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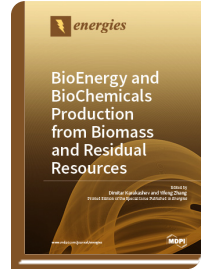
*Special Issue Reprint*

## **BioEnergy and BioChemicals Production from Biomass and Residual Resources**

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Research and technology developments in bioenergy and biochemical production systems are of the utmost importance for the development of next generation, highly efficient biomass conversion concepts, maximizing the total energy and chemical output. The utilization of non-conventional biomasses and unexploited residual resources (e.g., agriculture and agroindustry wastes), innovative solutions for online monitoring and process control, novel biochemical pathways, microbial platforms and reactor technologies are key issues to be addressed. Though conventional technologies are constantly developing and novel processes are continually emerging, major challenges have still to be solved, such as the design of high performance and cost-effective technologies for the production of bioenergy (gaseous, liquid, solid biofuels, heat, renewable electricity) and biochemicals from residual resources from a biorefinery point of view, where the potential of the biomass and residual waste streams is fully valorized. In this context, evaluation of the environmental, technological, economical, and social sustainability of the concepts developed is of utmost importance. The main objective of this Special Issue is, therefore, to provide cost-effective and technologically sound solutions for next generation bioenergy and biochemical production systems.



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