

Special Issue

Technologies of Energy Storage, Carbon Capture, Utilization and Storage

Message from the Guest Editors

To combat climate change, the commitment to reducing carbon emissions and achieving sustainable development is strengthening worldwide. Energy storage and carbon capture, utilization, and storage technologies play a crucial role in mitigating carbon emissions. Large-scale energy storage also enhance the utilization of renewable energy, balance grid load, reduce energy costs, and improve the flexibility and security of energy systems.

But they also encounter challenges, including the need to enhance energy storage efficiency, lower costs, improve economic viability of carbon capture, guarantee long-term stability and safety of large-scale energy storage and carbon sequestration, and discover more effective methods for integrating renewable energy systems. Mechanical energy storage faces geographical and efficiency limitations, while electrochemical energy storage is challenged by costs, material sustainability, efficiency, and insufficient infrastructure. Underground energy storage and carbon sequestration technologies, also face substantial technical and economic challenges in their development.

Guest Editors

Dr. Ke Hu

Dr. Honglian Li

Dr. Xiang Ao

Dr. Xiaochen Li

Deadline for manuscript submissions

30 June 2026



Sustainability

an Open Access Journal
by MDPI

Impact Factor 3.3
CiteScore 7.7



mdpi.com/si/229770

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

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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

Prof. Dr. Steve W. Lyon

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

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