



**Welcome to Presentation
on**

CBG-CGD Synchronisation Scheme



GAIL (India) Limited



MoP&NG policy initiatives: CBG-CGD Synchronization Scheme

- MoP&NG has issued policy guidelines dtd. 09.04.2021 and 26.10.2021 for synchronisation of CBG produced by plants in CGD networks.
- GAIL has been mandated to operationalize the Synchro Scheme and supply Biogas/CBG co-mingled with domestic gas at Uniform Base Price (UBP) to all CGD entities for use in CNG(T) & PNG(D) segments of CGD network.
- Vide policy guideline dated 26.10.2023, term of CBG-CGD Synchro Scheme has been further extended by 10 years.
- GAIL has successfully implemented the Synchro scheme on pan India basis and it is open to every CBG producer for supply of their Biogas/CBG to nearby CGD networks.



Demand of CBG in CGD sector

- After the 12th CGD bidding round, 308 GAs would be authorized to various entities covering **100% of India's geographical area** (except the islands) spread over 600 districts in over 30 states/UTs.
- Widespread access to CGD networks will bring **demand centres close to CBG plants**, thereby enabling a gas based economy
- **Increasing demand for Biogas** due to shortfall in domestic gas supply for PNG(D) & CNG(T) segments.
- **CBO:** Blending with Biogas/CBG mandatory for CGD networks. CBO is 1%, 3%, 4% & 5% of total CNG/PNG consumption for FY '25-26, '26-27, '27-28 and '28-29.
- CGD sector: Anchor customer for Biogas/CBG





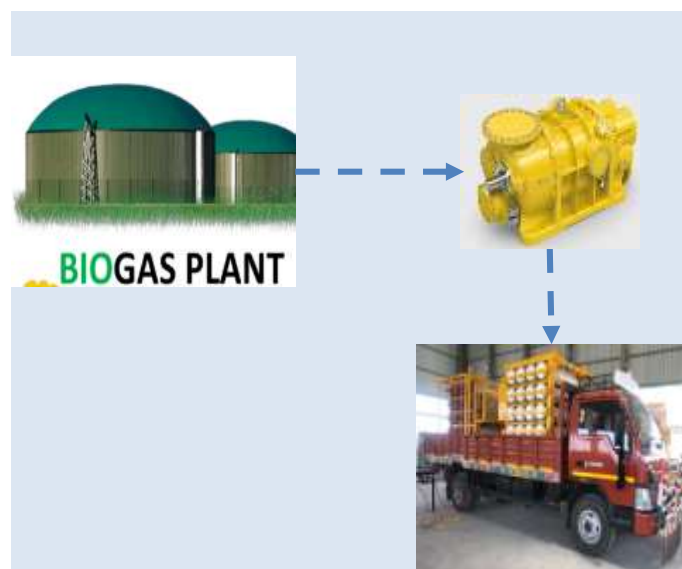
Biogas/CBG mixing under CBG/CGD Synchronization



Supply of Biogas/CBG, co-mingled with domestic gas, at Uniform Base Price (UBP) to all CGD entities for use in CNG(T) & PNG(D) segments.



Option 1(a): CBG Delivery @ 200-250 Bar pressure in Cascade for delivery at Retail Outlets



