Analisis kemanfaatan metode pengolahan limbah padat organik yang berlanjut (penggunaan metode hydrocracking untuk pengolahan limbah padat organik) = Ecoefficiency analysis of a sustainable organic solid waste management (usage of hydrocracking method to treat organic solid waste)

Dimas Hokka Pratama Soebekti, author

Abstrak

[ABSTRAK
Jakarta adalah kota terbesar di Indonesia. Sebagai kota terbesar di Indonesia, Jakarta juga memiliki populasi yang sangat besar, yang diimbangi oleh majunya ekonomi Jakarta. Sebagai imbas populasi dan pertumbuhan ekonomi, permasalahan pengelolaan limbah padat adalah salah satu permasalahan dasar kota Jakarta. Penelitian ini memiliki tujuan untuk menganalisis keberlanjutan pengelolaan limbah padat di Jakarta dengan mengukur ekoefisiensinya, serta menganalisis keberlanjutan metode hydrocracking sebagai cara pengolahan limbah padat perkotaan, khususnya di Jakarta. Pada sistem pengelolaan terkini, ditemukan bahwa pengelolaan limbah padat di Jakarta tidak berlanjut (Ekoefisiensi pada tahun 2013, sebesar 0,52 lebih kecil dari 1). Oleh sebab itu diperlukan intervensi berupa proses hydrocracking (Ekoefisiensi proses sebesar 1,775) agar pengelolaan limbah padat di Jakarta berlanjut. Skenario intervensi hydrocracking baru akan berlanjut apabila limbah padat di Jakarta telah dipilah sebesar 50% dan limbah padat organik diproses melalui hydrocracking sebesar 30%.
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ABSTRACT
Jakarta is the biggest city in Indonesia. As such, it is densely populated, and has a major economic activity. These two factors contribute towards the current solid waste management issues in Jakarta. This paper aims to analyze the sustainability of existing municipal solid waste by measuring its ecoefficiency, and to analyze the sustainability of hydrocracking method as a means of municipal solid waste treatment. In the existing condition, We find that Jakarta?s municipal solid waste management system is not sustainable (In 2013, the ecoefficiency was measured at 0,52 which is less than 1). Therefore, based on this finding we find it to be necessary to do an intervention. In this paper, the intervention was introduced in the form of hydrocracking process. As a process we find hydrocracking to be a sustainable process (ecoefficiency of the process is measured at 1,775). However, the intervention scenario will only be sustainable, once 50% of the solid waste of sorted, and if hydrocracking method treats 30% of this fraction;Jakarta is the biggest city in Indonesia. As such, it is densely populated, and has a
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