



Heterogeneous Catalysts for CO₂ Valorisation

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Message from the Guest Editors

Today, several processes for CO₂ valorization are available or under development, including the CO₂ splitting to CO and O₂; the hydrogenation of CO₂ to methane or to liquid hydrocarbons, to store energy excess from industrial wastes and/or nonprogrammable renewable sources in well-designed gas infrastructure; the reaction of CO₂ with CH₄, called dry reforming; and the high temperature co-electrolysis of CO₂ with H₂O or the artificial photosynthesis. However, the CO₂ molecule is thermodynamically stable, and its activation requires the use of suitable heterogeneous catalysts and alternative sustainable processes. In this regard, there is a continuous effort to improve the performances of the catalysts and their durability through the study of all the fundamental aspects involved in the catalytic process.

This Special Issue covers the design, preparation, and characterization of novel heterogeneous catalysts, as well as new, advanced, and sustainable technologies, for CO₂ valorization.





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