



**G H Raisoni College of Engineering & Management ,**  
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# BIO-GAS

**CAE 2 PPT Environmental Chemistry (UBSL102)**

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# Introduction

Biogas typically refers to a mixture of different gases produced by the breakdown of organic matter in the absence of oxygen.

- Microbially controlled production of biogas is an important part of the global
- Carbon cycle.
- It is a renewable energy source.
- The main source of raw material for production of biogas is Plant and Animal biomass .

## Processing of Biogas

The scrubbing of the biogas in order to remove impurities that are generated during the digestion process such as CO<sub>2</sub> (Carbon Dioxide) and H<sub>2</sub>S (Hydrogen Sulfide)

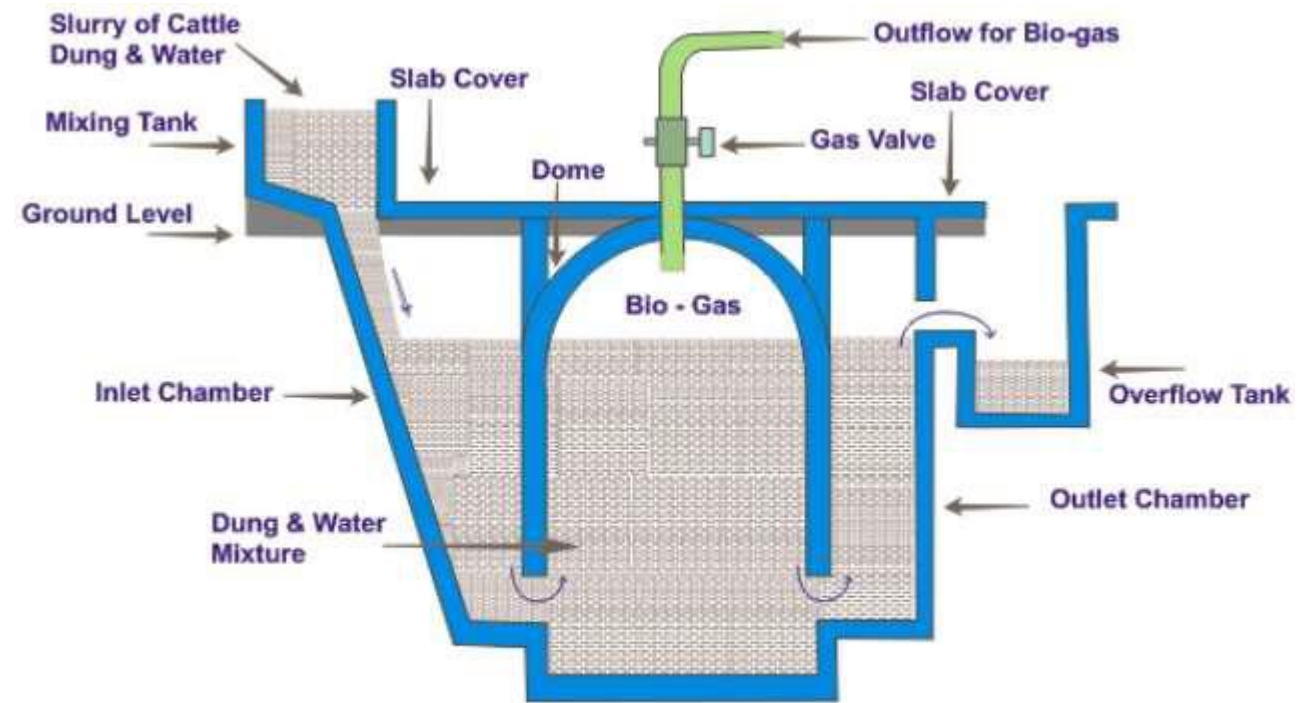
- Biogas go through a cleaning process, and becomes biomethane.
- A simple method for Hydrogen Sulfide utilizing steel wool in a glass bottle
- For Carbon Dioxide removal, as well as additional Hydrogen Sulfide removal a method of water spray cross flow can be used . In this method the Biogas enters one end of a tube and experiences water streams flowing in the opposite direction .

