

1. Record Nr.	UNINA9910787711603321
Autore	Yimer Bezabih
Titolo	Alternative energy sources to combat climate change : biogas production using cost effective material // Yimer, Bezabih
Pubbl/distr/stampa	Hamburg, Germany : , : Anchor Academic Publishing, , 2014 ©2014
ISBN	3-95489-627-3
Descrizione fisica	1 online resource (85 p.)
Disciplina	333.7909047
Soggetti	Energy consumption - Economic aspects Energy development - Germany Renewable energy sources - Germany
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Alternative energy sources to combat climate change; Acknowledgements; Table of contents; ABSTRACT; 1 Introduction; 1.1 Background; 1.2 Problem Statement; 1.3 Purpose of the Study; 1.4 Hypothesis; 1.5 Objectives of the Study; 2 Literature Review; 2.1 Fuel Consumption in Ethiopia; 2.2 Biomass and Biogas Energy Technologies in Ethiopia; 2.3 Theory of Biogas Technology; 2.4 Benefits of Low- Cost Plastic Biodigester Technology; 2.5 Input Materials for Bio- Gas Production; 2.6 Biogas Production Processes; 2.7 Theory of Biogas Burner; 2.8 The Slurry after Digestion 2.9 Measurement of Biogas Production2.10 Designing of Digesters; 2.11 Working of Fixed-Dome Biogas Plant; 2.12 Selection and Layout of Pipeline and Biogas Accessories; 2.13 Transfer of the Plastic Film Biodigester Technology; 2.14 Promotion of Fixed and Floating Dome Biogas Plant; 2.15 Economic Evaluations of Biogas Plants; 2.16 LDPE Geomembrane Plastic; 2.17 Theory of Environmental Impact Assessment (EIA); 3 Materials and Methods; 3.1. Description of the Study Area; 3.2 Experimental Design and Layout; 3.3 Geomembrane Plastic Construction methodology; 3.4 Data Collection Procedures 3.5 Statistical Analysis4 Result and Discussion; 4.1 Operation of Plastic Biodigester; 4.2 Biogas production; 4.3 Temperature of the Air and Slurry; 4.4 Characteristics of Bio-digested Slurry (Effluent) and the

Influent; 4.5 Characteristics of Total-N in the Slurry and Influent; 4.6 Characteristics of Organic Matter in the Slurry and Substrate; 4.7 Characteristics of pH of Fermented Slurry; 4.8 Efficiency of the Biodigesters; 4.9 Economic Evaluations; 4.10 Social aspect of biogas technology; 4.11 Technological aspect of geomembrane plastic biodigester
4.12 Technical problems with the geomembrane plastic digester4.13 Environmental Impact Assessment of the Plastic Biodigester; 5 Conclusions and Recommendation; 5.1 Conclusions; 5.2 Recommendations; References; Appendix; List of Tables; List of figures; Acronyms

Sommario/riassunto

The shortage of energy in rural areas and the pollution of the environment from animal wastes due to lack of appropriate technology in Africa motivated the author to conduct research and write this book. In this research book an economically feasible, technically acceptable and environmentally friendly biogas plant is designed by using low cost plastic materials. This book is an essential reference for chemical engineering, environmental engineering and agricultural students. The concept solves global environmental pollution and the problem of lack of energy and organic fertilizer in rural com
