



# Powering India's Sustainable Future



**EARTHSURE ECOSOLUTIONS PVT LTD.**

# Our Mission

**EarthSURE** is an EPC (**Engineering, Procurement & Construction**) and project development company, advancing India's transition to clean energy and circular manufacturing. As a proud subsidiary of **Ecosure Pulp molding Technologies Ltd**, **EarthSURE** integrates engineering, procurement, construction, and long-term operations to deliver outcomes not just assets.

Work spans Compressed Biogas (CBG), Bioenzymes development, Additive development, other renewable energy infrastructure, initiatives aligned with India's commitment towards net zero and industry energy demands.

Guided by the **United Nations Sustainable Development Goals (SDGs)** and India's biofuel policy, Earthsure extends the vision of transforming waste resources into value-driven products.

## Our Commitment to the Sustainable Development Goals (SDGs)



## CBG Project Enquiry to Execution –Roadmap (EPC)

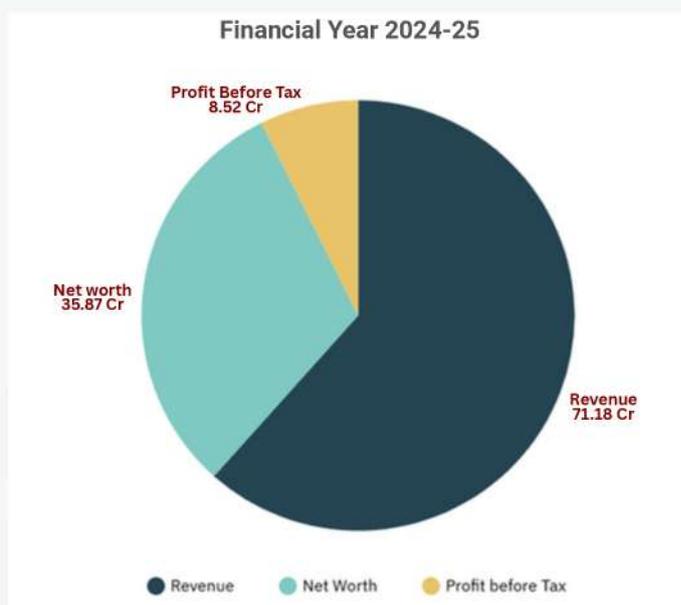
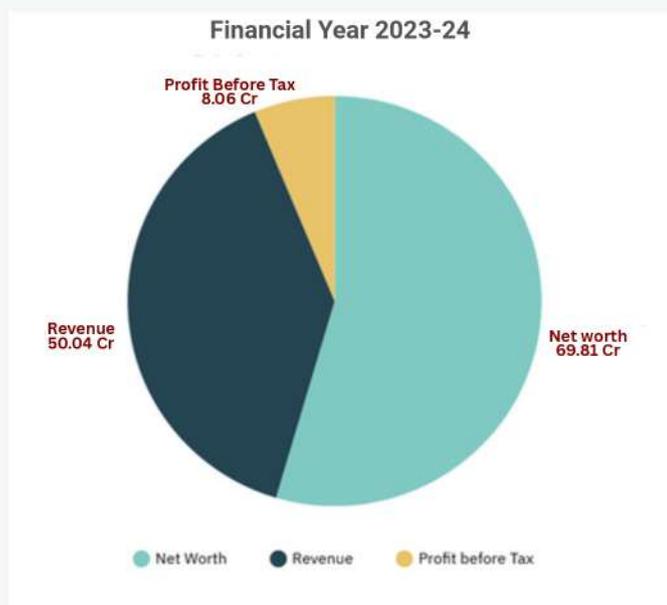


# STRONG FINANCIAL BACKING FROM ECOSURE

EarthSURE Ecosolutions Private Limited draws its strength from its parent company, Ecosure Pulpmolding Technologies Ltd, a financially stable and consistently growing organization.

