Special Issue

Energy Storage Technologies for Grid Forming Systems

Message from the Guest Editors

The use of energy storage systems in grid-forming systems can greatly benefit the stability and reliability with intermittent renewable energy sources such as solar and wind. In grid-forming systems, where power electronics inverters independently control voltage and frequency, energy storage systems can quickly respond to grid imbalances and fluctuations. They can inject or absorb power as necessary, thereby maintaining grid stability and ensuring a dependable power supply. This feature makes them a reliable source of energy during emergencies, reducing dependence on traditional backup generators or costly grid infrastructure upgrades. In summary, the integration of energy storage systems in grid-forming systems can play a significant role in facilitating the integration of renewable energy sources by improving the overall performance, stability and reliability of the power grid. We invite authors to submit their innovative findings related to energy storage technologies for grid-forming systems for consideration in this Special Issue.

Guest Editors

Prof. Dr. José Luis Monroy-Morales
Programa de Graduados en Ingeniería Eléctrica, Tecnológico Nacional de México/Insituto Tecnológico de Morelia, Morelia 58120, Mexico
Dr. Rafael Peña Alzola
Electronic and Electrical Engineering, University of Strathclyde in Glasgow, Glasgow G1 1RD, UK

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Energies
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
energies@mdpi.com

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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.

Editor-in-Chief

Prof. Dr. Enrico Sciubba
Department of Mechanical and Industrial Engineering, University Niccolò Cusano, 00166 Roma, Italy

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