




# Research backed Anaerobic Digestion Technology





**POC**  
Proof of concept,  
Gone through early  
stage testing



**Prototype**  
Made laboratory  
and small scale  
model



**Pilot**  
Made large  
industrial scale  
pilot run



**Product**  
Brought to the  
market with  
formal approvals



**Supply Chain**  
Built a network of  
great supply  
chain partners



**Shashi Hegde**  
Market, Gas Processing



**Suresh Patil**  
Agriculture, Structures



**Rajiv Hassan**  
Finance, Network

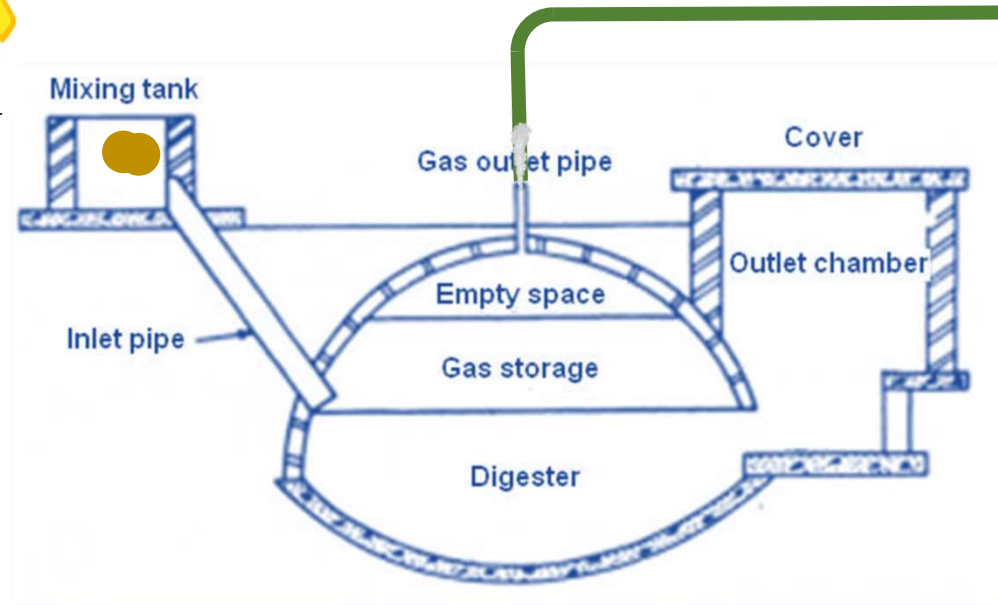


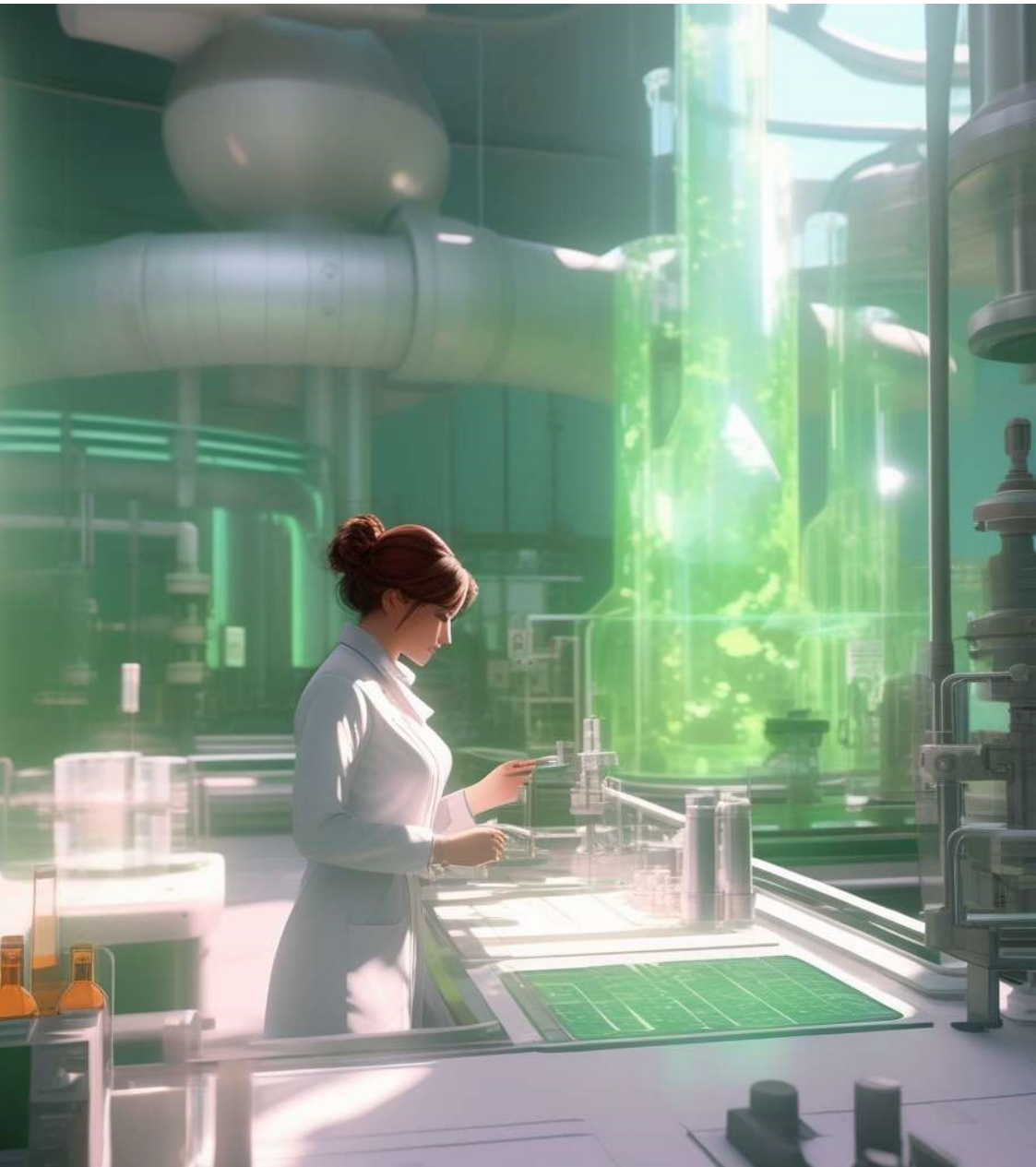
**Team**  
& Rep. offices

# BASIC BIOGAS



Methane +  
CO<sub>2</sub>





## **BIOMASS RESEARCH**

Since 2011  
Farming  
Product Development

## **TECH DEVELOPMENT**

Since 2020  
Enzymatic Treatment  
Digester Design  
Gas Purity  
Compression & Storage

## **EPC CONTRACTs**

End to end Execution

## **DUEL FUEL**

For Engines

## **Biogas to Electricity**

Bio gas generators



**Biomass 2011**  
**Biogas 2019**

# Incubation Phase

Market Knowledge  
Raw material & Treatments  
Digesters  
Purification Techniques  
Compression/ Storage / Transportation  
Commercials, Sales, Working capital cycle  
Financials, Returns, Subsidy & policies  
Site assessment & analysis  
OMC Tie up

## Initiation

Layout designs  
Architect \*& Elevation Designs  
Bankable Project report  
Structural Design  
Reports for Pollution clearance  
Report for PESO Clearance with drawings  
Electrical SLD and Load calculations

## Design

Harvesting  
Grass field  
Size Reduction  
Pre-mixing  
Enzymatic Treatment  
Digester design  
Heating Design  
Odorising  
Compression energy reduction  
Bacteria

## Tech Sharing

SCAN TO FILL RFQ



Or visit : [www.hycons.in](http://www.hycons.in) > Menu > Get Quotation

LEVEL1

LEVEL 2

TECH. SHARING

YOUR EPC PROVIDER



# Construction Phase

[WWW.HYCONS.IN](http://WWW.HYCONS.IN)

**MACHINERY**

- Farm Equipment
- Size Reduction
- Pre-Mixing
- Digestor
- Gas Upgrading
- Compression
- Fabrication
- Piping
- Remote Monitoring
- Odorising
- Electrical panels
- Spares/fittings
- Grid Injection
- Electricity Generator

