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 cost-effectiveness. 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.

Guest Editors

Dr. Francesco Montana
Department of Engineering, University of Palermo, Palermo, Italy

Dr. Nicola Campagna
Department of Engineering, University of Palermo, Palermo, Italy

Deadline for manuscript submissions

1 November 2025

Sustainability

an Open Access Journal by MDPI

Impact Factor 3.3
CiteScore 7.7

mdpi.com/si/222045

Sustainability
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
sustainability@mdpi.com

mdpi.com/journal/sustainability

Sustainability

an Open Access Journal by MDPI

Impact Factor 3.3
CiteScore 7.7

mdpi.com/journal/sustainability

About the Journal

Message from the Editor-in-Chief

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

Prof. Dr. Marc A. Rosen
Faculty of Engineering and Applied Science, University of Ontario Institute of Technology, Oshawa, ON L1G 0C5, Canada

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE and SSCI (Web of Science), GEOBASE, GeoRef, Inspec, RePEc, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q2 (Environmental Studies) / CiteScore - Q1 (Geography, Planning and Development)