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Special Issue Reprint

Advances in Bio-Energy

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Due to climate change, sustainable fuel alternatives must be found and developed in order to mitigate the adverse environmental impact of anthropogenic activities and preserve ecosystems. One promising alternative involves the production of bioproducts with a high market value via the use of renewable resources, such as the production of biofuels and chemical commodities. In this context, the valorization of residual biomasses plays a key role in transitioning from a fossil-based carbon economy to a green energy economy, leading to a simultaneous reduction in pollutants and greenhouse gas emissions. Nevertheless, several bottlenecks during the production, scale-up and commercialization of the targeted biofuels/bioproducts need to be addressed, as well as their environmental and social impact. This Special Issue aims to provide an overview of recent advancements in the production, commercialization, development and optimization of this technology, as well as the social, economic, environmental and technical challenges associated with biofuels, chemical commodities, and bioproducts, considering their industrial scale-up and the development of legislation.

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