**CONSTRUCTION**

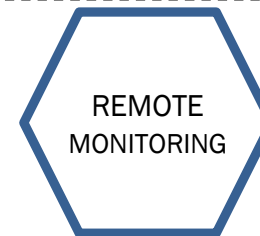
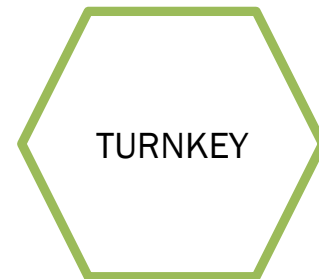
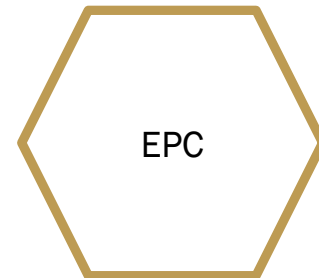
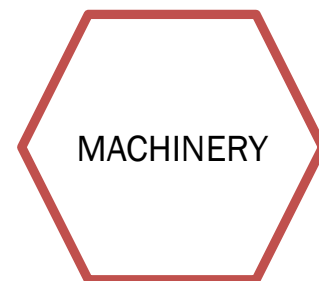
- Pre- Digester
- Digesters
- Sheds
- Buildings
- Infrastructure

**TURN KEY**

- Land Sourcing
- Farm Lands
- Raw material Tie up
- Documentation
- Design
- Compliances
- Construction
- Installation
- AMC
- Sales support
- AFTER SALES

**AFTER SALES**

- Remote monitoring
- Gas Sales Consulting



# NATURAL UN-STOPPABLE PROCESS



2. Acidogenesis

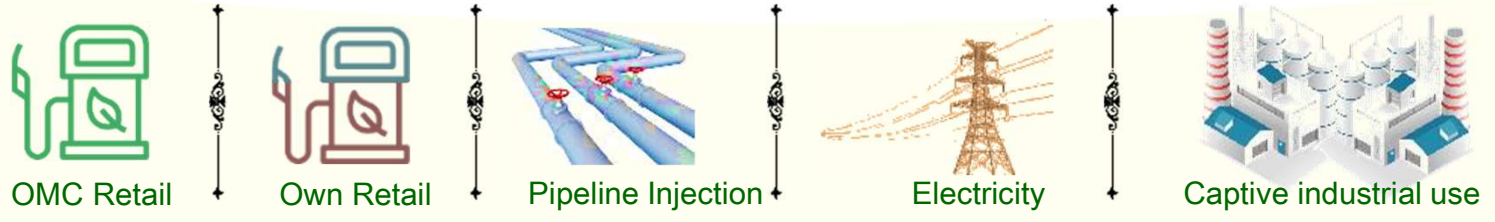
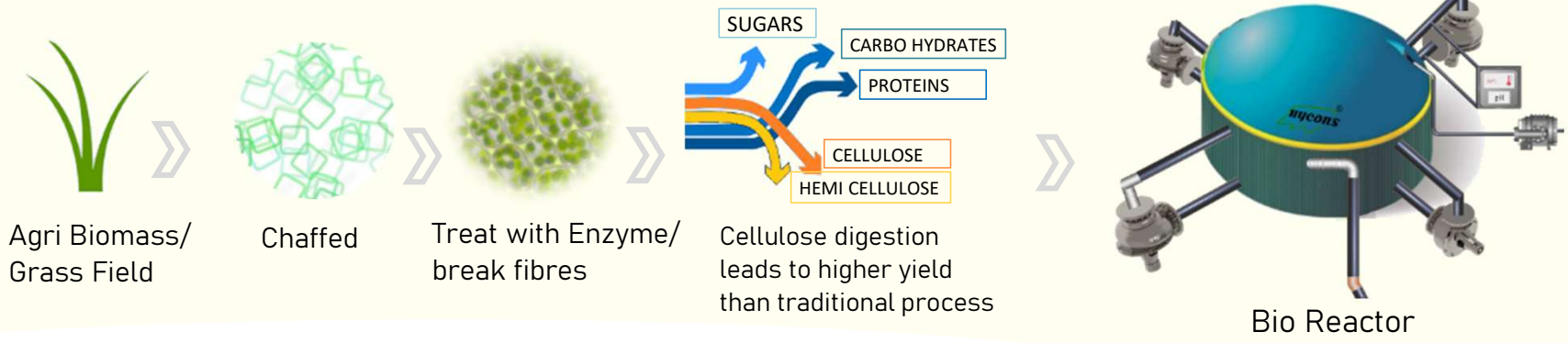
3. Acitogenesis



