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Heterogeneous Catalysts for CO_2 Valorisation

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Deadline for manuscript submissions:
closed (15 August 2021)

Message from the Guest Editors

Today, several processes for CO_2 valorization are available or under development, including the CO_2 splitting to CO and O_2; the hydrogenation of CO_2 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 CO_2 with CH_4, called dry reforming; and the high temperature co-electrolysis of CO_2 with H_2O or the artificial photosynthesis. However, the CO_2 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 CO_2 valorization.

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Message from the Editor-in-Chief

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