

# Special Issue

## Carbon Capture, Storage and Utilization Technologies: Advances and Challenges

### Message from the Guest Editor

Decarbonisation, especially in CO<sub>2</sub>-intensive industries, is not possible without CCUS. However, its widespread deployment will require continued improvements in cost and performance. Stronger and clearer policies are needed to further activate the market and encourage government and industry to further invest in developing supply chains, infrastructures around them, and continued R&D activities.

This Special Issue aims to present and disseminate the most recent advances related to CO<sub>2</sub> capture and sequestration technology, CO<sub>2</sub> utilisation technology, techno-economic and life cycle assessment, and regulatory and policy issues.

- All aspects of technologies related to CO<sub>2</sub> capture;
- All aspects of technologies related to CO<sub>2</sub> utilisation:
  - Thermal chemical CO<sub>2</sub> conversion: CO<sub>2</sub> to CH<sub>4</sub>, methanol, and other high hydrocarbons
  - CO<sub>2</sub> mineralisation
  - Photocatalytic CO<sub>2</sub> conversion
  - Plasma enhanced CO<sub>2</sub> conversion
  - Biological CO<sub>2</sub> conversion#
- CO<sub>2</sub> sequestration;
- Regulatory and policy issues;
- Economic and environmental benefits and impacts such as techno-economic and life cycle assessment.

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### Guest Editor

Dr. Yunxia Yang

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### Deadline for manuscript submissions

closed (15 December 2025)



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## About the Journal

### Message from the Editor-in-Chief

*Energies* is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

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### Editor-in-Chief

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