



## Valorization of Waste Products to Biofuel: Current Trends and Technological Challenges

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### Message from the Guest Editors

A major concern with liquid biofuels for the transportation sector is the sustainability of such fuels with respect to actual GHG reduction potential, land-use-change issues, and biomass availability. Secondly, cost competitiveness with current fossil fuels is a major barrier for the deployment of current technologies for the production of biofuels. The environmental and economic sustainability of producing liquid biofuels is largely dependent on the feedstock used for the process. Feedstocks that are easily processed into biofuels are the 1st Generation (1G) feed stocks such as oil from oil crops; sugar cane juice; and starch from cereal grains, but these feed stocks have a high price and are face challenges in the form of environmental sustainability and the food-versus-fuel dilemma. On the other hand, 2nd Generation (2G) feed stocks such as agricultural waste and municipal solid waste have a lower price, are abundantly produced, and are sustainable to use as biofuels feedstock, as they are CO<sub>2</sub> neutral and do not compete with food production.





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