1. Record Nr. UNINA9910452198103321 Autore Basu Prabir Titolo Biomass gasification, pyrolysis, and torrefaction [[electronic resource]]: practical design and theory / / Prabir Basu Amsterdam; Boston, Elsevier/AP, 2013 Pubbl/distr/stampa 0-12-396543-8 **ISBN** Edizione [2nd ed.] 1 online resource (551 p.) Descrizione fisica 662.88 Disciplina Biomass gasification Soggetti **Pyrolysis** Biomass - Combustion Gas manufacture and works Electronic books. Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Includes bibliographical references and index. Nota di bibliografia Nota di contenuto Front Cover; Biomass Gasification, Pyrolysis, and Torrefaction; Copyright Page; Dedication; Contents; Preface; Acknowledgments; About the Author; 1 Introduction; 1.1 Biomass and its Products; 1.1.1 Products of Biomass: 1.1.1.1 Chemicals Industries: 1.1.1.2 Energy Industries; 1.1.1.3 Transport Industries; 1.1.1.4 Environmental Industries; 1.2 Biomass Conversion; 1.2.1 Biochemical Conversion; 1.2.2 Thermo chemical Conversion; 1.2.2.1 Combustion; 1.2.2.2 Pyrolysis; 1.2.2.3 Torrefaction; 1.2.2.4 Gasification; 1.2.2.5 Liquefaction; 1.3 Motivation for Biomass Conversion; 1.3.1 Renewability Benefits 1.3.2 Environmental Benefits 1.3.2.1 Carbon-Neutral Feature of Biomass; 1.3.2.2 Sulfur Removal; 1.3.2.3 Nitrogen Removal; 1.3.2.4 Dust and Hazardous Gases; 1.3.3 Sociopolitical Benefits; 1.4 Historical Background; 1.5 Commercial Attraction of Gasification; 1.5.1 Comparison of Gasification and Combustion; 1.6 Brief Description of

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## Sommario/riassunto

Biomass is the most widely used non-fossil fuel in the world. Biomass resources show a considerable potential in the long-term given the increasing proliferation of dedicated energy crops for biofuels. The second edition of Biomass Gasification and Pyrolysis is enhanced with new topics, such as torrefaction and cofiring, making it a versatile resource that not only explains the basic principles of energy conversion systems, but also provides valuable insight into the design of biomass conversion systems. This book will allow professionals, such as engineers, scientists, and op