

Special Issue

Materials for a Sustainable World: Gas Sorption, Energy Storage, and Green Chemical Transformations

Message from the Guest Editors

The increasing demand for clean energy technologies and effective environmental management has intensified the need for advanced materials that support sustainable development. This Special Issue focuses on the design, synthesis, and application of sustainable materials—particularly those contributing to gas capture, separation, storage, and conversion, as well as environmentally friendly nanomaterial synthesis.

We invite contributions that explore materials and processes relevant to gas sorption and storage, including, but not limited to, carbon dioxide (CO₂) capture and conversion, ammonia (NH₃) sorption, hydrogen (H₂) storage, and the reduction of nitrogen oxide (DeNO_x) systems. Research on porous materials such as MOFs, COFs, zeolites, nano carbon materials including graphene, and stability under practical conditions are particularly welcome. Focusing on the following key topics:

- Sustainable materials
- Clean energy and energy storage
- Gas sorption
- Green chemistry and transformations
- Nanomaterials
- Recyclability of materials
- Life-cycle assessments (LCA)

Guest Editors

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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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