Special Issue

Demand Response and Optimization Decisions for Energy Systems

Message from the Guest Editors

With the advancement of new technologies, renewable energy sources such as solar and wind power have become part of the energy mix. However, renewable energy sources have inherent variability, necessitating energy storage facility use. In addition, the electric vehicle industry has seen rapid growth in recent years. Electric vehicles (EVs) and plug-in hybrid electric vehicles (PHEVs) communicate with the power grid, participating in demand response services. EVs can supply power back to the grid or adjust their charging time or speed based on electricity prices. However, extreme charging and discharging may damage batteries. Demand-side management helps to ensure grid stability, reduce generation and transmission costs, lower carbon emissions, and decrease electricity costs for users. Traditional demand-side management strategies include peak pricing, time-of-use rates, and demand response. The challenges and considerations faced by demand-side management are becoming increasingly complex. Authors are invited to contribute to this Special Issue with new insights into demand-side management challenges.

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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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