1.  
Hydrolysis

4.  
Methanogenesis

# INDUSTRIAL PROCESS



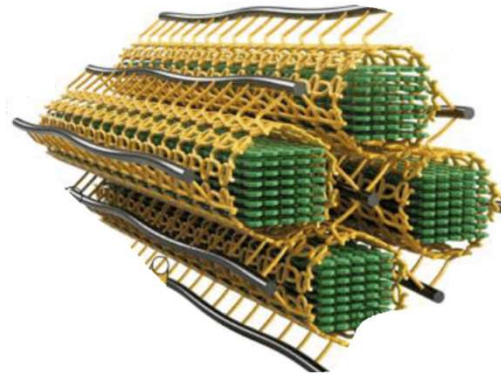
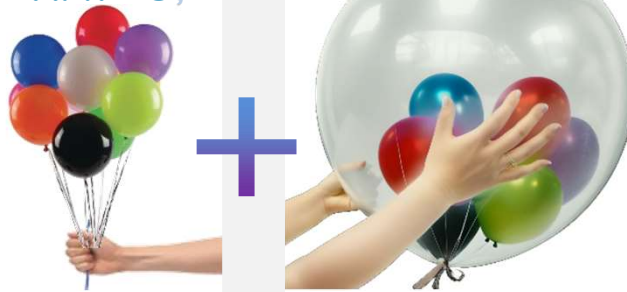


# INNOVATION - 1

1



**SUGARS, CARBOHYDRATES,  
PROTEINS, OILS**



**FIBRES ARE CHAIN OF SUGARS**  
Extra Sugar created with Enzymes  
more sugar = more Biogas



"...will be boon to the energy industry in this country. The project could be torchbearer for both technology demonstration and evolution of fuel to BioCNG program..."

**Dr. S Dasappa**

Centre for Sustainable Technologies, Indian Institute of Science, Bangalore, In a letter dated 19 Apr 2022.



Enzyme – Natural, cheapest & harmless

## INNOVATION - 2

Speciality Hybrid Napier Grass  
with Traceability to mother hybrid plantation



**EVERY BIT OF IMPROVEMENT  
to make a difference**



INNOVATION - 3  
Napier Specific harvester

## Size reduction

More area for bacteria to act,  
easy to pump & agitate



Which would flow better ?



INNOVATION - 4

Impairator for fool proof size reduction

# Hycons BioCNG end to end Green with Napier Grass

**Grass** - Farmer friendly.

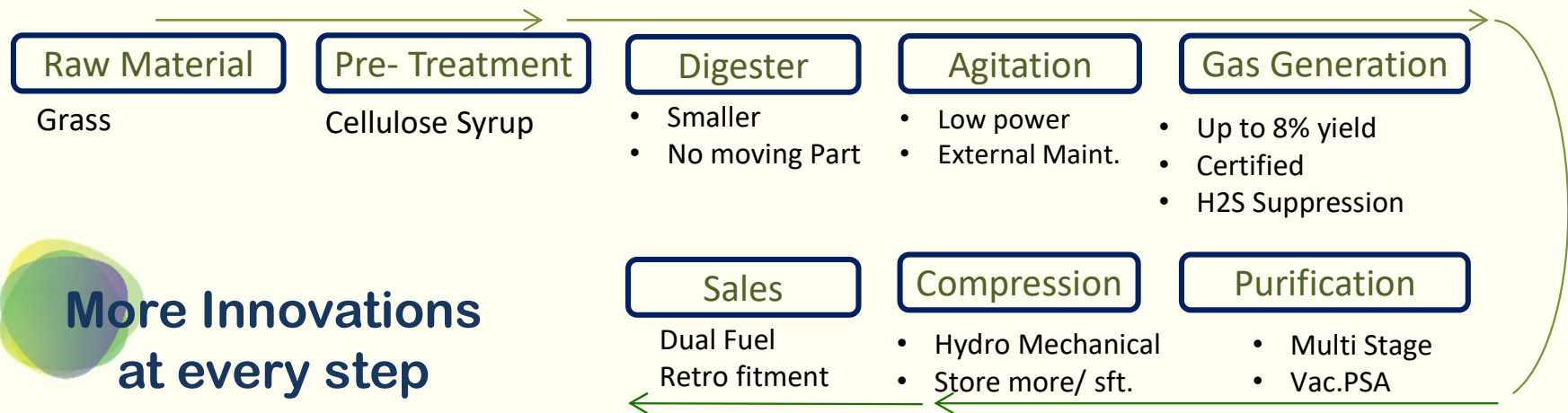
**Grass** - occupies barren land, locks C & releases O<sub>2</sub>

