Special Issue

Sustainability Analysis of Renewable Energy Storage Technologies

Message from the Guest Editors

This Special Issue focuses on assessing the environmental impact, efficiency, and integration of energy storage solutions in renewable energy systems. The scope includes the evaluation of not only various storage technologies such as batteries (li-ion, flow batteries) and hydrogen-based systems but also traditional systems such as pumped-storage hydroelectricity, as well as the exploration of advanced modeling and sizing procedures for optimal storage deployment. The proper sizing and configuration of storage systems are essential for maximizing renewable energy use, minimizing grid reliance, and ensuring costeffectiveness. Modeling tools help predict performance, durability, and environmental impacts under varying operational conditions, supporting data-driven decisions for system design. Overall, this Issue aims to foster sustainable and efficient energy storage solutions that can support the transition to low-carbon energy systems, reducing the dependency on fossil fuels and advancing environmental sustainability in energy infrastructure.

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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. The journal publishes original research articles, reviews, conference proceedings (peer reviewed full 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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