



# SHRIJEE BIOGAS DIVISION

**Shrijee is offering complete biogas plant services in technology collaboration with a renowned German company – J&F Biogas.**

We offer turnkey biogas plants. Biogas generated can be used for power generation or upgraded to BioCNG. Every plant is designed and built based on specific client needs. We have more than 35 years of experience in setting up biogas plants using various organic feed stocks in Europe and International markets. Our biogas plants are based on state-of-the-art German technology.

## **What is Biogas?**

Biogas is formed when bacteria break down organic material in the absence of oxygen, also called anaerobic digestion. Typical biogas composition consists of 55-60 % of CH<sub>4</sub>, 30-35 % of CO<sub>2</sub>, 1-3 % of H<sub>2</sub>S and 1-2% Moisture. Raw biogas can be upgraded to BioCNG/CBG (compressed Biogas) by using suitable upgrading technology. The biogas once upgraded will have CH<sub>4</sub> > 95% and CO<sub>2</sub> < 5%, which can be used as vehicle fuel or for various industrial applications or as replacement for LPG.

## **Biogas an all-rounder**

Biogas is a true all-rounder; raw gas generated during fermentation process can be used for various applications. Biogas can be used for generating power and heat or purified to produce bio-methane/BioCNG. The digestate obtained after the fermentation process can be further used as high value organic solid and liquid bio-fertilizers rich in nutrients. Organic fertilizer contains adequate quantities of N, P, K and several micronutrients essential for plant growth.

**German Biogas Technology | Shrijee Project Execution**

## The filter cake specialists

We specialize in biogas plants using filter cake/press mud as feedstock. Press mud also called Filter cake is one of the by-products generated during the sugar manufacturing process.



The amount of filter cake generated in a sugar mill varies depending on the crushing capacity of the mill and crushing season. Filter cake is a soft, spongy, amorphous and dark brown material containing sugar, fiber and coagulated colloids including cane wax, albuminoids, inorganic salts and soil particles. Filter cake is suitable for anaerobic processes as the sugars in filter cake are easily degradable

substrates. We have carried out a number of years of research and development programs to study and commercialize filter cake based biogas plants.

## Feedstocks for Biogas

Biogas can be generated from various biomass and organic wastes with variable range of moisture contents. The range of potential waste includes municipal wastewater, residual sludge, food waste, food processing wastewater, dairy manure, poultry manure, and aquaculture wastewater, seafood processing wastewater, yard wastes, and municipal solid wastes. Further, ethanol production produces large volumes of stillage wastewater, which can be converted to biogas.

## About Shrijee

Established in 1976, Shrijee is one of the world's leading suppliers of modern sugar mills, sugar refineries, sugar machinery and alcohol plants.

Shrijee has successfully completed a 1,500 TCD sugar mill project in Zambia on a turnkey basis. Shrijee has successfully executed 39 turnkey Process House projects for sugar mills and 25 Boiling House expansion projects. Shrijee has also successfully executed 7 turnkey sugar refinery projects. Shrijee has supplied sugar machinery to more than 30 countries.

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**47 YEARS OF SUGAR TECHNOLOGY EXCELLENCE**