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BIOMETHANISATION PROCESS FOR ENVIRONMENTAL SUSTAINANBILITY: A ROAD MAP FOR GREEN ENERGY TECHNOLOGY

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Abstract

Fast economic advancements in developing countries lead to a terrific upsurge in Municipal Solid Waste (MSW) generation in the last few decades. Rapid escalation of population and unconstrained urbanization has generated critical problems posing threat to energy availability and solid waste disposal. Dumping of Municipal Solid Waste (MSW) into abandoned dumping sites is the most widespread mode of waste disposal in many cities of India. These dumping yards have become graveyards for essential resources. The dearth of petroleum and coal has jeopardized the supply of fuel throughout the world. Optimistically, the problems that emerged owing to their combustion fanned the flames of research in different dimensions to gain access to the new sources of energy, otherwise known as the renewable energy resources. We need an ecofriendly substitute for energy. The earth's finite resources should be recycled and utilized to the fullest extent possible in order to promote an ecologically sustainable society in the future. In this respect, biogas will surely play an important role, Biomethanation technology is a method of dealing out the biodegradable waste. It is an environment friendly technology, which delivers two constructive products i.e. Methane and Manure, which make it economically self-sustainable. Methane fuel gas is a valuable energy product, which will fend for the depletion of non-conventional energy resources. It produces superior weed free manure, which is a soil conditioner. There is only waste consumption, nil generation. The wastewater generated is recycled and utilized for garbage processing plus gardening of the project premises. This will enormously add to the value of the technology from environmental perspective.

The research paper provides overview of technology, its technical, environmental and socio-economic benefits.

Keywords: biogas, biomethanation, manure, biodegradable waste.