Ecosure has demonstrated **strong financial performance across consecutive years**, supported by:

- **Robust revenue growth**
- **Healthy profit before tax**
- **A strong and well-capitalized net worth**



This solid financial foundation enables EarthSURE to:

- Execute large-scale EPC and clean energy projects with confidence
- Support long-term project commitments and performance guarantees
- Maintain financial resilience across project lifecycles

With Ecosure’s proven balance sheet and disciplined financial management, EarthSURE offers partners, investors, and customers the assurance of **stability, credibility, and long-term reliability**.



# WHY EARTHSURE?



## 1: Turnkey CBG Solutions

Compressed Biogas (CBG) is emerging as a game-changer in the renewable energy sector. As a clean, sustainable, and cost-effective alternative to conventional fuels, CBG has the potential to reduce carbon emissions and fulfilling energy demands for diverse sections.

### Feedstocks for CBG



Organic Fraction - MSW



Napier grass



Poultry liter



Press mud

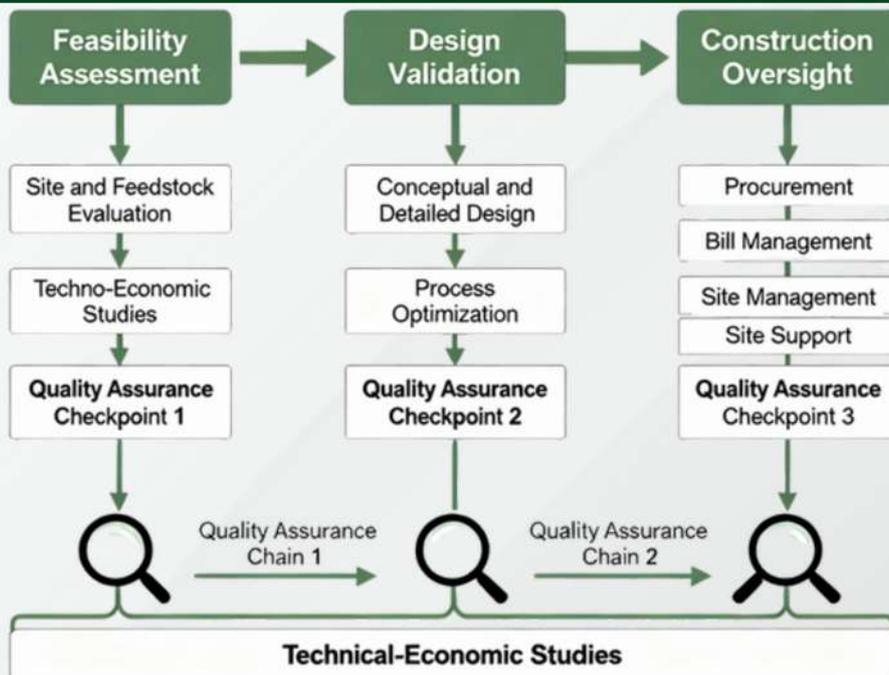


Food waste



## 2: PMC CBG Solutions

Our PMC CBG Solutions ensure end-to-end project management from feasibility and design validation to construction oversight and commissioning. We assess sites and feedstocks, conduct techno-economic studies, and recommend optimal technologies.





### 3: EPC CBG Solutions

At Earthsure Ecosolutions, our EPC services provide a full-spectrum solution for Compressed Biogas (CBG) plants from detailed engineering design to equipment procurement and on-site construction management.

#### EPC CBG SOLUTION ENGINEERING WORKFLOW



### 4: Research and Development

Our division focuses on advancing biogas technology through bioengineered microbial cultures that enhance biogas yield, improve digestion efficiency across diverse feedstocks, and elevate the nutrient quality of bio-fertilizer.

