Special Issue

New Advances in Carbon Capture, Utilization and Storage (CCUS)

Message from the Guest Editor

This Special Issue, New Advances in Carbon Capture, Utilization and Storage (CCUS), aims to highlight the latest developments in research on the mechanisms, modeling, applications, monitoring, and safety protocols across the full CCUS value chain. Topics of interest include, but are not limited to, the following:

- CO2–rock–fluid interaction mechanisms in various geological formations;
- Migration and trapping processes in saline aquifers, depleted reservoirs, and unconventional formations;
- CO2 applications in drilling engineering for wellbore stability, cooling, and fluid management;
- Use of CO2 in completion operations for enhanced zonal isolation and stimulation;
- CO2□EOR processes and integrated storage strategies;
- CO2 utilization for unconventional resource recovery (tight oil, shale gas, coalbed methane);
- Principles and innovations in CO2 gathering, transportation, and injection systems;
- Safety and integrity monitoring for long□term geological sequestration;
- Coupled reactive transport and geomechanical modeling approaches;
- Novel diagnostic and sensing technologies for CCUS operations.

Guest Editor

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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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