

## Special Issue

# Leveraging Market Mechanisms and Demand Side Flexibility Resource Complementarity Strategies to Address the Issue of Renewable Energy Consumption

### Message from the Guest Editors

Renewable energy has become a key means to achieve green and low-carbon transformation. However, renewable energy generation has volatility, intermittency, and randomness, leading to widespread problems in the consumption of renewable energy. The market mechanisms and demand-side flexibility resources complementarity strategies are important means to promote the consumption of renewable energy. For this special issue, we invite submissions of original research articles covering, but not limited to, the following topics:

- Policy incentive mechanisms to promote the consumption of renewable energy;
- Designs of electricity market operation framework and clearing models;
- Coupling mechanisms and optimization modeling of electricity markets, carbon markets, and green certificate markets;
- Modeling and optimization of the uncertainty of demand-side flexibility resources in new types of power systems;
- Modeling of integrated energy system planning and scheduling with demand-side flexibility resources;
- Other research content relevant to the special issue topics.

---

### Guest Editors

Dr. Peng Wang  
Dr. Xiaofeng Xu  
Dr. Liying Wang

---

### Deadline for manuscript submissions

closed (23 March 2026)



## Sustainability

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.3  
CiteScore 7.7



[mdpi.com/si/248687](https://mdpi.com/si/248687)

*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. The journal publishes original research articles, reviews, conference proceedings (peer reviewed full 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. Steve W. Lyon

School of Environment and Natural Resources, Ohio State University,  
Columbus, OH 43210, USA

---

## 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, CAPlus / SciFinder, and other databases.

### Journal Rank:

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