

Special Issue

Applications of Novel Materials for Energy Harvesting, Storage and Conversion

Message from the Guest Editor

As energy consumption continues to rise, efficient utilization of diverse energy sources (including wind, geothermal, biomass, and hydropower) and the production of clean, renewable energies have become paramount. However, the intermittent nature of these natural energy sources poses challenges in their capture and storage for practical applications. Consequently, functional materials that can effectively facilitate energy harvesting, storage, and conversion have emerged as pivotal components in modern electric and electronic systems/devices. To showcase the latest advancements in applications of novel materials for energy harvesting, storage, and conversion, we present this Special Issue as a platform for researchers to share their new insights, innovative methodologies, and latest findings. We welcome research papers or review articles that relate to this field. The state-of-the-art energy materials featured in this Special Issue include a wide range of dielectric materials for energy storage, ferroelectrics, piezoelectrics, thermoelectrics, photocatalysis, photovoltaics, fuel cells, batteries, and supercapacitors.

Guest Editor

Dr. Zenghui Liu

School of Electronic Science and Engineering, Xi'an Jiaotong University, Xi'an 710049, China

Deadline for manuscript submissions

20 November 2025



Energies

an Open Access Journal
by MDPI

Impact Factor 3.2
CiteScore 7.3



mdpi.com/si/226245

Energies
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
energies@mdpi.com

[mdpi.com/journal/
energies](https://mdpi.com/journal/energies)





Energies

an Open Access Journal
by MDPI

Impact Factor 3.2
CiteScore 7.3



[mdpi.com/journal/
energies](https://mdpi.com/journal/energies)



About the Journal

Message from the Editor-in-Chief

Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

Editor-in-Chief

Prof. Dr. Enrico Sciubba

Department of Mechanical and Industrial Engineering, University
Niccolò Cusano, 00166 Roma, Italy

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), Ei Compendex, RePEc, Inspec, CAPlus / SciFinder, and other databases.

Journal Rank:

CiteScore - Q1 (Control and Optimization)