

## Special Issue

# Smart Grids and Flexible Energy Systems

### Message from the Guest Editors

Power systems are changing due to global drivers, and in many countries, traditional centralized power plants have been or will be shut down. Simultaneously distributed, renewable generation will be integrated in large scale and at all voltage levels. Large-scale integration of variable renewable generation increases the variations and peak situations in which electricity network capacity or voltage limits may become an issue. Therefore, in the future, the active and intelligent utilization of all the different flexible energy resource potentials at all voltage levels, for local and system-wide flexibility services and increased resiliency, will be required in order to maintain total system costs at a reasonable level. In addition, energy storage and integration of different energy networks/vectors and their simultaneous optimization from the point of view of both local and whole society will be needed. Future smart and flexible energy systems will also require totally new protection and control solutions, as well as operation and planning principles based on optimal and coordinated utilization of flexible energy resources at different voltage levels.

### Guest Editors

Prof. Dr. Hannu Laaksonen

School of Technology and Innovations, University of Vaasa, PB 700,  
65101 Vaasa, Finland

Dr. Omid Palizban

School of Technology and Innovations, University of Vaasa, 65200  
Vaasa, Finland

### Deadline for manuscript submissions

closed (20 March 2022)



## Energies

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.2  
CiteScore 7.3



[mdpi.com/si/28528](https://mdpi.com/si/28528)

*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)