

Research literature on energy storage research





Overview

What are the Research Frontiers in energy storage systems?

Our study reveals 19 research frontiers in ESTs distributed across four knowledge domains: electrochemical energy storage, electrical energy storage, chemical energy storage, and energy storage systems.

What is the complexity of the energy storage review?

The complexity of the review is based on the analysis of 250+ Information resources. Various types of energy storage systems are included in the review. Technical solutions are associated with process challenges, such as the integration of energy storage systems. Various application domains are considered.

How can research and development support energy storage technologies?

Research and development funding can also lead to advanced and cost-effective energy storage technologies. They must ensure that storage technologies operate efficiently, retaining and releasing energy as efficiently as possible while minimizing losses.

What are the applications of energy storage systems?

The applications of energy storage systems have been reviewed in the last section of this paper including general applications, energy utility applications, renewable energy utilization, buildings and communities, and transportation. Finally, recent developments in energy storage systems and some associated research avenues have been discussed.

What is the highly cited energy storage technology literature?

The highly cited energy storage technology literature is used as the basis for revealing the evolution trend of research frontiers. The “highly cited literature” defined in this study refers to the 20 most cited articles in the energy storage field during the period from 2013 to 2022.

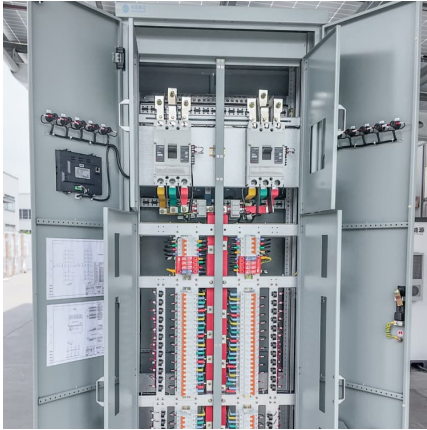


What is the research gap in thermal energy storage systems?

One main research gap in thermal energy storage systems is the development of effective and efficient storage materials and systems. Research has highlighted the need for advanced materials with high energy density and thermal conductivity to improve the overall performance of thermal energy storage systems . 4.4.2. Limitations



Research literature on energy storage research



Comprehensive review of energy storage systems technologies, ...

This paper presents a comprehensive review of the most popular energy storage systems including electrical energy storage systems, electrochemical energy storage systems, ...

[Perspectives on thermal energy storage research](#)

The use of thermal energy storage (TES) allows to cleverly exploit clean energy resources, decrease the energy consumption, and increase the efficiency of energy systems. ...



Recent advancement in energy storage technologies and their

Renewable energy integration and decarbonization of world energy systems are made possible by the use of energy storage technologies. As a result, it ...

[\(PDF\) Next-generation batteries and U.S. energy](#)

...

This study provides a comprehensive review of next-generation battery technologies and their critical role in U.S. energy storage, particularly ...



BATTERY LIFE AND ENERGY STORAGE FOR 5G MOBILE DEVICES Literature ...

PDF , Fifth-Generation (5G) wireless networks because of the high energy consumption issue. Energy harvesting innovation is a potential engaging answer , Find, read ...



Battery energy-storage system: A review of technologies, ...

A detailed description of different energy-storage systems has provided in [8]. In [8], energy-storage (ES) technologies have been classified into five categories, namely, ...



Global trends in solar latent thermal energy storage research ...

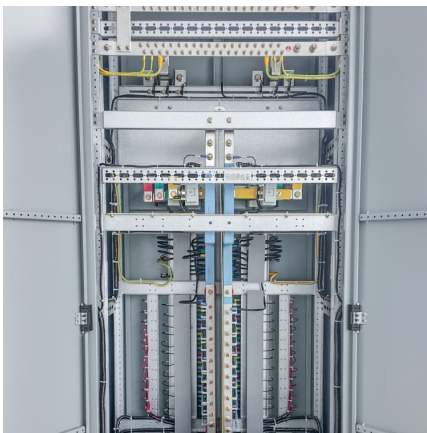
This review analyses 925 STES research articles considering latent heat storage and solar collectors published between 1975 and 2023 in the Web of Science, Scopus, and Dimensions ...





Progress in Energy Storage Technologies and Methods for ...

This paper provides a comprehensive review of the research progress, current state-of-the-art, and future research directions of energy storage systems.



Energy Storage Technologies for Modern Power Systems: A ...

Energy storage technologies can potentially address these concerns viably at different levels. This paper reviews different forms of storage technology available for grid ...

[Literature Review of Energy Storage for Power ...](#)

PDF , On Oct 9, 2020, Ugonna Chikezie and others published Literature Review of Energy Storage for Power System Economics , Find, read and cite all the ...



Situation Analysis of Gravity Energy Storage Research ...

In recent years, it mainly focuses on the application of gravity energy storage technology to renewable energy generation systems, as well as the simulation modeling and algorithm ...



Recent advancement in energy storage technologies and their

By advancing renewable energy and energy storage technologies, this research ultimately aims to contribute to a sustainable and reliable energy future where climate change ...



[Saltwater as the energy source for low-cost, safe](#)

PDF , The effective use of electricity from renewable sources requires large-scale stationary electrical energy storage (EES) systems with ...

[\(PDF\) Storage solutions for renewable energy: A Review](#)

PDF , On Feb 1, 2025, Eduard Enasel and others published Storage solutions for renewable energy: A Review , Find, read and cite all the research you need on ...





Research Status and Development Trend of Gravity Energy ...

These are searched for literatures related to gravity energy storage technology. The objective is to uncover the evolving trends in gravity energy storage technology and offer valuable insights for ...

Energy Storage Ceramics: A Bibliometric Review of Literature

Energy storage ceramics is among the most discussed topics in the field of energy research. A bibliometric analysis was carried out to evaluate energy storage ceramic ...



Literature Analysis of Energy Storage Research Based on Object ...

Method A classification method of energy storage research based on object hierarchy was proposed: according to the hierarchy order of objects from micro to macro, energy storage ...

The relevance of thermochemical energy storage in the last two ...

The trends obtained in this study provide an important perspective of the field, indicating the strengths and weaknesses of the thermochemical materials and systems applied ...



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