

Who is Frontiers in energy research?

Frontiers in Energy Research is member of the Committee on Publication Ethics. Front. Energy Res. Scopus, Web of Science Science Citation Index Expanded (SCIE), Google Scholar, DOAJ, CrossRef, CLOCKSS, EI Compendex

What types of articles can I submit to energy storage?

Energy Storage welcomes submissions of the following article types : Brief Research Report, Correction, Data Report, Editorial, General Commentary, Hypothesis & Theory, Methods, Mini Review, Opinion, Original Research, Perspective, Policy and Practice Reviews, Review, Technology and Code.

What is Frontiers' philosophy?

Frontiers' philosophy is that all research is for the benefit of humankind. Research is the product of an investment by society and therefore its fruits should be returned to all people without borders or discrimination, serving society universally and in a transparent fashion.

What is energy storage & why is it important?

Energy storage is a key technology for realizing the future large-scale use of renewable sources, to reach the goal of carbon neutrality.

Why is editorial decision power distributed in Frontiers?

Editorial decision power is distributed in Frontiers, because we believe that many experts within a community should be able to shape the direction of science for the benefit of society.

Is Frontiers compliant with open access mandates?

Frontiers is fully compliant with open access mandates, by publishing its articles under the Creative Commons Attribution licence (CC-BY). Funder mandates such as those by the Wellcome Trust (UK), National Institutes of Health (USA) and the Australian Research Council (Australia) are fully compatible with publishing in Frontiers.

The penetration of renewable energy into the electric grid increases generation from sustainable, low-carbon energy sources, which will dramatically increase the demand for energy storage at different scales for reliable power supply, grid security, and cost reduction for ratepayers. Long-duration and long-term energy storage can bridge the intermittency of ...

The success of nanomaterials in energy storage applications has manifold aspects. Nanostructuring is becoming key in controlling the electrochemical performance and exploiting various charge storage ...

1 Introduction. As the timeline for targets of reaching the carbon peak and carbon neutrality is nearing, the global energy structure is becoming cleaner and more diversified (Yang et al., 2016; Hou et al., 2021). The

global ...

Supercapacitors are also referred to as electrochemical capacitors and they are known to be energy storage devices that can store electrical energy harvested from alternative sources, and yet they are capable of delivering energy rapidly [3]. These devices possess a high power density (>10 kW/kg), which stores the energy at the interfaces of the electrolyte (such ...

According to the TimZone view of the keyword co-occurrence network from 2003 to 2022 (), it can be found that the number of new keywords in the research field of "Web-based energy management information system" ...

The upper layer, represented by energy stations, makes decisions on variables such as the electricity and heat prices sold to users, as well as the output plans of energy supply equipment and the operational status of battery energy storage. The lower layer

Part of an innovative journal, this section addresses aspects of the science, technology, engineering and applications of electrochemical energy conversion and storage devices.

To explore the research hotspots and development trends in the LUES field, this paper analyzes the development of LUES research by examining literature related to five ...

The Department of Energy's (DOE) Office of Electricity (OE) sponsored the "Frontiers in Energy Storage: Next-Generation Artificial Intelligence (AI) Workshop", which was hosted at Lawrence Berkeley National Laboratory on April 16, 2024. This hybrid event convened industry leaders, researchers, and innovators both in-person and virtually to ...

Especially with the widening scope and spatial disparities of energy poverty, scholars have initiated multidimensional explorations into its influencing factors and policy interventions. ... the energy demand Frontier ...

The Thermal Energy Storage and Conversion (TESC) section is dedicated to publishing research focused on advancing and understanding fundamental and applied research on all heat and mass transfer modes involving and applied to TESC technologies. ... who include many of the world's best scientists and scholars. Frontiers is well aware of the ...

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

Table 1 presents the total count and proportion of various article types within the domain of power systems and innovative energy storage solutions. The analysis includes research articles, reviews, conference ...

Keywords: energy storage, energy conversion, controlling strategies, techno-economic and life-cycle analysis

Important note: All contributions to this Research Topic must be within the scope of the section and journal to which they are submitted, as defined in their mission statements. Frontiers reserves the right to guide an out-of-scope manuscript to a more suitable ...