Delivery at RO : CBG @ 200-250 Bar



● Delivery Point

CBG Supply Illustration



Option 1(b): CBG Delivery @ 200-250 Bar pressure at CBG Plant

Delivery at Plant: CBG @ 200-250 Bar

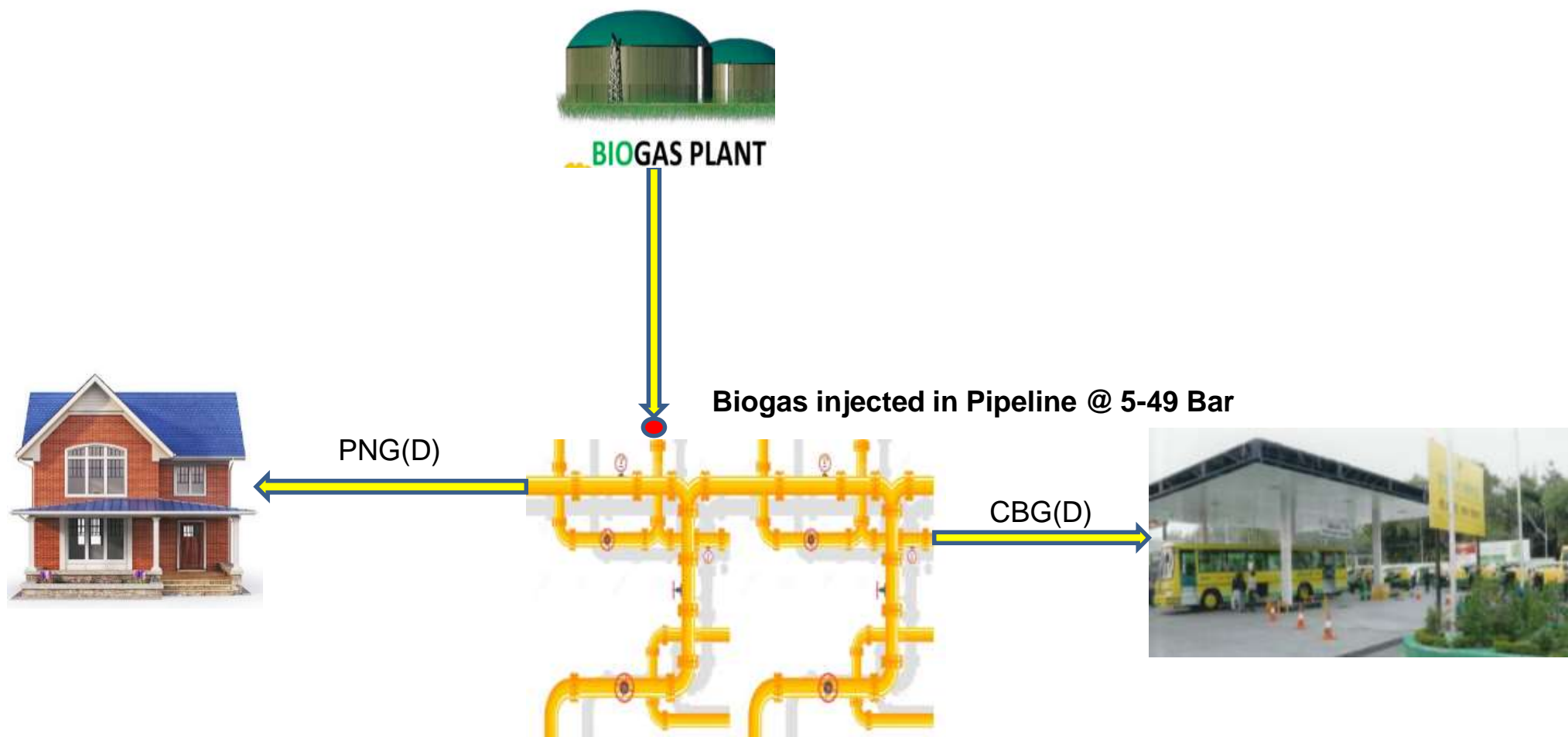


● Delivery Point

CBG Supply Illustration



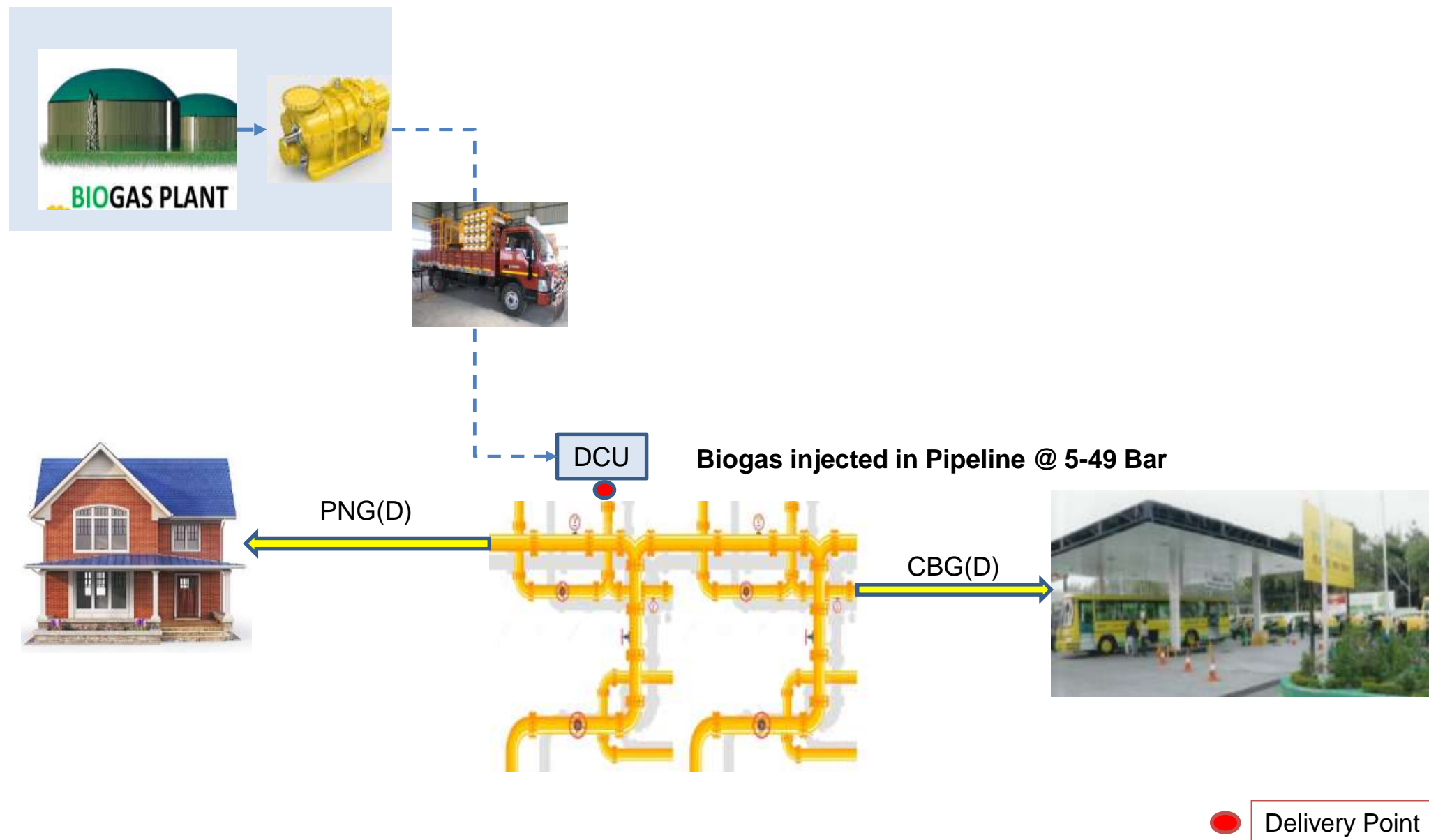
Option 2: Biogas injected in CGD Pipeline Network @ pipeline pressure



Biogas Supply Illustration



Option 3: Biogas injected through DCU in CGD Pipeline Network @ pipeline pressure



Biogas Supply Illustration



CBG-CGD Synchronization Scheme

- GAIL purchases **Biogas/CBG** from producers and sells to CGD entities across India along with APM/NAPM gas at **Uniform Base Price (UBP)** for use in **PNG(D) & CNG (T) segments**.