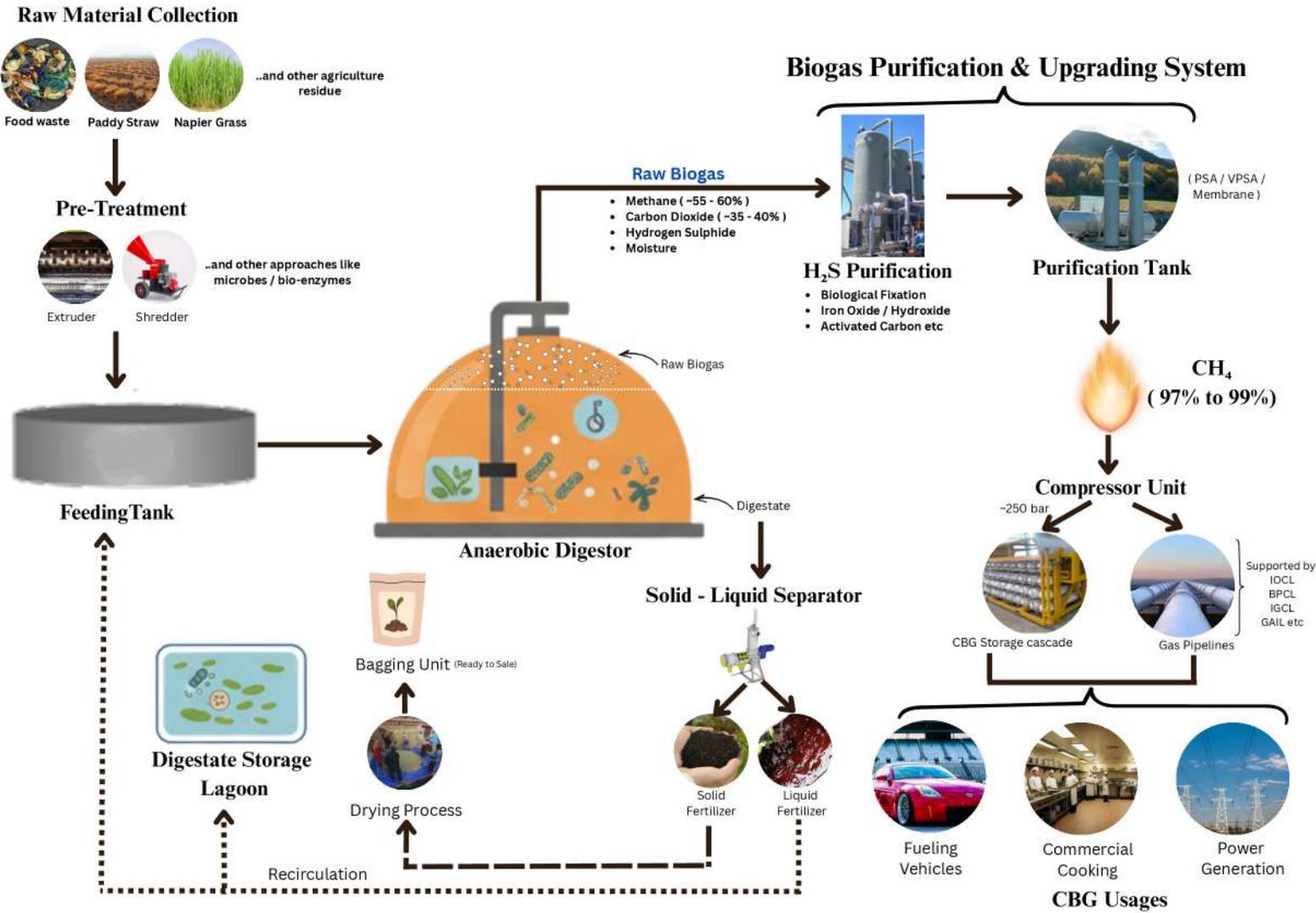


#### TESTING PHASE



Flowing Towards a Sustainable Future

# CBG Process flow Diagram



**SET UP YOUR OWN CBG PLANT**

**ROI ~30-45%**

**EARN ~5 LAKH/DAY**  
\*Condition Apply

- |   |  |
|---|--|
| <p><b>KEY HIGHLIGHTS:</b></p> <ul style="list-style-type: none"> <li>• Turn Agri Waste into Wealth</li> <li>• Earn ~30-45% ROI YoY</li> <li>• Break-even in 5-6 Years</li> </ul> <p><small>*Condition Apply</small></p> | <p><b>FINANCING &amp; SUPPORT:</b></p> <ul style="list-style-type: none"> <li>• 70% Loan of project</li> <li>• ~40-60% Subsidy</li> <li>• 15-Year Assured Buyback</li> </ul> |
|---|--|

