

Special Issue

Integrated Approaches to Sustainable Hydrogen Production and Storage

Message from the Guest Editor

Dear Colleagues: In response to global climate change and energy security challenges, the transition to a low-carbon energy system is imperative. Hydrogen energy, particularly sustainable hydrogen derived from renewable resources, is recognized as a crucial vector for achieving deep decarbonization, especially in hard-to-abate sectors such as industry, transportation, and energy storage. However, the large-scale deployment of hydrogen energy faces hurdles in production, storage, transportation, and cost. Among these, safe, efficient, and economical hydrogen storage technology is a critical nexus connecting hydrogen production to end-use applications. This Special Issue aims at collating the latest research advances in frontier technologies for sustainable hydrogen production (e.g., water electrolysis powered by renewables) and innovative hydrogen storage solutions (including high-pressure gaseous storage, cryogenic liquid storage, metal hydride storage, porous material adsorption storage, and liquid organic hydrogen carriers (LOHCs)). The focus will be on the development of hydrogen storage materials, system integration and optimization, energy efficiency analysis, etc.

Guest Editor

Dr. Zuoyu Sun

Hydrogen Energy and Space Propulsion Laboratory (HESPL), School of Mechanical, Electronic and Control Engineering, Beijing Jiaotong University, Beijing 100044, China

Deadline for manuscript submissions

10 September 2026



Sustainability

an Open Access Journal
by MDPI

Impact Factor 3.3
CiteScore 8.9



mdpi.com/si/253047

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

[mdpi.com/journal/
sustainability](https://mdpi.com/journal/sustainability)





Sustainability

an Open Access Journal
by MDPI

Impact Factor 3.3
CiteScore 8.9



[mdpi.com/journal/
sustainability](https://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. 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

Prof. Dr. Steve W. Lyon

School of Environment and Natural Resources, Ohio State University,
Columbus, OH 43210, USA

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)