Special Issue

Charging/Discharging Electric Vehicles via Microgrids including Vehicle-to-Grid Technology

Message from the Guest Editors

The use of microgrids allows more flexible charging/discharging of electric vehicles (EVs), and using vehicle-to-grid (V2G) gives EVs a new role. V2G refers to the power provider company or aggregator to control and manage the electric vehicle (EV) load through the communication between the EV and the power public grid. EVs with V2G function can provide energy back to the public power grid. Electricity companies will be willing to purchase electricity from clients during periods of peak power consumption or use the capacity of electric vehicles' batteries to assist the public grid. Recently, the popularity of EVs has brought about a revolutionary change to the power public grid. EVs can be viewed as distributed energy storage, because EVs can charge and discharge into the public power grid using V2G technology (this technology also maximizes the integration of renewable energy sources). The main advantages of V2G include ancillary services, active power support, reactive power compensation and renewable energy resource support.

This Special Issue will focus on charging/discharging electric vehicles via microgrids, including vehicle-to-grid technology.

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Deadline for manuscript submissions

closed (20 December 2021)

Energies

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 7.3

mdpi.com/si/69089

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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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