जिस गौशाला में बायोगैस आएगी, बिजली और खाद की किल्लत दूर हो जाएगी।

बायोगैस के फायदे



**आवश्यकताएँ**

- न्यूनतम 50 या उससे अधिक गायें
- पानी की उपलब्धता
- स्थान: लगभग 2 एकड़

~₹3/4

बिजली की लागत में कमी

रसोई गैस सिलेंडर पर  
निर्भरता कम

शुद्ध पर्यावरण में  
योगदान

10 m<sup>3</sup> biogas = ~4.5  
kg LPG Gas

जैविक खाद

1. मिट्टी की उर्वरता बढ़ाएँ
2. फसलों की उपज और गुणवत्ता बढ़ाएँ

अनुमानित  
धनवापसी (ROI)  
**~13-24**  
महीने

## हमारी तकनीक

- उच्च दक्षता वाले डाइजेस्टर्स
- दिन-रात का संचालन
- ऑटोमेशन के अनुकूल
- 20+ वर्षों की आयु (लाइफस्पैन)

प्रारंभिक कीमत - लगभग ₹15 लाख



किसानों एवं गौशालाओं के लिए आय का स्रोत



खाना पकाने के लिए स्वच्छ ईंधन



ग्राम गैस



जैविक खाद का उत्पादन



बिजली उत्पादन



ट्रैक्टर और कृषि वाहनों में ईंधन

# Transforming Waste Into Wealth

## Challenge



Millions of tons of agricultural residue, and industrial by-products generated every year, ends up in landfills, creating soil contamination.

## Solution



Our CBG plant converts organic waste into clean, renewable Compressed Biogas through advanced anaerobic digestion technology.

## Our Approach

### Customer First

- Post-commissioning support
- Real-time process monitoring
- Transparent communication
- Dedicated project managers

## Results

### Environmental & Economic Gains

- Strengthened local circular economy
- Lower greenhouse-gas emissions
- Cleaner energy production
- Reduced landfill dependency



**90%**

Waste Diversion  
Rate



**\$2.5M**

Annual  
Savings



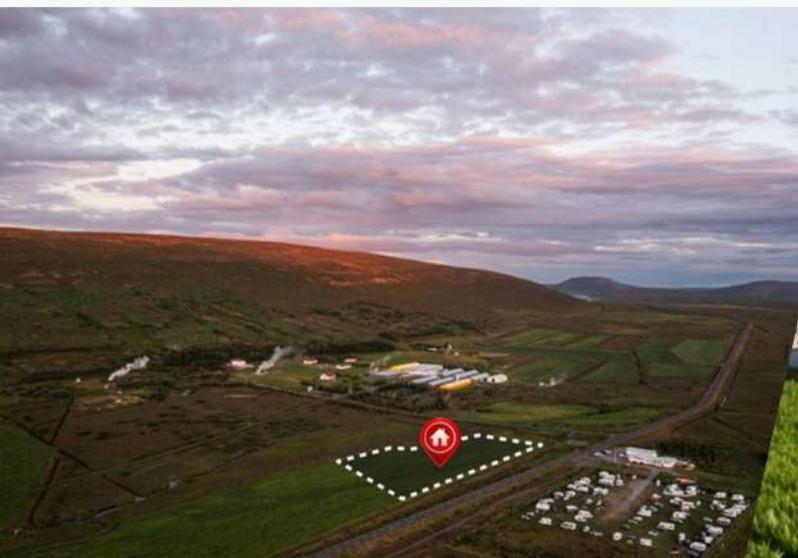
**35%**

Reduced Carbon  
Footprint



**90+**

New Jobs



**Before**



**After**

# India CBG Market Potential

## INDIA COMPRESSED BIO GAS (CBG) MARKET

### MARKET INSIGHT

₹1.26 LAKH CRORE  
MARKET SIZE IN 2024



12% CAGR  
During Forecast Period



### GEOGRAPHICAL ANALYSIS



### MARKET DYNAMICS



DRIVER

Rapidly Expansion of Biogas and CBG Sector To Accelerate Its Energy Transition



RESTRAINT

Strengthening Feedstock Supply Chains



OPPORTUNITY

Achieving Clean Energy Objective

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★★★★★

Sources : <https://introspectivemarketresearch.com/reports/india-compressed-bio-gas-cbg-market/>

