Special Issue

CO_2 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 sequestrate 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 (NOx and SOx).

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