

Compressed Bio-Gas (CBG)

February 17, 2021

What is Compressed Bio-Gas (CBG)?

- Bio-gas is produced naturally (through a process of anaerobic decomposition) from waste / biomass sources like agriculture residue, cattle dung, sugarcane press mud, municipal solid waste, sewage treatment plant waste, etc.
- After purification, it is compressed and called CBG, which has high methane content.
- Further, Compressed Bio-Gas is exactly similar to the commercially available natural gas in its composition and energy potential.
- With similar calorific value and other properties similar to CNG, Compressed Bio-Gas can be used as an alternative, renewable automotive fuel.
- Given the abundance of biomass in the country, Compressed Bio-Gas has the potential to replace CNG in automotive, industrial and commercial uses in the coming years.

Benefits of Compressed Bio-Gas (CBG)

There are multiple benefits from converting agricultural residue, cattle dung and municipal solid waste into CBG on a commercial scale:

- Responsible waste management, reduction in carbon emissions and pollution
- Additional revenue source for farmers
- Boost to entrepreneurship, rural economy and employment
- Support to national commitments in achieving climate change goals
- Reduction in import of natural gas and crude oil
- Buffer against crude oil/gas price fluctuations

Government Support Schemes

- The National Policy on Biofuels 2018 emphasises active promotion of advanced bio-fuels, including CBG.
- The Government of India had launched the GOBAR-DHAN (Galvanising Organic Bio-Agro Resources) scheme earlier this year to convert cattle dung and solid waste in farms to CBG and compost. The scheme proposes to cover 700 projects across the country in 2018-19.
- The programme will be funded under Solid and Liquid Waste Management (SLWM) component of Swachh Bharat Mission-Gramin (SBM-G) to benefit households in identified villages through Gram Panchayats.
- The Ministry of New and Renewable Energy has notified Central Financial Assistance (CFA) of Rs. 4 crore per 4,800 kg of CBG per day generated from 12,000 cubic metres of biogas per day, with a maximum of Rs.10 crore per project.
- To assist financing to CBG projects, Reserve Bank of India has categorized CBG plants in “priority sector” for lending and State Bank of India has already come out with a specific policy to finance CBG projects and other banks are also adopting similar policies for financing.
- To ensure promotion of organic farming in India and enhance revenue from sale of bi-products of CBG plants such as “Fermented Organic Manure”, Ministry of Agriculture has included them in Fertilizer control Order, thus facilitating marketing of Organic manure throughout India.
- In addition to Govt. of India’s efforts, Individual states have also come forward to promote CBG initiatives, in this direction several states such as Haryana, Punjab, Uttar Pradesh and several other States have formed State Level Committee for implementation and monitoring of SATAT Scheme.

Future Potential

- Compressed Bio-Gas can be produced from various bio-mass/waste sources, including agricultural residue, municipal solid waste, sugarcane press mud, distillery spent wash, cattle dung and sewage treatment plant waste.
- The other waste streams, that is, rotten potatoes from cold storages, rotten vegetables, dairy plants, chicken/poultry litter, food waste, horticulture waste, forestry residues and treated organic waste from industrial effluent treatment plants (ETPs) can be used to generate biogas.
- Going forward, Compressed Bio-Gas networks can be integrated with city gas distribution (CGD) networks to boost supplies to domestic and retail users in existing and upcoming markets. Besides retailing from OMC fuel stations, Compressed Bio-Gas can at a later date be injected into CGD pipelines too for efficient distribution and optimised access of a cleaner and more affordable fuel.