**Fertiliser** - goes back to grass fields as organic fertiliser.

**Methane** - becomes green energy

**Water** - is reused

**No affluent** -discharges from the plant.



# CONSORTIUM OF SPECIALISTS FOR EVERY PROJECT



instead Hycons® prioritises delivering best projects, each sub-tech is brought by specialist supply chain partners.



Finally quality of work is what people remember

**USD 101.4b Oil & Gas market**  
**9.0b USD is Natural Gas growing at 7.2% CAGR**  
**Currently NG is 6% of Becoming 15%**  
**NG needs 3x increase by 2030**  
**Of that 5% CBG blending is a obligation**

**80% of the Oil is Imported**  
**50%-55% of the Natural Gas Imported**  
**Internal & Import logistic is challenging**




**O&G 125.0b USD By 2030**




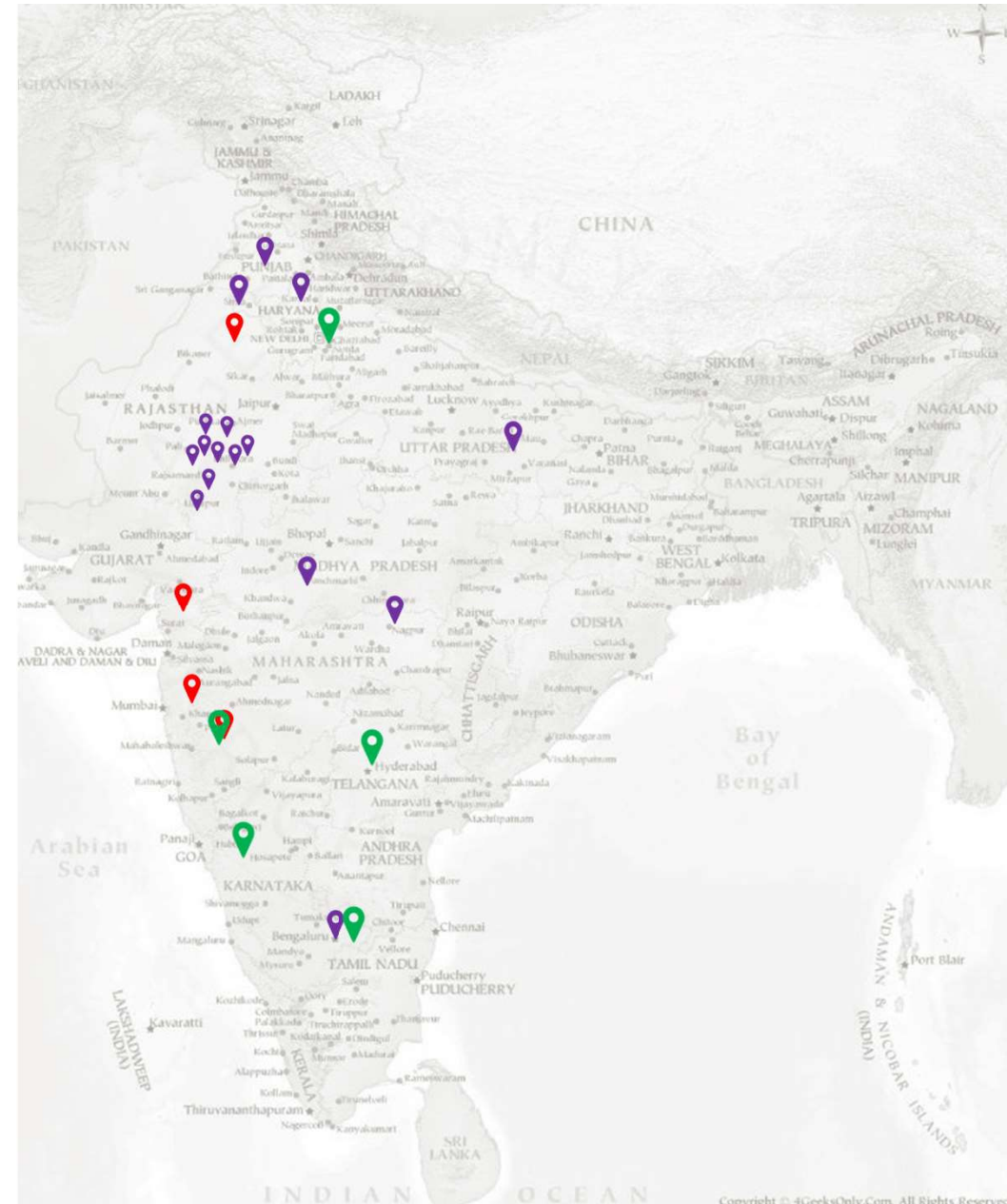
## LOCATIONS

 Offices/ Regional Consultant  
Bangalore | Pune | Delhi | Hyderabad | Sirsi

### CBG Projects

 Kadapa | Bangalore | AHD-JAIPUR Highway 10 Nos  
| Chandrapur | Sonipat | Jalandhar | Suratgarh | Gonda |  
Nashik |

 Biogas to Electricity  
Panvel | PUNE | Bharuch



# PILOT DAYS



Excavation



Side walls



Balloon Fixed



Napier in the background



Purification Shed

- 1 Square
- 2 Rectangular
- 3 Shallow depth
- 4 Circular



Hydrolysis Tank



# PILOT DAYS



CNG kit



CNG Fitted truck



Water scrub



Purification - PSA



Compressor



Biogas



Odoriser



Commercial Project



Enzyme action display to Hon. Central Minister Shri. Giriraj Singh & media briefing

Kadapa, AP

# CUSTOMERS



**Maanvi renewable**



  
Mehraj Comments Pvt. Ltd



**INTENSE BIO-ENERZIES**

**Krishna BioEnergy**



## OTHER WORKS



Plant Layout & Design for a large European Automobile client



