

Biogas Mobile App

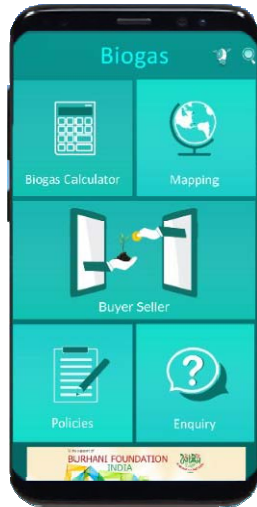
Celebrating the 75th birthday of His Holiness Dr. Syedna Mufaddal Saifuddin Saheb ^{TUS}, Burhani Foundation (India) in association with Indian Biogas Association (IBA) launched a unique Biogas Mobile App in February 2019 at IIT-BHU, Varanasi. The app helps to increase awareness about the Biogas field and to apprise our countrymen with the immense benefits Biogas can provide.

Key Benefits of this Project:

- ◆ Supporting 'Swachh Bharat Abhiyan'
- ◆ Awareness regarding renewable energy sources in India
- ◆ Promoting Circular Economy, Waste to Energy and Zero Organic Waste to Landfill

Features of this App:

- ◆ Biogas Basics
- ◆ Biogas Calculator
- ◆ Resources Mapping
- ◆ Real-Time Assistance
- ◆ Government Policies
- ◆ Buyer-Seller Platform
- ◆ Farmers corner



A future section on 'Circular Economy' shall facilitate depiction of the whereabouts of organic waste throughout its cycle.



Scan and Download



Provision of real-time helpline, wherein users can address their queries through a standard questionnaire is also envisaged.

Waste Treatment Benefits

- Natural waste treatment process
- Requires less land than aerobic composting
- Reduces disposed waste volume to landfill

Energy Benefits

- Net energy-producing process
- Generates high quality renewable fuel
- Numerous end-use applications

Environmental Benefits

- Significantly reduces greenhouse gas emissions
- Eliminates odours
- Produces nutrient-rich organic fertilizer
- Maximizes recycling

Social Benefits

- Inclusive economical growth
- Employment opportunities
- Empowerment of women



एक कदम स्वच्छता की ओर



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BIOGAS

An Understanding



Informative Brochure

What is Biogas?

Biogas is a mixture of different gases produced by the breakdown of organic matter in the absence of oxygen. Biogas is primarily Methane and Carbon dioxide. Technically biogas can be produced from any type of organic material however it is mostly produced from :

- Agricultural Waste
- Manure
- Municipal Waste
- Plant Material
- Sewage
- Green Waste / Food Waste

Traditionally the feedstock used for biogas production had been predominantly cattle manure, but in recent times, India is bringing innovation by using unique feed options such as rotten potatoes, vegetable waste, fruit waste, rotten grains etc. Biogas in India is primarily through 'Waste to Energy' route. It is widely known as **Gobar Gas**.

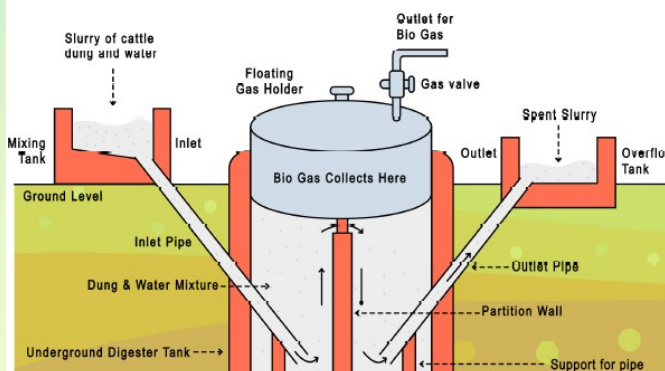


The biogas yield of a plant depends not only on the type of feedstock, but also on the plant design, fermentation temperature and retention time. Kitchen waste for example, yields 2.5 times more biogas per ton than cow manure.

Type of Digesters

A biogas digester is a large tank where Biogas is produced through decomposition or breakdown of organic matter through a process called anaerobic digestion. All anaerobic digesters perform the basic function of holding manure in the absence of oxygen and maintain the proper conditions for methane forming microorganisms to grow. There is a wide variety of anaerobic digesters, each performing this function in subtly different ways. The main types are :

1. Floating Drum Biogas Digester
2. Up flow Anaerobic Sludge Blanket Digester -UASB
3. Fixed Dome Biogas Digester
4. Complete Mix Digester
5. Plug Flow Digester



Basic structure of a floating-dome biogas plant



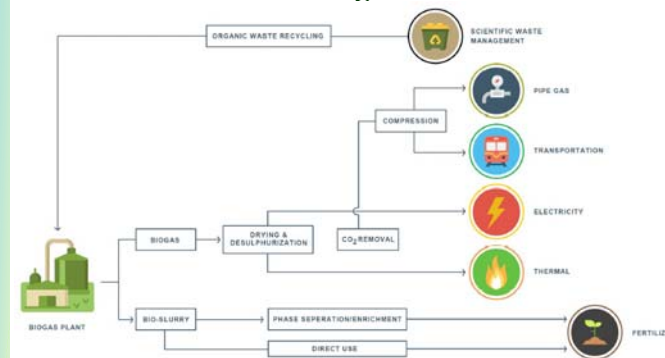
Biogas in India

Total value of biogas potential from manure :

INR 150,617 crore

The central and state governments of India have recognized the significance of bio-mass based energy. Many incentives are already in place such as waiver of taxes, renewable purchase obligations, capital subsidy and tariff guidelines. More incentives and enforcements are being worked out, but undoubtedly the potential is enormous.

Various Uses of Biogas



Bio-CNG Generation

Save trees & fossil fuels + Control pollution

When the gases generated are further purified and processed, it is called Bio-compressed Natural Gas (Bio-CNG). It is similar to natural gas in terms of composition and properties, and is a cleaner alternative to fuels such as petrol and diesel. Bio-CNG has immense scope, specifically as a replacement for the more widely used CNG and LPG-Liquefied Petroleum Gas. Bio-CNG can cater to diverse segments of the market with applications in :

- Commercial—Hotels, Canteens, Bakeries, Resorts
- Industrial—Glass, Ceramic, Metal, Cement, Textiles
- Automotive—Public transport and Private vehicles

Thermal Use

In India, biogas is widely produced at household and community levels than at a large scale. In villages, thousands of small-scale biogas plants use cattle waste and generate biogas for cooking. As per MNRE (Ministry of New and Renewable Energy) approximately 5 million biogas plants have been installed all over India.

Electricity Generation

The conversion of biogas to electric power by a generator set is most practical. Biogas is used as fuel for combustion engines, which convert it to mechanical energy, powering an electric generator to produce electricity. The technology is well known and the maintenance is simple too.

Additionally biogas plants are also useful for -

- Scientific Management of Organic Waste
- Usage of bio-slurry as organic fertilizer