Energy storage patent landscape

Is there a patent landscape analysis of grid-connected Lib energy storage systems?
Nevertheless,nosimilar patent landscape analysis was discovered to have been carried out in the field of grid-connected LIB ESS. The goal of this study is to extract the important aspects of the publications with the most citations and to provide insight into the assessment of grid-connected LIB energy storage systems. 3.1.

Are grid-connected Lib storage patents a trending topic?
This study investigated grid-connected LIB storage patents to comprehend the market. Bibliographic and technological analysis were presented on the patent growth trends. Patent search trending topic on LIB explores grid stability and energy management system. This study identifies and evaluates the possibilities on LIB's future research trend.

Why is patent landscape research important?
The patent landscape research is essential in directing the techno-economic evaluation method because it provides useful information and insight regarding the practicality and economic feasibility of grid-connected LIB ESS technologies.

Are lithium-ion battery energy storage systems sustainable?
Presently,as the world advances rapidly towards achieving net-zero emissions,lithium-ion battery (LIB) energy storage systems (ESS) have emerged as a critical component in the transition away from fossil fuel-based energy generation,offering immense potential in achieving a sustainable environment.

Who has the most patent documents in grid-connected Lib ESS?
Patent documents by inventors and owners To discover the key companies in the field of grid-connected LIB ESS the top 10 inventors and the assignees are presented in Fig. 8. Palo Alto Res ct from Palo Alto Research Centre Inc.has the highest number of patent documents (5).

Are there any patents for Lib ESS?
Very few patentsare found to consider the cost optimization and minimization methods or devices while developing the grid-connected LIB ESS. Another important aspect of the LIB research and development is the LIB recovery and recycling program.

The report analyzes global patent filings from 2002 to 2022 in offshore wind energy technologies. Patent filings are good indicators for innovation, commercialization, and knowledge transfer trends across international markets. ... mechanical power transmission, blades and rotors, hybrid systems, energy storage, and grids and submarine cables ...

The structure of the article is arranged as follows. Following this introductory note, Section 2 presents the review of scientific literature on LIB, while the patent landscape is provided in Section 3. Section 4 presents a

comparative analysis of the publication and patent landscape as well as a discussion with regard to application. The study ...

By combining the EPO"s advanced patent knowledge with the IEA"s unparalleled technical and economic expertise in energy, we aim to support decision-making in the public and private sectors with the best possible information on technology trends in this field. Our new joint study embraces the broad landscape of low-carbon energy technologies.

Energy storage technologies: batteries, pumped hydro storage (PHS), adiabatic compressed air energy storage, thermal energy storage and power-to-gas technology are used in the modelling to provide ...

Request PDF | Recent progress in electrolyser control technologies for hydrogen energy production: A patent landscape analysis and technology updates | Alternative low-to-zero carbon technologies ...

Grid-connected lithium-ion battery energy storage system towards sustainable energy: A patent landscape analysis and technology updates. 2024, Journal of Energy Storage. Show abstract. ... Due to the increasing demand and eye-catching energy storage systems, many types of research and studies have been directed toward the development of optimal ...

A review of the publication and patent landscape of anode materials for lithium-ion batteries. Journal of Energy Storage, 2021, 43: 103231. Article Google Scholar Ershadi M, Javanbakht M, Kiaei Z, et al. A patent landscape on Fe 3 O 4 /graphene-based nanocomposites in lithium-ion batteries. Journal of Energy Storage, 2022, 46: 103924

Most developed cleantech patents. Low-carbon energy technologies, including those for generating power from renewable sources and energy storage solutions, are the most prevalent in the cleantech patent landscape, accounting for 78,000 of the total 244,000 patent families recorded between 2017 and 2021.. This dominant trend is also evident in the EPO ...

Li-ion batteries, supercapacitors and hydrogen storage systems are the three primary energy storage systems which require active materials with high mechanical strength, porosity, high electrical ...