# Fixed Dome Type

- A fixed-dome plant consists of a digester with a fixed, non-movable gas holder, which sits on top of the digester

- Advantage –

The costs of a fixed-dome biogas plant are relatively low. It is simple as no moving parts exist. There are also no rusting steel parts and hence a long life of the plant (20 years or more) can be expected.

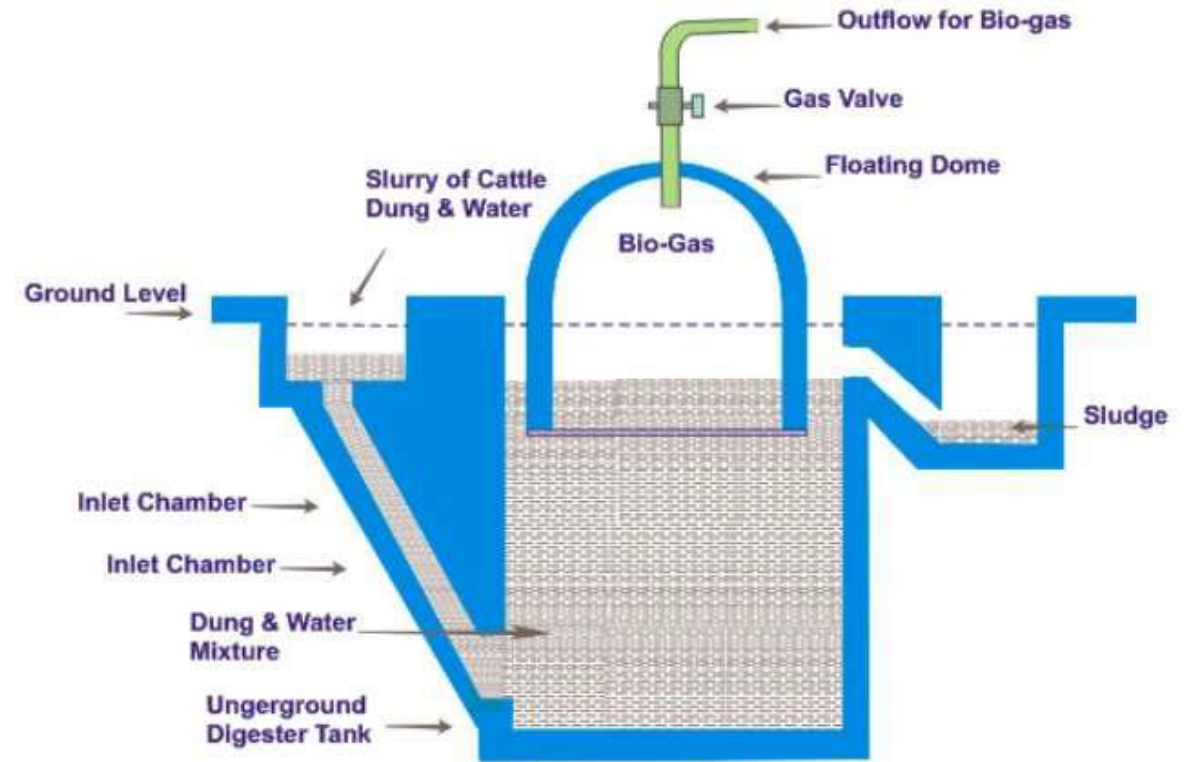


**Fixed Dome type Bio-gas Plant**

# Floating Dome Type

Floating-drum plants consist of an underground digester and a moving gas-holder.

- The gas-holder floats either directly on the fermentation slurry or in a water jacket of its own.
- The gas is collected in the gas drum, which rises or moves down, according to the amount of gas Stored
- Advantage- Floating-drum plants are easy to understand and operate. They provide gas at a constant pressure, and the stored gas-volume is immediately recognizable by the position of the drum



**Floating Dome type Bio-gas Plant**



# Benefits Of Biogas & Advantage of biogas as a fuel

## Benefits Of Biogas

- Alternate energy source
- Fertilizer
- Requires only locally and easily available material for construction
- Control pollution
- Little operational skills and maintenance required
- Rapid falls in disease

## Advantage of biogas as a fuel

- High calorific value
- Renewable source of energy
- Non polluting
- Reduces landfills
- Economical Technology

# THANK YOU !