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Carbon pay back in waste to energy production in India – A case study

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Abstract

The potential of waste to energy from different sources in India has been studied in this paper. This includes the different industrial waste potential to produce power from the anaerobic digestion. In India, energy demand from various sectors is increasing substantially and the energy supply is not in pace with the demand, which resulted in a deficit of 20,628 MW which is equivalent to 12 times of peak demand in 2012. The potential for recovery of energy from urban waste is high in Maharashtra followed by Uttar Pradesh, Tamil Nadu and West Bengal. The technology of converting waste to energy from organic wastes through bio-methanation is working successfully in many small and large private projects in India. The quantity of bio gas production has been estimated based on the available data. Also the carbon emission has been estimated for the power production using the bio gas from waste. That is compared with coal based power production to calculate the carbon reduction during the operation and carbon payback period.