Special Issue

Decision-Making Systems in Power System Planning and Operation in the Presence of High Shares of Renewable Energies

Message from the Guest Editors

The massive penetration of not-programmable Renewable Energy Sources (RESs) in modern power systems still represents a challenge for system operators. Despite the promising results of the last years, many questions remain unanswered. In particular, how to harness the power of Big Data for developing reliable decision-making tools is one of them. In this context, the developed frameworks should deal with the effect of uncertain sources, promoting renewable energy integration in Smart Grids. Potential topics include but are not limited to the following:

- Deterministic and probabilistic multi-step ahead wind/solar power forecasting, preferably over large scales.
- Novel metrics to assess the impact of renewable energy uncertainty in power systems.
- Data-driven techniques for power system operation and control.
- Decentralized computing in power systems.
- Methodologies for uncertainty management and characterization in power system applications.
- Decision-making tools for planning and operation of power systems in the presence of uncertainty.

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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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