



Recent Advances in Biomass Energy Torrefaction, Pyrolysis and Gasification Technologies

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Message from the Guest Editor

Dear Colleagues,

Biomass as a feedstock has huge potential to replace fossil fuels and it should reduce greenhouse gas emissions. Recently, the world's main problem is that CO₂ emissions are rising every year, and bioenergy has become the fourth largest primary energy source after oil, coal, and natural gas, and is proven to be very advantageous. Biomass torrefaction is a thermochemical process that treats biomass at 200–350 °C. It is carried out under atmospheric conditions and in the absence of oxygen. During the process, the water contained in the biomass as well as superfluous volatiles are removed, and the biopolymers partly decompose, releasing various types of volatiles.

By using thermochemical conversion of biomass feedstocks, it is possible to upgrade biomass feedstocks through the use of different types of valorization techniques.

This Special Issue will focus on different biomass torrefaction processes and their applications in low-carbon demand industries for the production of carbonized solid biofuels, biochar as an additive for organic fertilizers, biosorbents' production for chemical industry, and thermochemical process production.





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Message from the Editor-in-Chief

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