Special Issue

Electricity Market Design and Renewable Energy Sources

Message from the Guest Editor

This Special Issue aims to explore innovative approaches to electricity market design, which would facilitate the implementation of high shares of RESs in the electricity grids, while ensuring stability, reliability, and financial benefits for the producers, consumers, and prosumers. We welcome original research and review articles that address theoretical, practical, simulated, and policy-related aspects in the context of the transition to RES-based power generation.

- Market designs and pricing mechanisms for RES integration/grid stability.
- Flexibility markets and demand response.
- Capacity mechanisms and adequacy under high-RES penetration.
- Strategies to reduce or manage renewable energy curtailment (e.g., hybrid systems and flexible demand).
- Dynamic pricing and negative wholesale prices.
- Ancillary services and balancing market design.
- Locational marginal pricing and network constraints.
- Energy storage and its role in market design.
- Distributed energy resources and peer-to-peer trading.
- Role of cross-border interconnections in market integration, balancing, and resilience.
- Policy frameworks and regulatory reforms.
- Case studies of market evolution in high-RES regions (e.g., Iberian blackout).

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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