

Special Issue

CO₂ Capture and/or Its Catalytic Transformation into Fuels or Valuable Chemicals II

Message from the Guest Editors

The ever-increasing CO₂ concentration in the atmosphere, leading to global warming, is one of the main problems that humankind has to face during the 21st century. To avoid the fact that sooner or later, humanity will directly start to suffer from it, there is an urgent need to reduce this CO₂ level through its capture at the main sources of emissions, such as coal-fired power plants, and even better, to try to sequester it directly from the atmosphere. In addition to CO₂ capture, it is now mandatory to design efficient catalysts to set new processes for its chemical valorization into either fuels (methane, methanol, dimethyl ether) or key building blocks such as olefins, aromatics, epoxides, carbonates, etc. This Special Issue is devoted to presenting the central catalytic role of the aforementioned topics, for example:

- CO₂ capture, separation, and post-treatment to its sequential uses;
- CO₂ platform-based chemistry (CO₂ used as a reactant);
- Uses of CO₂ integrated into processes to afford green products such as formic acid, CO, methanol, methane, cyclic carbonates, and hydrogen;
- Reduction in gas emissions related to CO₂ mitigation processes (NO_x and SO_x).

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Deadline for manuscript submissions

closed (31 August 2023)



Catalysts

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Impact Factor 4.0
CiteScore 7.6



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