1. Record Nr. UNINA9910404079103321

Autore	Bhaskar Thallada
Titolo	Biomass Processing for Biofuels, Bioenergy and Chemicals
Pubbl/distr/stampa	MDPI - Multidisciplinary Digital Publishing Institute, 2020
ISBN	3-03928-910-1
Descrizione fisica	1 electronic resource (428 p.)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	Biomass can be used to produce renewable electricity, thermal energy, transportation fuels (biofuels), and high-value functional chemicals. As an energy source, biomass can be used either directly via combustion to produce heat or indirectly after it is converted to one of many forms of bioenergy and biofuel via thermochemical or biochemical pathways. The conversion of biomass can be achieved using various advanced methods, which are broadly classified into thermochemical conversion, biochemical conversion, electrochemical conversion, and so on. Advanced development technologies and processes are able to convert biomass into alternative energy sources in solid (e.g., charcoal, biochar, and RDF), liquid (biodiesel, algae biofuel, bioethanol, and pyrolysis and liquefaction bio-oils), and gaseous (e.g., biogas, syngas, and biohydrogen) forms. Because of the merits of biomass energy for environmental sustainability, biofuel and bioenergy technologies play a crucial role in renewable energy development and the replacement of chemicals by highly functional biomass. This book provides a comprehensive overview and in-depth technical research addressing recent progress in biomass conversion processes. It also covers studies on advanced techniques and methods for bioenergy and biofuel production.