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Descrizione fisica	1 online resource (261 pages)
Collana	Microorganisms for Sustainability, , 2512-1898 ; ; 35
Disciplina	662.88
Soggetti	Microbiology - Technique Microbial ecology Bacteria Microbiology Techniques Environmental Microbiology Energia de la biomassa Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Chapter 1. Biomass to Energy: Scope, Challenges And Applications -- Chapter 2. Biomass Utilization for Biodiesel Production: A Sustainable Technique to Meet Global Fuel Demands and Future Scope -- Chapter 3. Bioethanol Production from Biomass: Technologies and Challenges -- Chapter 4. Role of Thermophilic Bacterial Enzymes in Lignocellulosic Bioethanol Production- A Panoramic View -- Chapter 5. Lignocellulosic Biomass and Conversion Technology -- Chapter 6. Catalysts in Biodiesel Production and Process Optimization by Response Surface Methodology -- Chapter 7. Bioethanol Production Technologies: Commercial and Future Perspectives -- Chapter 8. Bio-Butanol for Biofuel: Technologies and Commercial Approach -- Chapter 9. Biomass Cook Stove: Technologies and Future Perspectives -- Chapter 10. Biohydrogen Production Technologies: Past, Present and Future Perspectives -- Chapter 11. Bioenergy: Technologies and Policy Trends -- Chapter 12. Bioeconomy: Scope, Current Status and Challenges -- Chapter 13. Algal Biofuel: Global Policies and Their Implications.
Sommario/riassunto	This edited book explores the three interrelated concepts – biomass,

bioenergy, and bioeconomy – from the point of view of sustainable advanced conversion processes. It elaborates on processing routes, i.e., how biomass from various sources can be converted into bioenergy like bioethanol, biodiesel, biobutanol, and biogas. Chapters are organized into three sections – “Biomass,” “Bioenergy,” and “Bioeconomy.” The first section very much focuses on biomass-based global research trends and their utilization for future bioenergy options, very particular to microbial activities associated and their practically real-time challenges during lab to land approach. The second section deals with biomass-based applications like biodiesel, bioethanol, biobutanol, biohydrogen, and biomass cookstoves and their future perspectives and challenges. The past, present, and future trends of biomass-based research applications have been assessed and critically evaluated to make the gathered knowledge available in the simplest form for academicians and researchers. The third section focuses on biomass-based policies on implementation and governmental strategies needs a attention to make it smooth for social groups and communities too. The role and impacts of bioeconomy with biomass-based bioenergy options and applications are also targeted here. Sustainable Development Goals are addressed in this section to achieve three objectives (trio), i.e., social, economic, and ecological status, which are the need of the hour for bioeconomic security. Contributions of bioenergy to environmental security have also been addressed in this section, very particular to linkage of sustainable human development. This book is a useful compilation of latest information for researchers and teachers in bioenergy and microbiology. The book also serves as reading material for undergraduate and graduate students of environmental sciences, microbiology, and bioenergy.