Special Issue

Challenges in Energy Management System for Wholesale, Retail, and Peer-to-Peer Energy Trading

Message from the Guest Editors

This Special Issue aims to present and disseminate the most recent advances in the architecture, modelling, optimization, control, and implementation of energy management systems tailored to the operational needs of wholesale, retail, and peer-to-peer energy markets. Topics of interest for publication include, but are not limited to, the following:

- Multi-layer EMS design for integrated wholesale, retail, and P2P trading;
- Coordination mechanisms among transmission, distribution, and prosumer markets;
- EMS for market-based distributed energy resource (DER) scheduling;
- Decentralized and distributed optimization techniques in EMSs;
- EMSs under uncertain renewable generation and demand responses;
- Privacy-preserving and secure data sharing in market-oriented EMSs;
- Game-theoretic approaches and market mechanism design in P2P environments;
- Blockchain and smart contract integration in energy management;
- Real-time energy pricing and settlement mechanisms;
- Human-in-the-loop and behavioral modeling in EMS design;
- Digital twins and AI-driven EMSs for resilient market operations;
- Forms of renewable energy plants' participation in the market.

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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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