Special Issue

Advances in Green Hydrogen Production, Storage, and Applications

Message from the Guest Editor

Green hydrogen has the potential to be a pivotal enabler of the global energy transition, serving as a carbon-neutral fuel and energy carrier for transport, energy storage, and power generation, as well as a feedstock for decarbonising hard-to-abate sectors such as steelmaking. Despite rapid technological progress, key challenges remain in enhancing electrolyser efficiency and durability, reducing production and storage costs, integrating variable renewable energy, and scaling up infrastructure for global deployment. This SI welcomes original research that advances the full spectrum of green hydrogen production, storage, and applications. We particularly encourage interdisciplinary studies that bridge techno-economic analysis, system modelling, materials science, and policy perspectives to accelerate the sustainable development of the hydrogen economy. Our goal is to bridge fundamental research with practical implementation, fostering a platform for sharing insights that address technical, economic, and policy challenges. By uniting advances across disciplines, this Special Issue aims to accelerate the role of green hydrogen in achieving global net-zero targets.

Guest Editor

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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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