## India Compressed Bio Gas (CBG) Market

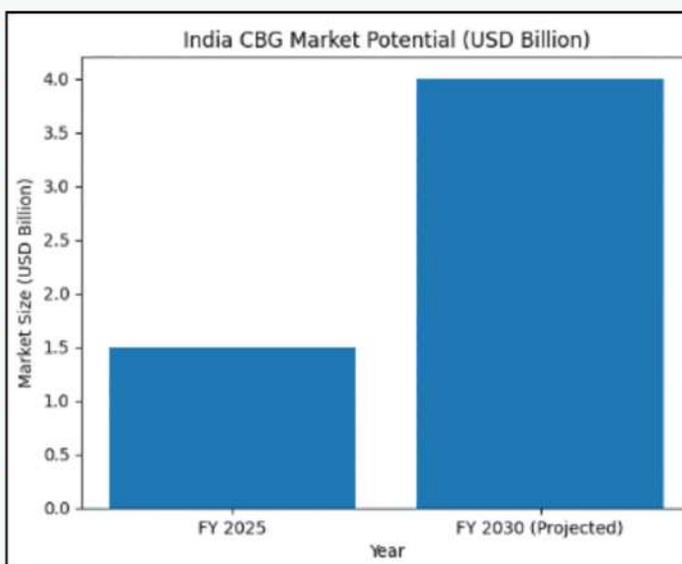
Base Year	2024	Forecast Period	2025 - 2032
Historical Data	2018 to 2024	Market Size in 2024	USD 15.2 Billion / 1.26 Lakh Crore
Forecast Period 2025-32 CAGR	12%	Market Size in 2032	USD 37.63 Billion / ₹3.12 Lakh Crore
Segment Covered	By Raw Material	<ul style="list-style-type: none"> <li>Surplus Agro Residues</li> <li>Spent Wash/Press Mud</li> <li>Municipal Solid Waste (MSW)</li> <li>Sewage</li> <li>Animal &amp; Poultry Waste</li> </ul>	
	By Application	<ul style="list-style-type: none"> <li>Electricity Generation</li> <li>Cooking &amp; Heating</li> <li>Heat Treatment or Steam Generation</li> <li>Alternative Fuel for Vehical</li> </ul>	
Growth Driver	Rapidly Expansion of Biogas and CBG Sector to Accelerate its Energy Transition		
Limiting Factor	Strengthening Feedstock Supply Chains		
Expansion Opportunity	Achieving Clean Energy Objective		
Challenge Barrier	Regulatory and Standardization Issues		
Companies Covered in the Report	Advanced Biofuels USA, BPCL, Gruner Renewable Energy, Gail Gas Limited, HPCL, Hycons Bioenergy, and Other Active Players.		

Sources : <https://introspectivemarketresearch.com/reports/india-compressed-bio-gas-cbg-market/>

