identified important patents and organizations for relevant candidate technologies.

Explore the Data-driven Energy Storage Industry Outlook for 2024. The Energy Storage Industry Report 2024 uses data from the Discovery Platform and encapsulates the key metrics that underline the sector's dynamic growth ...

Specifically, before 2000, Chinese companies merely filed a few hundreds of patent applications in foreign

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countries. By 2000, China's patent filings abroad broke the one thousand marks. By contrast, in the same year, US and Japanese companies filed more than 100,000 patents abroad, and German companies over 60,000 by the year 2000.

The National Renewable Energy Laboratory (NREL) bridges research with real-world applications to advance energy technologies that lower costs, boost the economy, strengthen security, and ensure abundant energy. ...
46 Patents, ...

In this paper, current development of energy storage(ES) in China and the United States is introduced firstly. Then, the typical ES policies of China and the United States are ...

Liu et al. [32] sorted out the current status of research on the economics of energy storage at home and abroad, summarized the different revenue models of energy storage in the fields of traditional power generation, renewable energy, auxiliary services and distributed energy and microgrid, and initially established a revenue model for energy ...

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

Comparative Analysis on Energy Storage Policies at Home and Abroad and Its Enlightenment To cite this article: Yanwei Xiao et al 2019 IOP Conf. Ser.: Earth Environ. Sci. 267 032019 View the article online for updates and enhancements. Recent citations Research on promotion incentive policy and mechanism simulation model of energy storage technology

Research and development in the battery industry have led to a notable increase in patent filings at the United States Patent and Trademark Office (USPTO), climbing from 3,773 in 2010 to 5,319 in 2019 (see Figure 1). But as more players enter the market and obtain patent protection for their innovations, IP disputes among competitors are ...

PDF | Study of trends and evolution of batteries and electricity storage technology based on patents field for this technology. | Find, read and cite all the research you need on ...

This book, focusing on the rapid development of energy storage technology at home and abroad and combining research and application achievements in energy storage and new energy fields, systematically introduces the development of energy storage technology, technologies for energy storage battery management, technologies for energy storage ...

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Energy storage has become pivotal in ensuring efficient power grid operation and accelerating the transition to green energy sources, as China accelerates its green energy transition, said a top ...

CNESA publishes an annual white paper detailing the latest trends in energy storage. Each report, prepared by the CNESA research team, provides exclusive data and insights to keep you informed about the energy storage industry in China and abroad. Here you can access a free PDF of our reports from 2011 to the present. PDF For download

Aiming to bring a better understanding to the field of energy storage and observe the gaps that separate the emerging trends in academia and industry, the present article ...

In 2019, the energy storage market saw frequent ups and downs. Events in South Korean have prompted prudence over the safety and reliability of energy storage products. The development of the front-of-meter energy ...

To support the much-needed progress, understanding innovation in electrochemical energy storage revealed in patents is an important research, as well as public policy, issue for ...

However, they only made suggestions from the qualitative perspective. [19] [20][21] Hence, modelling research and simulation analysis on the promotion mechanism of energy storage technology are ...

To develop transformative energy storage solutions, system-level needs must drive basic science and research. Learn more about our energy storage research projects. NREL's energy storage research is funded by the U.S. Department of ...

Energy storage is an important technology and basic equipment for building a new type of power system. The healthy development of the energy storage industry cannot be separated from the support of standardization. With the adjustment of the national energy policy and the implementation of the energy conservation and environmental protection policy, the ...

Chapter 1 introduces the definition of energy storage and the development process of energy storage at home and abroad. It also analyzes the demand for energy storage in consideration of likely problems in the future development of power systems. Energy storage technology's role in various parts of the power system is also summarized in this ...

Through the global and Chinese patent application volumes, the research comparatively analyzes the application situations of the main source countries and main ...

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According to research findings, the number of published patents related to different TES technologies increase every year. China, the United ...

What's new: Chinese manufacturers of batteries used in energy-storage projects should double down on their overseas expansion as they face a supply glut and fierce competition at home, according to a new white paper.. Companies can export more products or localize production overseas, according to the document jointly released by the China Energy ...

: 2023??,,?? ...

At home, the research of pure electric vehicle ... This replacement energy accounts for inefficiencies in the energy storage system conversion process. ... Research on automobile industry, no. 8 ...

A recent trend in smaller-scale multi-energy systems is the utilization of microgrids and virtual power plants [5]. The advantages of this observed trend toward decentralized energy sources is the increased flexibility and reliability of the power network, leveraging an interdependent system of heterogeneous energy generators, such as hybrid renewable and ...

2 Web of Science,?""?,2013--2022?? ...

Research on the Development Status of Electric Energy Storage at Home and Abroad from the Perspective of Standardization March 2023 DOI: 10.1109/ICGEA57077.2023.10126066

We believe that energy storage is the key to the transition to a green future. As China's first energy storage industry association, we are proud to: Produce quality research on the projects, players, and policies shaping the industry. Promote business and government partnerships that strengthen the energy storage industry in China and abroad.

On November 7, the International Renewable Energy Agency (IRENA), a lead global intergovernmental agency for energy transformation, released the energy storage report entitled Key Enablers for the Energy ...

In this paper, current development of energy storage(ES) in China and the United States is introduced firstly. Then, the typical ES policies of China and the United States are enumerated from the perspectives of general policies and multi-angle policies, which is consists of the generation side, the grid side and the user side. Through the analysis of the policies, the ...

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