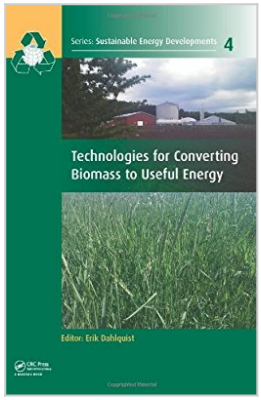

Technologies for Converting Biomass to Useful Energy: Combustion, Gasification, Pyrolysis, Torrefaction and Fermentation (Sustainable Energy Developments)

From CRC Press

Technologies for Converting Biomass to Useful Energy: Combustion, Gasification, Pyrolysis, Torrefaction and Fermentation (Sustainable Energy Developments) From CRC Press

Officially, the use of biomass for energy meets only 10-13% of the total global energy demand of 140 000 TWh per year. Still, thirty years ago the official figure was zero, as only traded biomass was included. While the actual production of biomass is in the range of 270 000 TWh per year, most of this is not used for energy purposes, and mostly it is not used very efficiently. Therefore, there is a need for new methods for converting biomass into refined products like chemicals, fuels, wood and paper products, heat, cooling and electric power. Obviously, some biomass is also used as food – our primary life necessity. The different types of conversion methods covered in this volume are biogas production, bio-ethanol production, torrefaction, pyrolysis, high temperature gasifi cation and combustion.

This book covers the suitability of different methods for conversion of different types of biomass. Different versions of the conversion methods are presented – both existing methods and those being developed for the future. System optimization using modeling methods and simulation are analyzed to determine advantages and disadvantages of different solutions. Many international experts have contributed to provide an up-to-date view of the situation all over the world. These global perspectives and the inclusion of so much expertise of distinguished international researchers and professionals make this book unique.

This book will prove useful and inspiring to professionals, engineers, researchers and students as well as to those working for different authorities and organizations.

Technologies for Converting Biomass to Useful Energy: Combustion, Gasification, Pyrolysis, Torrefaction and Fermentation (Sustainable Energy Developments)

From CRC Press

Technologies for Converting Biomass to Useful Energy: Combustion, Gasification, Pyrolysis, Torrefaction and Fermentation (Sustainable Energy Developments) From CRC Press

Officially, the use of biomass for energy meets only 10-13% of the total global energy demand of 140 000 TWh per year. Still, thirty years ago the official figure was zero, as only traded biomass was included. While the actual production of biomass is in the range of 270 000 TWh per year, most of this is not used for energy purposes, and mostly it is not used very efficiently. Therefore, there is a need for new methods for converting biomass into refined products like chemicals, fuels, wood and paper products, heat, cooling and electric power. Obviously, some biomass is also used as food – our primary life necessity. The different types of conversion methods covered in this volume are biogas production, bio-ethanol production, torrefaction, pyrolysis, high temperature gasifi cation and combustion.

This book covers the suitability of different methods for conversion of different types of biomass. Different versions of the conversion methods are presented – both existing methods and those being developed for the future. System optimization using modeling methods and simulation are analyzed to determine advantages and disadvantages of different solutions. Many international experts have contributed to provide an up-to-date view of the situation all over the world. These global perspectives and the inclusion of so much expertise of distinguished international researchers and professionals make this book unique.

This book will prove useful and inspiring to professionals, engineers, researchers and students as well as to those working for different authorities and organizations.

Technologies for Converting Biomass to Useful Energy: Combustion, Gasification, Pyrolysis, Torrefaction and Fermentation (Sustainable Energy Developments) From CRC Press Bibliography

- Rank: #2928358 in Books
- Published on: 2013-04-16
- Original language: English
- Number of items: 1
- Dimensions: 9.80" h x 1.10" w x 6.90" l, 2.85 pounds
- Binding: Hardcover
- 520 pages

Editorial Review

About the Author

Erik Dahlquist, Professor Energy Technology at Malardalen University, Sweden. Focus on Biomass utilization and Process efficiency improvements. PhD 1991 at KTH. He started working at ASEA Research 1975 as engineer with nuclear power, trouble shooting of electrical equipments and manufacturing processes. In 1982 he switched to energy technology related to the pulp and paper industry. Was technical project manager for development of Cross Flow Membrane filter leading to the formation of ABB Membrane filtration. The filter is now a commercial product at Finnish Metso. 1989: project leader for ABBs Black Liquor Gasification project. 1992: Department manager for Combustion and Process Industry Technology at ABB Corporate Research, also member of the board of directors for ABB Corporate Research in Vasteras. 1996- 2002: General Manger for the Product Responsible Unit "Pulp Applications" world wide within ABB Automation Systems. 2000-2002 part time professor at MDU, responsible for research in Environmental, Energy and Resource Optimization. Deputy dean and dean faculty of Natural Science and Technology 2001-2007. Member of the board of Swedish Thermal Engineering Research Institute division for Process Control systems since 1999. Receiver of ABB Corporate Research Award 1989. Deputy member board of Eurosim since 2009. Member of editorial board for Journal of Applied Energy (Elsevier) since 2007. 21 patents. Approximatly 170 Scientific publications in refereed Journals or conference proceedings with referee procedure. Author of several books.

