Abstract

The demand for energy continued to outstrip supply and necessitated the development of biomass option. Residues were the most popular forms of renewable energy and currently biofuel production became much promising. Agricultural wastes contained high moisture content and could be decomposed easily by microbes. Agricultural wastes were abundantly available globally and could be converted to energy and useful chemicals by a number of microorganisms. Compost or bio-fertiliser could be produced with the inoculation of appropriated thermophilic microbes which increased the decomposition rate, shortened the maturity period and improved the compost (or bio-fertiliser) quality. The objective of the present research was to promote the biomass technology and involved adaptive research, demonstration and dissemination of results. With a view to fulfill the objective, a massive field survey was conducted to assess the availability of raw materials as well as the present situation of biomass technologies. In the present communication, an attempt had also been made to present an overview of present and future use of biomass as an industrial feedstock for production of fuels, chemicals and other materials. We may conclude from the review paper that biomass technology must be encouraged, promoted, invested, implemented, and demonstrated, not only in urban areas but also in remote rural areas.

Biography

Dr. Abdeen Mustafa Omer (BSc, MSc, PhD) is an Associate Researcher at Energy Research Institute (ERI). He obtained both his PhD degree in the Built Environment and Master of Philosophy degree in Renewable Energy Technologies from the University of Nottingham. He is qualified Mechanical Engineer with a proven track record within the water industry and renewable energy technologies. He has been graduated from University of El Menoufia, Egypt, BSc in Mechanical Engineering. His previous experience involved being a member of the research team at the National Council for Research/Energy Research Institute in Sudan and working director of research and development for National Water Equipment Manufacturing Co. Ltd., Sudan. He has been listed in the book WHOâ€™S WHO in the World 2005, 2006, 2007 and 2010. He has published over 300 papers in peer-reviewed journals, 200 review articles, 17 books and 150 chapters in books.

His area of research includes QSAR, Structure-based Ligand Design using Docking and Pharmacophore Modeling, Protein Modeling and Bio-molecular Simulations. He has 2 patents, 38 international papers to his credit.

References

Abdeen, M. O. (2008a). Renewable building energy systems and passive human comfort solutions. Renewable and Sustainable Energy Reviews, 12(6), 1562-1587.

Abdeen, M. O. (2008b). People, power and pollution. Renewable and Sustainable Energy Reviews, 12(7), 1864-1889.

Abdeen, M. O. (2008c). Energy, environment and sustainable development. Renewable and Sustainable Energy Reviews, 12(9), 2265-2300.

Abdeen, M. O. (2008d). Focus on low carbon technologies: The positive solution. Renewable and Sustainable Energy Reviews, 12(9), 2331-2357.

Omer, A. M. (2008).Green energies and environment. Renewable and Sustainable Energy Reviews, 12, 1789-1821.

Robinson, G. (2007). Changes in construction waste management. Waste Management World, 43-49. May-June 2007.

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