Special Issue

Grid-Forming Converters in Future Power Grids

Message from the Guest Editor

With the transition toward sustainable and clean energy supply, future power grids will undergo a big change. In line with this transition, renewable energy sources (RESs) are predominantly interfaced to power grids through power–electronic converters. As these green energy sources are replacing conventional generation units characterized by rotating masses, the power system will be faced with several challenges. To address these challenges, grid-forming converter control strategies with a focus on implementing functionalities such as inertia and frequency support, black-start, synchronization and fault-ride, have been attracting attention in the literature in recent years. Some efforts have also been made in ensuring passive behavior for grid-forming converter systems to reduce resonance interactions at low- and high-frequency intervals.

This Special Issue aims to present and disseminate the most recent advances related to the design, modeling, application and control of grid-forming converters. Hence, I invite researchers and industry experts to contribute to research papers and review articles on the subject.

Guest Editor

Dr. Mebtu Beza

Department of Electrical Engineering, Chalmers University of Technology, 412 96 Gothenburg, Sweden

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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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Message from the Editor-in-Chief

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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