# India & World Market Potential

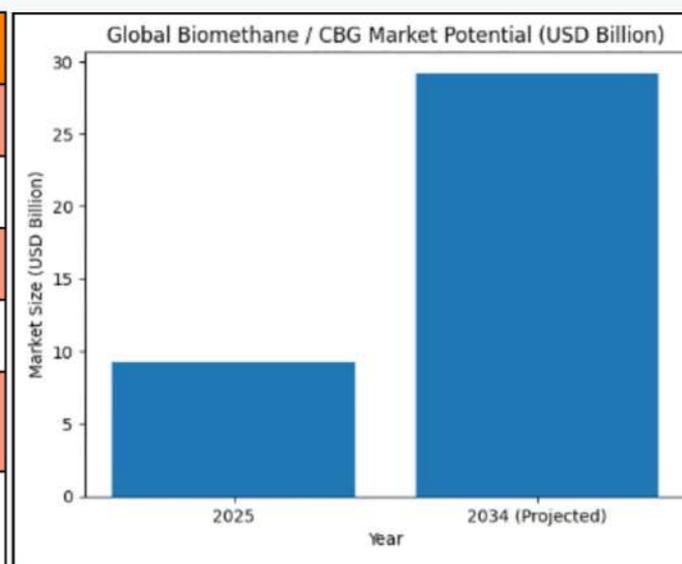
## India CBG Market Potential

Parameter	Value
SATAT Target (Government of India)	~5000 CBG Plant
Year	2030
Estimated CBG Demand	₹2,00,000 Crore/year
Current CNG Consumption	~₹2.8 Lakh Crore/ year
Potential CBG Substitution	~30-35% of CNG Demand
Major Beneficiary Sectors	Oil & Gas, Boilers & Steam Users, Fertilizers, Transport & Mobility



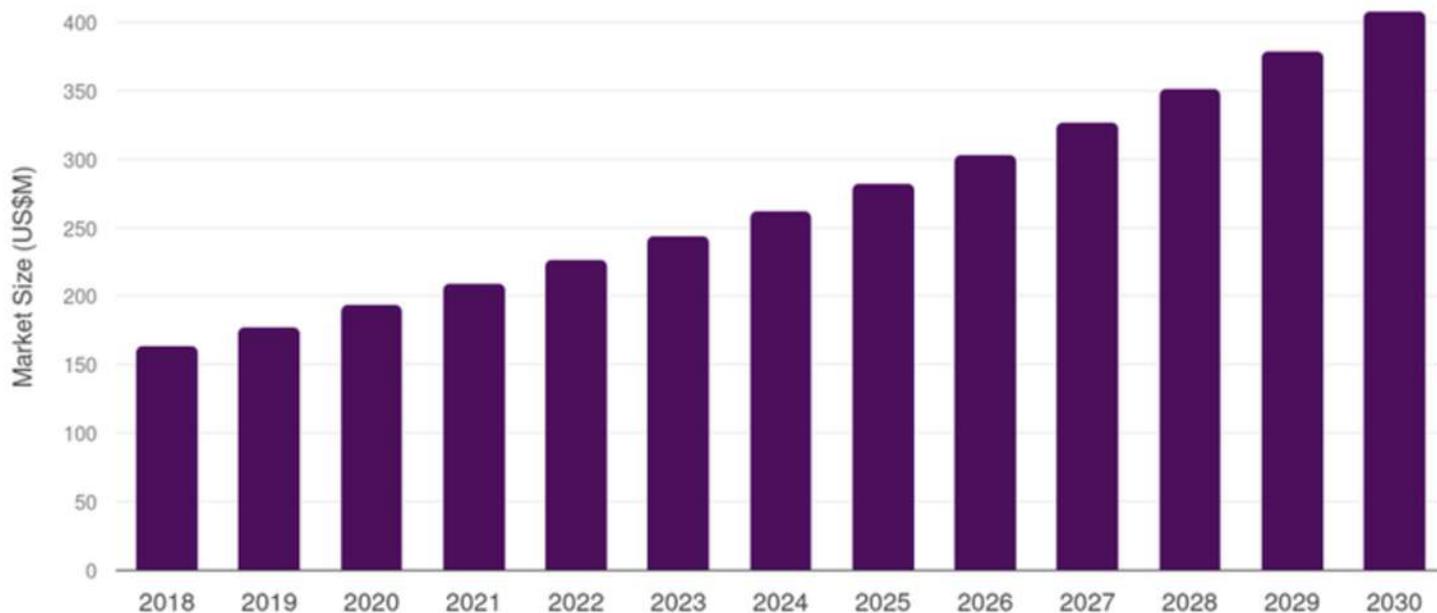
## Global CBG Market Potential

Particulars	Data
Global Biogas Market Size (2023)	₹5.4 Lakh Crore
Expected Market Size (2030)	₹10 Lakh Crore
Global CAGR (2024-2030)	~8-10%
Global Biomethane Share	15-20% of total Biogas Market
Annual Biomethane Production (World)	₹64,000 Crore/year
Major Markets	Europe (Germany, France), USA, China & India