**SOLUTION ORIENTED 1<sup>st</sup> Movers**

**IT Act, 2000 compliant**

**REMOTE MONITORING SYSTEM – TRUE SCADA™**

For CBG Projects covering machinery & more.. Saves huge on AMC cost



[Demo Sample](#)

# CBG



COST OF PRODUCTION  
: ₹28-32/KG



SELLING PRICE : ₹64-75/KG  
(₹54 FLOOR PRICE)



GROSS MARGIN : ₹ 34-45/KG

Typical Sizing Ton/day TPD  
2, 3, 5, 6, 9, 10, 12

Typical cost starts from  
₹ 10 Cr

Low on Manpower  
8 people for running a 3TPD project

Oil Marketing Companies  
buy back on 10/15Y contract

Subsidy from MNRE  
₹ 0.83Cr/tpd

The plant can sell through retail outlets or to the pipeline based on the location under SATAT Initiative



SCAN for a  
proposal  
[CLICK](#)



# CAPTIVE BIOGAS



COST OF PRODUCTION  
: ₹28-30/KG



PNG/ LPG PRICE : ₹84-  
104/KG



SAVINGS : ₹ 56-74/KG OF  
PNG/LPG



Typical Sizing m<sup>3</sup>/day  
5000m<sup>3</sup>/day or more

Typical cost may starts from  
₹ 6Cr

Low on Manpower  
8 people for running the project

Can use along with PNG

Subsidy from MNRE available

Get Carbon/Green Credits

Budgeting needs on site assessment

# BIOGAS to POWER



Biogas from STP/ETP Plant is an immediate target

Setting up exclusive Bio gas to Electricity is viable

Typical Sizing kVa or kwh  
125,250, 600, 1000, 1000+1000

Budgeting needs on site assessment

Save huge by using during peak tariff hours

Subsidy from MNRE available

2 units of electricity needs just 1m<sup>3</sup> of raw Biogas

BETTER TO SETTLE WITH  
THE BEST

**Shashi Hegde** Director  
**Hycons® Bioenergy Pvt Ltd**  
[shashi@hycons.in](mailto:shashi@hycons.in)

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