

ENHANCEMENT OF BIOGAS PLANT PERFORMANCE – A LITERATURE REVIEW

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Abstract

The anaerobic digestion of organic materials has long been used to generate useful resources, which have been harnessed for the use of mankind. Biogas, which is one of the by products of anaerobic digestion, comprises about 60% methane and 40% carbon dioxide. It has been used as a source of fuel in countries like India, China, Sweden, Bangladesh etc. for lighting and cooking purposes. Biogas, a clean and renewable form of energy could very well substitute (especially in the rural sector) for conventional sources of energy (fossil fuels, oil, etc.) which are causing ecological–environmental problems and at the same time depleting at a faster rate. Despite its numerous advantages, the potential of biogas technology could not be fully harnessed or tapped as certain constraints are also associated with it. Most common among these are: the large hydraulic retention time of 30–50 days, low gas production in winter, etc. Therefore, efforts are needed to remove its various limitations so as to popularize this technology in the rural areas. Researchers have tried different techniques to enhance gas production. This paper reviews the varioustechniques, which could be used to enhance the gas production rate.

Keywords: Biogas production rate; Additives; Anaerobic filters; HRT

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