Special Issue

Innovative Approaches in Carbon Capture and Utilization for Sustainable Industrial Processes

Message from the Guest Editors

Carbon Capture, Utilization, and Storage (CCUS) is a key strategy for reducing greenhouse gas emissions. CO_2 capture has gained scientific interest due to its multidisciplinary nature and the demand for energy-efficient, cost-effective processes. Additionally, using captured CO_2 to produce value-added products (e.g., chemicals, sustainable fuels) presents an opportunity to advance catalytic research while reducing fossil resource extraction. This Special Issue gathers cutting-edge research on CO_2 capture technologies, including process modeling, reactor design, optimization, and advanced materials, to drive sustainable industrial innovation.

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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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