KnowMade"s comprehensive patent landscape analysis highlights who entered the solid-state Li-ion battery patent landscape in 2022. ... Jiuhuan Energy Storage Technology is a battery manufacturer founded in 2003. Its 10 patent families are related to solid-state battery cells with undefined solid electrolytes.

nanowire technologies for energy storage applications; highlight exemplary patents directed to silicon nanowire structures and production methods as well as patents directed to using silicon ...

A dynamic IP landscape. IP competition analysis should reflect the vision of players with a strategy to enter and develop their business in the silicon anode Li-ion battery market. In this report, Knowmade"s analysts

provide a comprehensive overview of the competitive IP landscape and latest technological developments in this field.

Ben Lincoln, energy expert at intellectual property law firm Potter Clarkson, looks at patent filing activity in energy storage technologies outside the world of electrochemical batteries. ... It is therefore highly advantageous for ...

Download Category: Energy storage technologies patent landscape. Silicon Anode for Li-ion Batteries Patent Landscape Analysis 2024. Who are the key players and newcomers in the global IP race for the promising silicon anode-based Li-ion batteries?

A patent landscape analysis on the high-voltage spinel LiNi 0.5 Mn 1.5 O 4 for next-generation lithium-ion batteries. Author links open overlay panel Zhuoya Tong a ... batteries (LIBs) is now a cornerstone technology to curb carbon emission by enabling electric vehicles and grid-scale energy storage. However, LIBs are highly materials-intensive ...

The report provides a clear overview of the most active patent assignees as well as a presentation of newcomers to the patent landscape. Furthermore, patent segmentation reveals the IP position of patent assignees by supply chain segment (electrolyte materials, electrodes, battery cells) through a detailed analysis of their patent portfolios.

The Silicon anode-related patent landscape is very dynamic. Automotive represents a huge new potential market for the battery industry. Electric vehicle (EV) performances mainly rely on batteries, and companies operating in this field are investing a lot to meet their requirements in terms of autonomy, energy density, charge duration, lifetime and safety.

@article{Abu2023RecentPI, title={Recent progress in electrolyser control technologies for hydrogen energy production: A patent landscape analysis and technology updates}, author={Sayem M. Abu and M. A. Hannan and Pin Jern Ker and M. Mansor and Sieh Kiong Tiong and T. M. Indra Mahlia}, journal={Journal of Energy Storage}, year={2023}, ...

Additionally, the IP analysis allowed us to pinpoint over 60 IP newcomers who filed their first halide-related patents in 2022 or after: EVE Energy, Korea Electronics Technology Institute (KETI), Liongo New Energy, Qingtao Energy Development, Global Graphene, etc. 80% of new entrants in the patent landscape come from China.

This comprehensive analysis offers valuable insights into the global energy patent landscape, enabling a deeper understanding of the technological advancements and research activities across different countries. ... The concentration of energy storage patents in countries like the United States and China indicates the growing importance of ...

@article{Wali2024GridconnectedLB, title={Grid-connected lithium-ion battery energy storage system towards sustainable energy: A patent landscape analysis and technology updates}, author={Safat B. Wali and M. A. Hannan and Pin Jern Ker and Safwan A. Rahman and Khoa N. Le and Rawshan Ara Begum and Sieh Kiong Tiong and T. M. Indra Mahlia}, journal ...

This study conducts an in-depth analysis of grid-connected LIB ESS patents published from 1998 to 2022, aiming to comprehend essential developments and trends in the ...

Most developed cleantech patents. Low-carbon energy technologies, including those for generating power from renewable sources and energy storage solutions, are the most prevalent in the cleantech patent ...

Patent Landscape Report includes patent databases like Espacenet, patent lens, google patent, and application such as MS Excel, origin, and PatCite. This is an exhaustive report and can be considered as a handbook reflecting the gradual exploration in the development of polymer composites and their applications in energy storage.