



Power System Flexibility in High Renewable Energy Systems

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Message from the Guest Editors

Dear Colleagues,

A broad range of economic, environmental, technical, and socio-political forces have driven the deployment of renewable energy to unprecedented levels in many countries and regions. High renewable penetration challenges the flexibility of the electric power system – often defined as the ability to cope with variability and uncertainty. Moreover, meeting the flexibility challenges of high penetration renewable systems may be facilitated by appropriately designed and operated cross-sector solutions such as the electrification of the end- use sectors, particularly transportation, and power-to-gas or to-hydrogen development. These trends call for an interdisciplinary approach to investigate the flexibility topic.

This special issue in Sustainability will cover this promising and dynamic area of research and development, and emphasize the broad array of considerations and state-of-art approaches in effectively planning and managing bulk power systems with high variable renewable energy as the foundation for broader clean energy economies.

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