

Special Issue

Power Electronics and Energy Management for Battery Storage Systems 2023

Message from the Guest Editors

The deployment of distributed renewable generation and e-mobility systems is creating a demand for improved dynamic performance, flexibility, and resilience of the electrical grid. Various energy storages, such as stationary and electric vehicle batteries, together with power electronic interfaces will play a key role in addressing these demands thanks to their enhanced functionality, fast response times, and configuration flexibility. However, several barriers still stand in the way of the massive implementation of this technology, and the associated enabling developments are becoming of paramount importance. These include energy management algorithms; optimal sizing and coordinated control strategies of different storage technologies, including e-mobility storage; power electronic converters for interfacing renewables and battery systems; and the increase of round-trip efficiencies by means of advanced materials, components, and algorithms. This Special Issue aims to encourage researchers to share new developments and potential solutions addressing the aforementioned and other related topics, aiming to make the most out of these emerging technologies.

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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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