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## Shaping and Integrating Future Electricity Markets with A High Penetration of Renewable Generation and Flexible Resources

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### Message from the Guest Editors

This Special Issue aims to address two issues: (a) the specific challenges arising from prospective cross-border balancing across a wide geographical region, and (b) optimal market design, so that new market actors and resources with different/unique technical and operational characteristics participate in the wholesale market. First, specific challenges arise from the prospective operation of market platforms (e.g., PICASSO, MARI, and TERRE) that shall be used for applying imbalance netting and for the exchange of balancing energy between neighboring control areas. Second, the market structure is gradually transformed from a heavily dominated, conventional-resources market to a market with widespread diffusion of renewables generation, a significant presence of storage facilities (e.g., pumped-storage hydros, batteries, electric vehicles, etc.), and demand-response resources acting as virtual generation. The emergence of new types of resources necessitates the incorporation of certain regulatory provisions and participation rules, along with new balancing/flexibility products, so that these resources are scheduled efficiently and attain economic viability.



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# Special Issue



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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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