

## Special Issue

# New Advances in Two-Phase Heat and Mass Transfer for Efficient Energy Systems

### Message from the Guest Editors

This Special Issue of *Energies* focuses on examining cutting-edge developments and frontier research in the rapidly evolving field of two-phase heat and mass transfer. By addressing both the theoretical foundations and practical implementations of these systems, this collection aims at offering valuable insights towards more efficient and sustainable energy solutions. We invite experts and researchers to delve into the latest experimental results, simulations, and designs that promise to push the boundaries of two-phase heat transfer in modern engineering and energy systems. Topics of interest for the Special Issue include (but are not limited to):

- Heat and mass transfer enhancement techniques;
- Boiling, condensation, and evaporation;
- Icing and frosting;
- Droplet and bubble dynamics;
- Phase change materials (PCMs) for thermal energy storage (TESS);
- Two-phase flow at micro- and nanoscales;
- Two-phase flow in heat exchangers;
- Numerical methods and computational techniques for two-phase heat transfer analysis;
- Multi-phase flow in renewable energy systems;
- Energy systems and thermal management in electronics.

---

### Guest Editors

Dr. Arianna Berto

Department of Industrial Engineering, University of Padova, Padua 35131, Italy

Dr. Marco Tancon

Department of Industrial Engineering, University of Padova, Padua 35131, Italy

---

### Deadline for manuscript submissions

closed (25 March 2026)



## Energies

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.2  
CiteScore 7.3



[mdpi.com/si/233312](https://mdpi.com/si/233312)

*Energies*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[energies@mdpi.com](mailto: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)