Special Issue

Modeling, Scheduling, Optimising, and Control of Power Grids and Integrated Energy Systems

Message from the Guest Editor

This Special Issue seeks to foster a deeper comprehension of the challenges and opportunities within modern power systems and integrated energy infrastructures through a detailed exploration of these themes. It aims to provide innovative frameworks and actionable strategies for the effective modeling, efficient scheduling, and optimized operation of power grids and integrated energy systems, addressing critical areas such as reliability, sustainability, and advanced coordination of multi-energy systems. This Special Issue invites high-quality manuscripts on topics including, but not limited to:

- Integration of renewable energy systems;
- Modeling and optimization of integrated energy systems;
- Digital twin technologies for power grids and energy systems;
- Virtual power plants and microgrids;
- Advanced scheduling strategies for multi-energy coordination;
- Modeling and control of energy storage systems;
- Fuel cell technologies, electrolyzers, and power-to-hydrogen systems;
- Demand response models and smart community applications;
- Case studies on practical applications in power grids and energy systems.

Guest Editor

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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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