Changes in energy storage capacity by $\pm 10\%$ affect the energy independence of the household, which has a direct impact on the burden related to purchasing energy during peak periods. Changes in regulatory policy, such ...

This paper proposes a new power generating system that combines wind power (WP), photovoltaic (PV), trough concentrating solar power (CSP) with a supercritical carbon dioxide (S-CO₂) Brayton power cycle, a ...

Energy storage is the key to facilitating the development of smart electric grids and renewable energy (Kaldellis and Zafirakis, 2007; Zame et al., 2018). Electric demand is unstable during the day, which requires the ...

Frontiers in Energy Research is delighted to present the "Reviews in" series of article collections. Reviews in Carbon Capture, Utilization, and Storage 2022 will publish high-quality scholarly review papers on key topics in ...

With the massive access of a large number of distributed energy sources and terminals containing power electronic equipment, the terminal equipment in the smart energy system is vulnerable to permission attacks, ...

In particular, the section welcomes submissions which support and advance the focus areas of Carbon Capture, Utilization and Storage, and SDGs 7 (Affordable and Clean Energy), 9 (Industry, Innovation and Infrastructure), 12 (Responsible Consumption and Production), and 13 (Climate Action) that are closely related to CCUS.

Keywords: DER-distributed energy resources, low carbon, energy systems, DER aggregation, renewable energy. Citation: Hu Q, Cui H, Wu Q, Chen T and Shi Q (2023) Editorial: Advances in distributed energy resources aggregation for the low carbon future. *Front. Energy Res.* 10:1029751. doi: 10.3389/fenrg.2022.1029751

For rechargeable batteries, metal ions are reversibly inserted/detached from the electrode material while enabling the conversion of energy during the redox reaction [3]. Lithium-ion batteries (Li-ion, LIBs) are the most commercially successful secondary batteries, but their highest weight energy density is only 300 Wh kg⁻¹, which is far from meeting the ...

The development, frontier and prospect of Large-Scale Underground Energy Storage: A bibliometric review

Author links open overlay panel Liangchao Huang a b c, Zhengmeng Hou a b c, Yanli Fang b c d, Jiashun Luo b c e, Lin Wu b c e, Qichen Wang a b c, Yilin Guo a b c, Xin Zhang d, Tianle Shi a, Jianhua Liu a

The research aims to address the challenges of high energy-density storage for mobile applications and cost-effective storage for grid-scale applications, both of which are essential in achieving a high share of renewable sources in the ...

(Frontiers in Energy, formerly known as Frontiers of Energy and Power Engineering in China)?,?Springer, ...

Part of an innovative journal exploring sustainable and environmental developments in energy, this section explores the area of bioenergy as well as biofuels processing and utilization.

3.2.2 Analysis of structural outputs and cooperation. By analyzing the addresses of the authors, we found that 60 institutions around the world are involved in the research of energy storage resource management under renewable energy uncertainty, such as Islamic Azad University, Egyptian Knowledge Bank (EKB), North China Electric Power University, State Grid ...

Frontiers in Energy. ISSN 2095-1701. ISSN 2095-1698(Online) ... locate potential partners, secure funding, discover influential scholars, identify leading countries, and access key research publications. ... the rapid development of portable/wearable electronics has created an urgent need for the development of flexible energy storage devices ...

While the frontiers of energy storage technology are diverse, they are concentrated on electrochemical energy storage technology. In four domains, 19 energy storage technologies have been identified as energy storage ...

The total installed capacity of energy storage is higher for conventional demand response than for low-carbon demand response at 1347.32MW and 911.13 MW, respectively, suggesting that conventional ...

EDISON, N.J. and WARWICKSHIRE, United Kingdom, April 15, 2025 (GLOBE NEWSWIRE) -- Eos Energy Enterprises, Inc. (NASDAQ: EOSE) ("Eos" or the "Company"), ...

The Energy Storage section is committed to publishing research centered on advancing energy storage technologies for a sustainable future. Led by Dr. Kui Jiao from ...

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