

A review of research trends, innovations, and future directions in phase change materials for energy storage in solar drying systems: A bibliometric approach

Current trends and future directions in STES research are explored, including solar energy storage, heating equipment, energy utilisation, phase change materials, ...

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 ...

Energy storage is key to the global energy transition, enabling the integration of renewable sources and ensuring grid stability. Discover the trends shaping the future of energy storage, ...

Energy storage materials are essential for advancing energy technologies, promoting sustainability, and ensuring a reliable and resilient energy future. Their development and ...

A landmark review of concrete as thermal energy storage material is presented through a bibliometric analysis approach. This study shows influential literature and the current ...

The manuscript also emphasizes the importance of sustainability and recycling practices in the development of next-generation batteries. By identifying promising trends and ...

Finally, the review summarizes key insights, outlines the implications for sustainable energy systems, and offers specific recommendations for future research and ...

2 · Introduction & Overview Renewable energy storage represents one of the most critical technologies in our transition to a clean energy future. As we stand in 2025, the global energy ...

Recent advancements in material science have introduced sophisticated heat storage mediums capable of capturing excess solar energy during peak sunlight hours and ...

The selected papers for this special issue highlight the significance of large-scale energy storage, offering insights into the cutting-edge research and charting the course for ...

Thermal energy storage (TES) technology is playing an increasingly important role in addressing the energy crisis and environmental problems. Various TES technologies, ...

Analysis of future trends of energy storage materials

What RD& D Pathways get us to the 2030 Long Duration Storage Shot? DOE, 2022 Grid Energy Storage Technology Cost and Performance Assessment, August 2022.

Abstract In this study, the cost and installed capacity of China's electrochemical energy storage were analyzed using the single-factor experience curve, and the economy of ...

The results show that, in terms of technology types, the annual publication volume and publication ratio of various energy storage types from high to low are: electrochemical ...

Finally, future research in advanced energy storage materials is also addressed in this study, which is intended to help create new insights that will revolutionize the thermal management field.

The thermal energy storage (TES) technology has gained so much popularity in recent years as a practical way to close the energy supply-demand gap. Due to its higher ...

In this context, this study conducts a systematic bibliometric analysis of five emerging and maturing energy storage technologies across two periods, 2013-2017 and ...

Leading contributors, including China, the United States, and Germany, maintain robust collaborative relationships. Future research trends in LUES include the integration of ...

This review also explores recent advancements in new materials and design approaches for energy storage devices. This review discusses the growth of energy materials ...

Over the past few years, the convergence of materials science and machine learning has opened exciting opportunities for designing and optimizing advanced energy ...

Abstract Hydrogen storage technology, playing the role of connecting hydrogen energy production with application, determines the large-scale application of hydrogen energy. ...

The primary research approach used in this review article on hydrogen storage is to assess the state of various hydrogen storage technologies and forecast future ...

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