

Special Issue

Advanced Research in Electricity Markets and Power Systems Operations

Message from the Guest Editor

The seamless integration of renewable energy sources, the proliferation of distributed energy resources (DERs), electrification of transport and the active participation of demand-side resources are redefining the operation and economics of power systems. This Special Issue aims to compile high-quality research that addresses the frontier challenges and opportunities at the intersection of electricity markets and power system operations. Topics of interest include, but are not limited to:

- Market design for high-renewable penetration systems
- Coordination between transmission and distribution-level markets
- Real-time pricing, demand response and flexibility mechanisms
- Integration of distributed energy resources (DERs) and virtual power plants
- Data-driven approaches and AI/ML applications in market clearing and system operation
- Cybersecurity and privacy challenges in market platforms
- Cross-border electricity trading and regional market integration
- Ancillary services markets and grid balancing under uncertainty
- Regulatory frameworks and policy implications for next-generation markets
- Resilience and robustness of market-operation co-design under extreme events

Guest Editor

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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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