

Waste-to-Energy

Potential of Biofuels Production from Sawdust as a Pathway to Sustainable Energy Development

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Abstract

Waste-to-energy technologies (WTE-T) are optimistic techniques, especially for the developing countries, to turn waste into a functional form of energy. The prime objectives of this chapter are to: carry out a comprehensive review on WTE technologies; assess WTE technology development in developing countries; and Gas Chromatography-Mass Spectrometry (GC-MS) characterization and determination of bio-oils functional groups produced from Africana birch (Al) and West African cordia (Cm) sawdust pyrolysis. The utilization of municipal solid waste (MSW) for WTE acts as one of the potential solutions for modern MSW management and sustainable energy development. Considerable attention in recent years has been paid to plant biomass waste conversion, which in contrast to the fossil sources is continuously renewed in nature. Prospective realization and assessment of biofuels production from sawdust has been carried out in this research.