

Special Issue

Sustainable Energy Storage, Conversion, and Utilization

Message from the Guest Editor

To transition toward a low-carbon and sustainable energy future, we need innovative methods for effectively storing, converting, and utilizing energy. This Special Issue focuses on modern research, emerging technologies, and strategies that foster sustainable energy systems and enable the seamless integration of renewable resources such as solar, wind, and biomass. The scope includes cutting-edge energy storage materials and technologies—such as redox materials, batteries, supercapacitors, and hydrogen systems—alongside advanced energy conversion techniques including fuel cells, thermoelectric systems, and electrochemistry. We also emphasize efficient utilization strategies aimed at minimizing waste and emissions. We welcome studies on smart grid integration, lifespan assessments, and techno-economic analyses that promote environmentally friendly and scalable solutions. By highlighting creative approaches and practical applications, we seek to inspire global initiatives toward achieving net-zero emissions, enhancing energy security, and supporting sustainable economic growth.

Guest Editor

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Deadline for manuscript submissions

31 October 2026



Sustainability

an Open Access Journal
by MDPI

Impact Factor 3.3
CiteScore 7.7



mdpi.com/si/258322

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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

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