Special Issue

CO_2 Electrochemistry: New Technologies, Challenges and Prospects in High Energy-Efficient CO_2 Electrolysis

Message from the Guest Editors

In order to overcome various challenges, the transformation of “Big Ideas” to “Mature Technologies” must be accelerated. Specifically, low-temperature electrochemical technologies offer a means of achieving energy-efficient chemical manufacturing. Low-temperature CO2 electrolysis offers a unique opportunity to upcycle waste from existing refineries to create value-added chemicals and fuels. This Special Issue aims to present recent advances in the development of new catalysts, reactor engineering, material development, automation, and the optimization of low-temperature CO2 electrolyzers. The scope of this Special Issue includes the following topics:

- Reactor design and optimization;
- The benchmarking of new catalysts for CO2 electrolysis;
- The development and integration of materials for high-performance electrolysis;
- Multi-physics models of mass and heat transfer;
- New polymer electrolytes for CO2 electrolysis;
- Strategies to improve the durability and energy efficiency of CO2

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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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