Special Issue

The Role of Hydrogen in Future Renewable Power Systems

Message from the Guest Editors

Hydrogen is widely regarded as a clean energy carrier, offering substantial potential to enhance sustainability across various critical domains. It holds the capacity to i) be produced with null carbon emissions, ii) serve as a storage solution for excess energy generated from renewable sources, iii) power transportation vehicles, iv) act as a vital feedstock in diverse industrial processes, and v) contribute to grid balancing by providing supplementary capacity during peak demand periods. Although the current degree of incorporation of hydrogen into electrical energy systems remains limited, it is expected that hydrogen will play a pivotal role in future energy systems, driving decarbonization and promoting sustainability. Considering that existing works in technical literature addressing the presence of hydrogen in electrical energy systems are still scarce, and as there are many issues that need to be addressed, this Special Issue aims to develop a set of decision-making models to enable the planning and operation of electrical energy systems with a significant presence of hydrogen power plants and electrolyzers.

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I encourage you to contribute a research or comprehensive review article for consideration for publication in *Sustainability*, an international Open Access journal which provides an advanced forum for research findings in areas related to sustainability and sustainable development. *Sustainability* publishes original research articles, review articles and communications. I am confident you will find the journal contributes to enhancing understanding of sustainability and fostering initiatives and applications of sustainability-based measures and activities.

Editor-in-Chief

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