Special Issue

Application of the Superconducting Technology in Energy System

Message from the Guest Editors

Superconductors are known for their zero-resistance behaviour. Superconducting power applications can bring significant benefits across entire energy systems. For example, superconducting power transmission cables can deliver electrical energy over long distance without losses. Likewise, superconducting magnetic energy storage devices can promptly absorb and discharge energy to compensate energy systems well, and superconducting fault current limiters can immediately supress fault currents by using the intrinsic behaviour of superconductors. If superconductors are used in motors and generators (both rotating and liner), electrical machines can be designed with much smaller size and lower weight, but with much higher power density, which is the key to realizing high-efficiency zero-carbon power generation in future renewable energy systems and the full electrification of high-speed transportation networks, e.g., superconducting high-speed maglevs. This Special Issue welcomes contributions on a wide range of topics relating to superconducting applications for energy systems.

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Deadline for manuscript submissions

5 January 2026

Energies

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 7.3

mdpi.com/si/247460

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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.

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