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ENVIRONMENTAL ASSESSMENT OF MUNICIPAL SOLID WASTE MANAGEMENT IN BANJALUKA, BOSNIA AND HERZEGOVINA

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Abstract

In this paper life cycle assessment was applied to analyze and evaluate, from an environmental point of view, current and alternatives to the current solid waste management system in Banjaluka region. The current system, which is disposal on landfill, has significant adverse environmental impacts caused by methane emissions from landfill. Therefore, four different scenarios were developed as alternatives to the current waste management system. Landfilling with energy recovery, separate collection of packaging waste, incineration and anaerobic digestion were considered in these scenarios. The functional unit in this study is 100,000 tons which is the amount of municipal waste which is generated within one year in Banjaluka. The assessment in this study was based on results from modelling performed in the EASETECH model. The improvement of gas collection in the current scenario and its utilisation for the purpose of creating energy will have a positive effect on the environment. Increasing separation collection of packaging waste and reducing biodegradable waste will have a positive effect on the environment. The separation and recycling of packaging waste should begin as soon as possible and policies that promote source separated collection should be implemented.

Key words: incineration, landfill, life cycle assessment, municipal solid waste, recycling

Received: February, 2016; Revised final: November, 2016; Accepted: June, 2017

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