

## Special Issue

# Perspectives and Challenges: New Energy Power Generation and Power System Sustainability

### Message from the Guest Editors

The future of power generation is related to the ongoing energy transition from fossil-based systems toward a new regime featuring larger quantities of renewable energy. To facilitate this transition, many governments around the world are planning new green energy mix initiatives in order to reduce CO<sub>2</sub> emissions. This new power generation often challenges load balance and grid stability because of the variability, intermittency, and unpredictability of renewable energy production. In this Special Issue, original research articles and reviews are welcome. Research areas may include (but are not limited to) the following:

- Concentrated solar power;
- Renewable-based district heating and cooling;
- Energy storage and their application;
- Energy mix;
- Distributed generation system, smart grids, microgrids and hybrid-system;
- Approaches and tools for modelling and simulation of energy systems;
- Cogeneration/Trigeneration and energy management;
- Combination and integration of several energy sources and storage solutions;
- Energy harvesting and recovery.

---

### Guest Editors

Dr. Giovanni Brumana

Department of Engineering and Applied Sciences, University of Bergamo, 24044 Dalmine, Italy

Dr. Elisa Ghirardi

Department of Engineering and Applied Sciences, University of Bergamo, 24044 Dalmine, Italy

---

### Deadline for manuscript submissions

30 November 2025



**Sustainability**

---

an Open Access Journal  
by MDPI

---

**Impact Factor 3.3**  
**CiteScore 7.7**



[mdpi.com/si/189900](https://mdpi.com/si/189900)

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

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





## Sustainability

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.3  
CiteScore 7.7



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



## About the Journal

### Message from the Editor-in-Chief

I encourage you to contribute a research or comprehensive review article for consideration for publication in *Sustainability*, an international Open Access journal which provides an advanced forum for research findings in areas related to sustainability and sustainable development. *Sustainability* publishes original research articles, review articles and communications. I am confident you will find the journal contributes to enhancing understanding of sustainability and fostering initiatives and applications of sustainability-based measures and activities.

---

### Editor-in-Chief

Prof. Dr. Marc A. Rosen

Faculty of Engineering and Applied Science, University of Ontario  
Institute of Technology, Oshawa, ON L1G 0C5, Canada

---

### Author Benefits

#### Open Access:

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

#### High Visibility:

indexed within Scopus, SCIE and SSCI (Web of Science), GEOBASE, GeoRef, Inspec, RePEc, CAPIus / SciFinder, and other databases.

#### Journal Rank:

JCR - Q2 (Environmental Studies) / CiteScore - Q1  
(Geography, Planning and Development)