Commodity	Delivery Point	Mode of Transport by CBG Producer	Basic Purchase Price by GAIL from Producer	Sale Price by GAIL to CGD Entity
CBG	Retail Outlet (RO) of CGD entity and/or CBG Plant	Thru Cascade	Applicable Biogas price (Rs/MMBTU) + Compression charge (Rs.8/Kg)	UBP + Compression charge (Rs.8/Kg)
Biogas	Pipeline network of CGD entity	Thru Tie-in Pipeline	Applicable Biogas price (Rs/MMBTU) + P/L Compression charge (Rs.2/Kg)	UBP + P/L Compression charge (Rs. 2/Kg)
		Cascade-Decompression (DCU)	Applicable Biogas price (Rs/MMBTU) + DCU Compression charge ^{\$} (Rs.8/Kg)	UBP + DCU Compression charge ^{\$} (Rs.8/Kg)

*Biogas Price revised periodically; Floor price: Rs.770/MMBTU; \$: Applicable from 01.06.2024 to 31.05.2026

For latest updates, visit <https://www.gailonline.com/cbgCgd.html>

Compressed Biogas (CBG) to meet IS 16087:2016 Quality specification for use in Transport sector and Biogas to be compliant with PNGRB specifications for injection in CGD networks.



Operational Excellence in the Synchro Scheme

- **One Nation One Price** – One Biogas Procurement price for CBG producers and one Sale price for CGD entities @UBP.
- **Attractive Procurement Pricing:** Procurement price linked to RSP of CNG
- **Higher Quality Higher Price:** Energy based Biogas Pricing
- Ensures affordability, transparency and sustainability
- **Flexibility of supply & offtake** for Producers and CGD entities
- **Seamless & Hassle free execution** - Online Joint Ticketing of Biogas through Web Portal



Win-Win for all Stakeholders

S. No	Advantages	Beneficiary
1	Attractive Biogas Purchase price* with floor of Rs. 770/MMBTU	CBG Producer
2	Compression charge of Rs.8/Kg for CBG Pipeline compression charge of Rs. 2/Kg for injecting in CGD network DCU compression charge of Rs. 8/Kg for injecting in CGD network	CBG Producer
3	Provision of Biogas delivery in pipeline network of CGD entity through Compression-Transportation-Decompression arrangement as a short-term measure	CBG Producer
4	Energy based pricing - Higher price realization for higher quality of Biogas supplied	CBG Producer
5	Affordable Biogas/CBG purchase price for CGD entity @ UBP	CGD Entity
6	Biogas/CBG chargeable @GST: savings to CGD entities	CGD Entity
7	No trunk transmission tariff levied on supply of Biogas to CGD entity	CGD Entity
8	Biogas/CBG supply to CGD entity over & above APM/NAPM allocation for PNG(D) & CNG(T) segments	CGD Entity
9	Simplification of transaction processes thru Online Joint Ticketing of Biogas through Web Portal	Producer & CGD Entity

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Quality Specifications of Biogas (Bio-methane) IS 16087:2016

Sl No.	Characteristic	Requirement
(1)	(2)	(3)
i)	Moisture, mg/m ³ , <i>Max</i>	5
ii)	Methane, percent, <i>Min</i>	90.0
iii)	Total sulphur (including H ₂ S), mg/m ³ , <i>Max</i>	20
iv)	CO ₂ +N ₂ +O ₂ , percent, <i>Max (v/v)</i>	10
v)	Only CO ₂ , percent, <i>Max (v/v)</i>	4
vi)	Oxygen percent, <i>Max</i>	0.5



Quality Specifications: PNGRB gas Specifications for Pipeline supply

Schedule – VI	
(see Regulation 7(1))	
Threshold limit for gas parameters on City or Local Natural Gas Distribution Network	
Parameters	Limit
Hydrocarbon dew point (Degree Celsius, max.)	0
Water dew point (Degree Celsius, max.)	0
Hydrogen Sulphide (ppm by wt, max.)	5
Total Sulphur (ppm by wt, max.)	10
Carbon dioxide (mol%, max.)	6
Total inerts (mol%)	8
Temperature (Degree Celsius, max.)	55
Temperature (Degree Celsius, min.)	10 - 20
Oxygen (% mol. vol. max.)	0.2
Wobbe Index (for domestic consumers), MJ/SCM	39 - 53



THANK YOU



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