

Special Issue

Smart Energy Systems: Dynamics, Control and Optimal Planning for Low-Carbon Energy Systems

Message from the Guest Editors

The global transition toward sustainable, low-carbon energy systems has become imperative to address climate change, enhance energy security, and meet rising energy demands. This Special Issue aims to map the state of the art and chart the future trajectory of Smart Energy Systems. Topics of interest for publication include, but are not limited to,

- Integration of variable renewable energy (VRE) into smart grids.
- Smart microgrids and nanogrids: design, control, and resilience for off-grid and urban applications.
- Advanced energy storage technologies and their smart management.
- Multi-energy systems: synergies between electricity, heating, cooling, gas, and transport.
- SES in urban and rural contexts: smart architectures and infrastructure, sustainable city planning, rural electrification, and community-led initiatives.
- Demand response and user engagement: smart metering, behavioral analytics, and incentives for flexible energy use.
- Resilience and security of SES: mitigating cyber threats, extreme weather impacts, and supply chain disruptions.
- Digitalization and AI in SES: machine learning, IoT, digital twins, and big data for optimization and monitoring.

Guest Editors

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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.

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