# BIO-ENZYMES MARKET SIZE

India industrial enzymes market, 2018-2030



<https://www.grandviewresearch.com/horizon/outlook/industrial-enzymes-market/india>



## Industrial enzymes market data book summary

Market revenue in 2024	USD 262.4 million
Market revenue in 2030	USD 407.8 million
Growth Rate	7.7% (CAGR from 2025 to 2030)
Largest Segment	Carbohydrase
Fastest growing segment	Lipases
Historical data	2018 - 2023
Base year	2024
Forecast period	2025 - 2030
Quantitative Unit	Revenue in USD million
Market Segmentation	Carbohydrase, Proteases, Lipases, Polymerases & Nucleases, Other

# RATE OF RETURN (ROI) ANALYSIS FOR CBG

Feedstock	Particulars	3 TPD	6 TPD	10 TPD
Napier Grass	Daily Feedstock (TPD)	60	120	200
	CBG Production (Kg/Day)	3000	6000	10000
	CBG Production (Kg/Year)	1,080,000	2,160,000	3,600,000
	Solid Fertilizer (TPD)	12	24	40
	Electricity Demand (Approx.)	600,000	1,000,000	1,500,000
	Man Power (Post Commissioning)	5 to 6	12 to 15	20 to 25
Paddy Straw	Daily Feedstock (TPD)	25	50	85
	CBG Production (Kg/Day)	3,000	6,000	10,000
	CBG Production (Kg/Year)	1,080,000	2,160,000	3,600,000
	Solid Fertilizer (TPD)	5	10	17
	Electricity Demand (Approx.)	600,000	1,000,000	1,500,000
	Man Power (Post Commissioning)	5 to 6	12 to 15	20 to 25
Press Mud	Daily Feedstock (TPD)	75	150	250
	CBG Production (Kg/Day)	3,000	6,000	10,000
	CBG Production (Kg/Year)	1,080,000	2,160,000	3,600,000
	Solid Fertilizer (TPD)	15	30	50
	Electricity Demand (Approx.)	600,000	1,000,000	1,500,000
	Man Power (Post Commissioning)	5 to 6	12 to 15	20 to 25

## Project Cost in Crore (Approx)

Components	3 TPD	6 TPD	10 TPD
Civil & Infrastructure	4 to 5	5 to 6	10 to 15
Plant & Machinery	8 to 10	20 to 25	30 to 35
Utilities & Others	3	5	10
Total Project Cost	18	30 to 35	50 to 60

## Annual Revenue in Crore (Approx)

Revenue	3 TPD	6 TPD	10 TPD
CBG Sales (80/Kg)	₹86,400,000.00	172,800,000	360,000,000
Bio Manure Sales	8,640,000	17,280,000	28,800,000
Total Revenue	95,040,000	190,080,000	388,800,000

**ROI : ~ 30-40%**  
**Breakeven in :**  
**~5-6 years**

# Bhopal Project: Fully Operational | Proven Performance

**Location :** Bhopal (Madhya Pradesh)  
**Raw Material :** Napier Grass  
**Output:** 5 TPD

The **5 TPD Bio-CBG plant at Bhopal, Madhya Pradesh**, stands as a live demonstration of how **Earthsure technical expertise translates into bankable performance**.

Designed for **Napier grass**, a high-fiber and process-sensitive feedstock, the project demanded more than standard EPC execution. Earthsure stepped in as the **technical brain of the plant**, ensuring every critical decision was engineered for yield stability, operational reliability, and long-term profitability.

From **feedstock pre-treatment to digestion strategy**, EarthSURE optimized the plant architecture to handle lignocellulosic biomass efficiently. Advanced **size reduction, thermal pre-treatment, and controlled dilution** were implemented to improve biodegradability and gas yield—reducing common failure points seen in grass-based plants.

