

## Special Issue

# Advanced Materials for Energy Conversion and Energy Storage

### Message from the Guest Editor

For the construction of a "clean, low-carbon, safe and efficient" modern energy system, energy conversion and storage research are the core driving forces promoting the transformation of the global energy structure and advancing sustainable development. Energy conversion technology through solar, wind, and other renewable energy sources into electricity or hydrogen energy can break through the limitations of natural conditions and improve energy efficiency. Energy storage technology through batteries, supercapacitors, hydrogen storage systems, and other carriers can help to solve the problem of renewable energy volatility, ensuring the stable operation of the grid. This Special Issue aims to present and disseminate the most recent advances related to the theory, materials design, devices structure, and electrochemical capabilities of energy materials/devices.

- High-energy-density solid-state batteries;
- Solid electrolytes;
- Electrode materials or capabilities of lithium ion batteries;
- Large-scale flow battery application;
- Thermochemical energy storage technology;

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### Guest Editor

Dr. Bin Sun

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### Deadline for manuscript submissions

25 September 2026



## Energies

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CiteScore 8.3



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## 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.

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### Editor-in-Chief

Prof. Dr. Enrico Sciubba  
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