Special Issue

High Penetration of Renewables in Power Systems: Challenges and Solutions

Message from the Guest Editors

The high penetration of renewable energy in power systems could resolve the rising energy demands while also reducing fossil fuel consumption, as well as providing economic and technical merits. However, high penetration brings challenges such as harmonic distortion, distribution cable overloading, over-voltage, significant uncertainty, high fault current, and insufficient generating reserves and protection difficulties. Technologies that can overcome such challenges play an important role in increasing the renewable hosting capacity of distribution networks. A seamless grid integrating the operation of renewable energy systems with better performance characteristics is the primary focus of research in both industries, as well as academia. The objective of this Special Issue is to serve as a single platform to bring together important original research and review works that focus on the challenges associated with the high renewable penetration in power systems, as well as discussing the solutions to total inertia reduction, low fault ride-through abilities, high uncertainties, voltage and frequency fluctuations, low power quality, harmonic distortions, feeder overloading, etc.

Guest Editors

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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.

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