Special Issue

New Insights into Intelligent Microgrids and Distributed Energy Systems

Message from the Guest Editors

Microgrids are low-voltage distribution systems comprising various distributed energy resources (DERs) and energy storage systems (ESSs) that are colocated with loads, and have the ability to automatically transform from grid-connected mode into islanded mode. Microgrids introduce many unique opportunities, including enhancing grid resiliency, improving the reliability of power supply, integrating renewable energy resources, reducing carbon emissions, improving energy efficiency, delaying investment in power system expansion, participating in voltage and frequency regulation, and encouraging customer interactions.

Large-scale deployments of microgrids have various barriers, such as affordability, control of DERs, coordination of internal DERs with neighborhood microgrids and utility grids, and policy and regulatory issues, etc. To solve these issues, this Special Issue focuses on the design, operation, control, implementation, and interconnection of future intelligent microgrids and distributed energy systems to promote a venue for cutting-edge fundamental and applied research related to future intelligent microgrids and distributed energy systems.

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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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