

1. Record Nr.	UNINA9910460037703321
Titolo	Bioenergy : biomass to biofuels // edited by Anju Dahiya
Pubbl/distr/stampa	London : , : Academic Press, , 2015 ©2015
ISBN	0-12-408120-7
Edizione	[1st edition]
Descrizione fisica	1 online resource (659 p.)
Disciplina	662/.88
Soggetti	Biomass energy Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	<p>""Front Cover""; ""Bioenergy Biomass to Biofuels""; ""Copyright""; ""Dedication""; ""Contents""; ""List of Contributors""; ""CHAPTER AUTHORS""; ""BIOENERGY a€? BIOMASS TO BIOFUELS PROGRAM STUDENT CONTRIBUTORS""; ""CONTRIBUTING ORGANIZATIONS""; ""EDITOR AND AUTHOR""; ""Foreword""; ""Preface""; ""UNIVERSITY OF VERMONT'S BIOMASS TO BIOFUELS COURSE BRINGS REAL WORLD TO ACADEMIA AND VISA VERSA""; ""Acknowledgments""; ""How to Use this Book: Helpful Suggestions""; ""OVERVIEW OF THE BOOK""; ""HELPFUL SUGGESTIONS FOR BOTH THE STUDENTS AND THE INSTRUCTORS ENGAGED IN BIOENERGY COURSES""</p> <p>""ADDITIONAL SUGGESTIONS FOR AN EXPERT (TEACHER, PROFESSOR, GUEST SPEAKER) PLANNING TO USE MATERIAL PROVIDED IN THIS BOOK AS ...""</p> <p>""BRIEF OVERVIEW OF SEVEN PARTS""; ""PART 1 BIOENERGYa€? BIOMASS TO BIOFUELS: AN OVERVIEW""; ""CHAPTER 1 - INTRODUCTION TO BIOENERGY""; ""PURPOSE""; ""INTRODUCTION""; ""BIOENERGY DEFINED""; ""BIOENERGY DEVELOPMENT AND DRIVERS""; ""FEEDSTOCKS""; ""BIOMASS MATERIALS AND SOURCES""; ""BIOMASS SUPPLY AND AVAILABILITY""; ""OVERVIEW OF CONVERSION TECHNOLOGIES""; ""CO-PRODUCTS AND BYPRODUCTS""; ""SOCIAL, ECONOMIC, AND ENVIRONMENTAL IMPACTS""; ""SUSTAINABILITY CHALLENGES""</p> <p>""CONCLUSION""""Acknowledgments""; ""REFERENCES""; ""CHAPTER 2 - INTRODUCTION TO BIODIESEL AND GLOSSARY OF TERMS""; ""BODIESEL</p>

STANDARDS"; "BQ-9000 FUEL QUALITY PROGRAM";
"Acknowledgments"; "CHAPTER 3 - BIOENERGY: BIOMASS TO
BIOFUELS GLOSSARY OF TERMS AND CONVERSION FACTORS"; "Outline
placeholder"; "GLOSSARY OF TERMS"; "REFERENCES"; "QUICK
REFERENCE LIST OF CONVERSION FACTORS USED FOR BIOENERGY
FEEDSTOCK"; "ENERGY UNITS"; "SOME COMMON UNITS OF
MEASURE"; "AREAS AND CROP YIELDS"; "BIOMASS ENERGY"; "FOSSIL
FUELS"
"CARBON CONTENT OF FOSSIL FUELS AND BIOENERGY FEEDSTOCKS"
PART 2 WOOD AND GRASS BIOMASS AS BIOFUELS"; "CHAPTER 4 -
WOOD BIOENERGY"; "INTRODUCTION TO WOOD BIOENERGY"; "WOOD
ENERGY SOURCES: A VAST AND RENEWABLE RESOURCE"; "WOOD
BIOENERGY USES IN THE UNITED STATES AND WORLDWIDE"; "VALUES
AND BENEFITS OF WOOD BIOENERGY"; "WOOD ENERGY SOURCES";
"MANAGING WOOD BIOMASS FOR BIOENERGY"; "HARVESTING,
TRANSPORTING, AND STORING WOODY BIOMASS FOR BIOENERGY";
"USING WOODY BIOMASS"; "DIRECT COMBUSTION OPTIONS";
"LIQUID AND GASEOUS BIOFUEL CONVERSION OPTIONS"
"BIOCHEMICAL TECHNOLOGICAL PROCESSES" "THERMOCHEMICAL
PROCESSES"; "ECONOMICS OF WOODY BIOENERGY"; "ECONOMICS OF
WOODY BIOENERGY PRODUCTION"; "SUSTAINABILITY OF WOODY
BIOENERGY"; "SUMMARY"; "REFERENCES"; "CHAPTER 5 - PERENNIAL
GRASS BIOMASS PRODUCTION AND UTILIZATION"; "INTRODUCTION";
"DEVELOPING AND EVALUATING A PERENNIAL GRASS BIOMASS
SYSTEM"; "REFERENCES"; "CHAPTER 6 - WOOD AND GRASS ENERGY
SERVICE LEARNING PROJECTS AND CASE STUDIES"; "Outline
placeholder"; "REFERENCE"; "SUBCHAPTER 6A - THE VERMONT
BIOMASS ENERGY CO-OP"; "INTRODUCTION"; "COMMUNITY
PARTNER"
"EXECUTIVE SUMMARY OF THE BUSINESS PLAN FOR THE VERMONT
BIOMASS ENERGY CO-OP"

Sommario/riassunto

Depleting fossil fuel reserves and adverse effects of fluctuating oil prices have renewed interest in alternative and sustainable sources of energy. Bioenergy: Biomass to Biofuels takes on this topic and examines current and emerging feedstocks and advanced processes and technologies enabling the development of all possible alternative energy sources: solid (wood energy, grass energy, and other biomass), liquid (biodiesel, algae biofuel, ethanol), and gaseous/electric (biogas, syngas, bioelectricity). Divided into seven parts, Bioenergy gives thorough consideration to topics such as feedstock
