

# **“PORTABLE BIOGAS PLANT”**

**A Project Report**

**Submitted in Partial fulfillment of the Requirements for the award of**

**Bachelor of Engineering  
in  
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**by**

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## ABSTRACT

Renewable energy resources such as solar energy, wind energy, different thermal and hydro sources of energy, **Biogas** are the only sources on which the world can survive on in the future. Use of dung, firewood as energy is also harmful for the health of the masses due to the smoke arising from them causing air pollution. We need an eco-friendly substitute for energy. Biogas serves this, it does not have any geographical limitations nor does it require advanced technology for producing energy, also it is very simple to use and apply. Kitchen waste is organic material having the high calorific value and nutritive value to microbes, that's why efficiency of methane production can be increased by several orders of magnitude as said earlier. It means higher efficiency and size of reactor and cost of biogas production is reduced. Biogas refers to a gas produced by break down of organic matter in the absence of oxygen. Organic wastes such as kitchen wastes can be converted in to a gaseous fuel called as biogas. Biogas can be produced using anaerobic digesters. During the process, as an air-tight tank transforms biomass waste into methane producing renewable energy that can be used for heating, electricity, and many other operations that use any variation of an internal combustion engine. The process of generation of biogas depends on fermentation. Fermentation is the process in which chemical breakdown of a substance by bacteria, yeasts, or other microorganisms, typically involving effervescence and the giving off of heat. Typically fermentation process takes several weeks to complete and thus the energy generation is always a problem. The basic idea of the project is to enhance the process of fermentation using eco-friendly chemicals thus making it a more reliable source to generate a energy from a potable equipment prepared with minimal cost.