Users Review

From reader reviews:

Debbie Luken:

Do you considered one of people who can't read pleasurable if the sentence chained inside straightway, hold on guys this kind of aren't like that. This Technologies for Converting Biomass to Useful Energy: Combustion, Gasification, Pyrolysis, Torrefaction and Fermentation (Sustainable Energy Developments) book is readable by you who hate the perfect word style. You will find the data here are arrange for enjoyable looking at experience without leaving actually decrease the knowledge that want to provide to you. The writer regarding Technologies for Converting Biomass to Useful Energy: Combustion, Gasification, Pyrolysis, Torrefaction and Fermentation (Sustainable Energy Developments) content conveys the idea easily to understand by many individuals. The printed and e-book are not different in the content but it just different as it. So , do you nevertheless thinking Technologies for Converting Biomass to Useful Energy: Combustion, Gasification, Pyrolysis, Torrefaction and Fermentation (Sustainable Energy Developments) is not loveable to be your top listing reading book?

Joseph Lunsford:

Information is provisions for folks to get better life, information currently can get by anyone at everywhere. The information can be a expertise or any news even a problem. What people must be consider whenever

those information which is inside the former life are challenging be find than now's taking seriously which one would work to believe or which one typically the resource are convinced. If you find the unstable resource then you get it as your main information it will have huge disadvantage for you. All of those possibilities will not happen in you if you take Technologies for Converting Biomass to Useful Energy: Combustion, Gasification, Pyrolysis, Torrefaction and Fermentation (Sustainable Energy Developments) as the daily resource information.

James Matter:

Playing with family in a very park, coming to see the sea world or hanging out with pals is thing that usually you have done when you have spare time, and then why you don't try factor that really opposite from that. One particular activity that make you not sensation tired but still relaxing, trilling like on roller coaster you have been ride on and with addition associated with. Even you love Technologies for Converting Biomass to Useful Energy: Combustion, Gasification, Pyrolysis, Torrefaction and Fermentation (Sustainable Energy Developments), you can enjoy both. It is very good combination right, you still would like to miss it? What kind of hangout type is it? Oh come on its mind hangout men. What? Still don't obtain it, oh come on its referred to as reading friends.

Frank Arnett:

Reading a guide make you to get more knowledge from it. You can take knowledge and information coming from a book. Book is written or printed or outlined from each source this filled update of news. In this particular modern era like now, many ways to get information are available for you. From media social just like newspaper, magazines, science publication, encyclopedia, reference book, book and comic. You can add your knowledge by that book. Isn't it time to spend your spare time to spread out your book? Or just looking for the Technologies for Converting Biomass to Useful Energy: Combustion, Gasification, Pyrolysis, Torrefaction and Fermentation (Sustainable Energy Developments) when you required it?

Read Technologies for Converting Biomass to Useful Energy: Combustion, Gasification, Pyrolysis, Torrefaction and Fermentation (Sustainable Energy Developments) From CRC Press for online ebook

Technologies for Converting Biomass to Useful Energy: Combustion, Gasification, Pyrolysis, Torrefaction and Fermentation (Sustainable Energy Developments) From CRC Press Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Technologies for Converting Biomass to Useful Energy: Combustion, Gasification, Pyrolysis, Torrefaction and Fermentation (Sustainable Energy Developments) From CRC Press books to read online.

Online Technologies for Converting Biomass to Useful Energy: Combustion, Gasification, Pyrolysis, Torrefaction and Fermentation (Sustainable Energy Developments) From CRC Press ebook PDF download

Technologies for Converting Biomass to Useful Energy: Combustion, Gasification, Pyrolysis, Torrefaction and Fermentation (Sustainable Energy Developments) From CRC Press Doc

Technologies for Converting Biomass to Useful Energy: Combustion, Gasification, Pyrolysis, Torrefaction and Fermentation (Sustainable Energy Developments) From CRC Press Mobipocket

Technologies for Converting Biomass to Useful Energy: Combustion, Gasification, Pyrolysis, Torrefaction and Fermentation (Sustainable Energy Developments) From CRC Press EPub