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Thermal Treatment of Biomass and Solid Municipal Waste

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Message from the Guest Editors

The local conversion of municipal, industrial, and biomass wastes is a key element of our future power supply, renewable resource chains, and waste management strategies. Thermal treatment of these resources offers their efficient, comparable cheap usage when direct material recycling is not feasible. Products of thermal treatment, such as pyrolysis, gasification, and incineration, are electricity and heat, high caloric gases, feedstock species for the chemical industry, and biobased solid and liquid products. All products are characterized by higher energy density or value compared to their raw materials and can therefore be efficiently stored, transported, and used.

To fully integrate these technologies into our value chain, technologies for conversion, cleaning, and upgrading have to be improved. When using incineration, the emitted gases are less climate active than those emitted by landfilling, but any emissions are of concern and have to be minimized. We invite original research articles, as well as reviews and perspective papers, with a focus on the described challenges.

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Special Issue