Special Issue

Hydrogen Energy Systems for Energy Storage Applications

Message from the Guest Editors

This special issue focuses on hydrogen-based energy systems, paying particular attention to applications where the hydrogen system is used to store energy. Alternative low-cost and efficient ways to store heat or electricity produced by renewable sources, such as wind power, concentrating solar power plants and photovoltaic systems, are critical for large scale market penetration of renewable energy systems. A typical example of hydrogen-based energy storage is given by regenerative fuel cell applications, where the hydrogen, produced by electrolysis driven by renewable source electricity (e.g. solar photovoltaic or wind power electricity), is reused in a fuel cell to produce electric power again. High temperature thermal energy storage applications see, for instance, the adoption of paired metal hydride materials, which can store high temperature thermal energy, produced through concentrating solar power plants. The stored thermal energy is released later, to drive electric power plants (e.g. steam power plants or supercritical CO2 Brayton plants) when the direct solar power is unavailable.

Guest Editors

Dr. Claudio Corgnale
Greenway Energy, 301 Gateway Drive, Aiken (SC), 29803, USA

Dr. Chiara Milanese
Pavia Hydrogen Lab, Chemistry Department, Physical Chemistry Section & C.S.G.I., University of Pavia, 27100 Pavia, Italy

Deadline for manuscript submissions

closed (31 December 2022)

Sustainability

an Open Access Journal by MDPI

Impact Factor 3.3
CiteScore 7.7

mdpi.com/si/40954

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)