

## Special Issue

# Environmental Compatible Circuit Breaker Technologies

### Message from the Guest Editor

General trends to higher voltage levels and increased reliability are supplemented by challenges of the more distributed power generation, and the need for large distance transmission as a result of the increasing use of renewable energies. An additional demand is the environmental compatibility of the components. Circuit breakers as a key component of electric grids have to safely cut off not only the normal load current, but also the high fault currents caused by short circuits or ground faults on the load side. Recent research and developments have focused on attractive topics like the replacement of the environmentally harmful SF<sub>6</sub> in gas breakers, and new solutions for high-voltage direct current switching. Vacuum switchgear is also an interesting option for hybrid circuit breaking concepts. This Special Issue aims to encourage researchers to address the recent findings in the field of high and medium circuit breaker technologies for the next generation electric grids, on the topics of SF<sub>6</sub> replacement in gas breakers, and vacuum and hybrid circuit breakers in particular.

---

### Guest Editor

Prof. Dr. Dirk Uhrlandt

1. Research Division Materials and Energy, Leibniz Institute for Plasma Science and Technology, 17489 Greifswald, Germany
2. Chair of High Voltage and High Current Engineering, University of Rostock, 18051 Rostock, Germany

---

### Deadline for manuscript submissions

closed (30 September 2020)



## Energies

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.2  
CiteScore 8.3



[mdpi.com/si/38262](https://mdpi.com/si/38262)

*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 8.3



[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)