Special Issue

Dynamics, Control and Optimization of Power Systems for Renewable Integration and Decarbonization

Message from the Guest Editors

Electrification is key to reaching deep decarbonization and curbing the worst impacts of climate change under the condition that there is ample and affordable clean energy on the grid to feed the growing demands. However, high renewable penetration can impose significant challenges for power system control and operation. This Special Issue aims to address these challenges and provide guidance for power system dynamics, control and operation in the pathway of grid decarbonization.Topics of interest include, but are not limited to:

- Grid-interactive converter control to stabilize and enhance dynamic performance of bulk power systems and microgrids
- Stochastic and robust unit commitment and economic dispatch
- Virtual power plant technology
- Energy storage system planning and operation for renewable energy accommodation and ancillary services
- Transportation electrification and distribution system co-planning
- Grid-interactive efficient buildings and connected communities
- Large-scale BTM distributed energy resources integration for demand response
- Market mechanism that considers the participation of distributed energy resources

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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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