At the core, **dual RCC anaerobic digesters operating in parallel** were designed to balance load, improve uptime, and ensure consistent gas generation. Precision agitation, controlled retention parameters, and robust pumping systems were selected to maintain biological health and avoid process shocks.



## The result:

- **~13300 Nm<sup>3</sup>/day** of raw biogas generation
- **~5 TPD** of purified CBG output
- Stable methane enrichment through a multi-tower purification system
- Online gas quality monitoring enabling data-driven operations



Scan to visit our operational plant

# PROJECTS >>>

Join Us in Making the World Greener!



## PROJECT 1

**Capacity** 7 TPD  
**Feed Stock:** Napier Grass & Cow Dung  
**Year of Installation** in-process

## PROJECT 2

**Capacity** 10 TPD  
**Feed Stock:** Napier Grass & Press Mud  
**Year of Installation** in-process

## PROJECT 3

**Capacity** 6 TPD  
**Feed Stock:** Napier Grass & Press Mud  
**Year of Installation** in-process

## PROJECT 4

**Capacity** 26 TPD  
**Feed Stock:** Cow Dung, Cattle Dung & Vegetable, Mandi, Food Waste  
**Year of Installation** in-process

# 5 MAJOR CENTRAL GOVERNMENT FINANCIAL SUPPORT FOR CBG/BIO-CNG PROJECTS

Policy / Scheme Name	Year (Launch/ Latest)	Ministry / Department	Key Highlight ( Major Financial Support )
Central Financial Assistance (CFA) for CBG Plants	2025	Ministry of New & Renewable Energy (MNRE)	<ul style="list-style-type: none"> <li>• ₹4.0 Crore per 4,800 kg/day BioCNG (from new biogas plant)</li> <li>• ₹3.0 Crore per 4,800 kg/day BioCNG (from existing biogas plant)</li> <li>• Max CFA: ₹10 Crore per project (for BioCNG cases)</li> </ul>
Biomass Aggregation Machinery (BAM) Policy	2025	Ministry of Petroleum & Natural Gas (MoPNG)	<ul style="list-style-type: none"> <li>• Up to 50% of procurement cost or ₹90 lakh per set (whichever is lower)</li> <li>• Cap up to ₹9Crore/project on pro-rata basis (based on plant capacity / residue requirement)</li> </ul>
Scheme for Development of Pipeline Infrastructure (DPI) for CBG Offtake - Revised	2025	Ministry of Petroleum & Natural Gas (MoPNG)	<ul style="list-style-type: none"> <li>• Up to 50 Km: ₹0.50 Cr/Km (Steel) or 50% of project cost (whichever is lower); ₹0.075 Cr/km (MDPE) or 50% of project cost.</li> <li>• Max FA per project: ₹28.75 Cr</li> <li>• Milestone - based release (10% advance option + further tranches)</li> </ul>
Market Development Assistance (MDA) for Fermented Organic Manure (FOM)	2023	Department of Fertilizers, Ministry of Chemicals & Fertilizers	₹1500 / tonne (on sold & FCO - certified product) <ul style="list-style-type: none"> <li>• Fermented Organic Manure (FOM)</li> <li>• Liquid FOM (LFOM)</li> </ul>
Viability Gap Funding (VGF) for Bio-Methanation / CBG Plants (SBM - U 2.0)	2025	Ministry of Housing & Urban Affairs	Mainly for <b>OFMSW Projects</b> : Earlier benchmark: ₹18 Crore/100 TPD Now revised to: ₹32 Crore/100 TPD And VGF / grant / central share is decided is decided by MoHUA + State + ULB based on this

# Visionary Minds Behind Green Energy



**MOHIT KUMAR**

Chairman & Managing Director



**ANUJ KUMAR**

Director and Co-Founder



**MOHIT CHAUHAN**

Chief Operating Officer



**DR. RAJESH KUMAR**

**PRASAD**

Additional Director & Business Unit Head



**NITISH TRIPATHI**

Co-Founder



**SUDHIR SINGH**

Business Development Manager



**KANIKA YADAV**

DPR, Proposal & Marketing Manager



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