

Indian Renewable Energy Sector: Compressed Biogas (CBG)

**Geopolitical tensions in West Asia
reiterate the role of domestic CBG in
nation's energy security quest**

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Compressed biogas (CBG) has the potential to lessen India's import burden for Liquefied Natural Gas (LNG), especially in piped natural gas (domestic) - PNG (D) and compressed natural gas (transport) - CNG (T) sectors with mandatory CBG blending obligations (CBO) in place since April 01, 2025.



India's natural gas demand stood at 192 MMSCMD in FY2026, with nearly 50% of this demand being met through LNG imports, thereby exposing the nation to risks including disruptions in supply due to geopolitical events such as the conflict in West Asia and price fluctuations. Hence, there is an increased focus on domestically produced energy, with CBG being one such viable option.



The City Gas Distribution (CGD) segment accounts for nearly one-fourth (~45 mmscmd in FY2026) of domestic gas demand and within the CGD segment, CNG and PNG (D) account for around 70% of demand (~36 mmscmd in FY2026). The 1% mandatory CBG blending in CNG and PNG(D) in FY2026, which translates to ~0.36 mmscmd or ~1,00,000 MTPA of CBG has been met.



The Sustainable Alternative Towards Affordable Transportation (SATAT) scheme was slow to take off but gained momentum in FY2026, accounting for ~90% of the total CBG sale. The CBO initiative under the CGD-CBG Synchronisation Scheme along with other government initiatives are expected to make considerable contributions towards meeting the targets going forward.



ICRA expects domestic CBG production to lessen India's import burden by ~Rs. 17,000 crore annually by FY2029. However, minimum 1000 TPD installed capacity needs to be added annually over the next three fiscal years, thereby increasing the installed capacity from ~900 TPD in FY2026 to ~4,000 TPD by FY2029. This capacity addition will require a ~Rs. 24,000-crore investment during FY2027-FY2029.



The viability of CBG plants in India is shaped by several factors such as raw material costs, fermented organic manure (FOM) offtake price, CBG procurement price, electricity costs, interest rates, viability gap funding (VGF), etc. Moreover, certain impediments such as the absence of year-round supply of raw material, inadequate pipeline connectivity, disposal of carbon dioxide produced as a byproduct, etc. need to be resolved for CBG to be a success in India.

MMSCMD stands for Million Metric Standard Cubic Meters per Day



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