

Special Issue

Advancements in Thermodynamics and Type-B Energy Processes: Applications and Implications

Message from the Guest Editors

A promising vein of advanced energy research involves what are called Type-B energy processes. Type-B processes, in contrast, offer radically new possibilities by extending standard thermodynamics in new ways, particularly with respect to the second law. Type-B processes can convert ambient thermal energy into useful work. They are inherent in such studied systems as protonic thermotrophic biochemistry, epicatalysis, and supradegeneracy. All known Type-B systems involve a thermodynamic asymmetry by which energy accumulates at system boundaries (superseding the traditional thermodynamic limit) and which is then harvested by an independent process. The possibilities for Type-B processes may extend far beyond those currently under study. With this in mind, we are pleased to solicit full-length articles, short communications, perspectives, and review articles pertaining to frontline energy research involving Type-B processes. Theory, experiment, and numerical simulations are also welcome.

Guest Editors

Prof. Dr. James Weifu Lee

Department of Chemistry and Biochemistry, Old Dominion University,
Norfolk, VA 23529, USA

Prof. Dr. Daniel P. Sheehan

Department of Physics, University of San Diego, Alcalá Park, San Diego,
CA 92161, USA

Deadline for manuscript submissions

closed (28 February 2025)



Energies

an Open Access Journal
by MDPI

Impact Factor 3.2
CiteScore 7.3



mdpi.com/si/203090

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)