



MOHRAJ
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Introduction:

Mohraj Greens Pvt Ltd is a pioneering renewable energy company headquartered in India, dedicated to transforming the sustainable energy landscape. As a prominent consultant and Engineering, Procurement, and Construction (EPC) provider, we specialize in the installation of state-of-the-art biogas plants. Our unwavering commitment to innovation, coupled with our proprietary technology, has catapulted us to the forefront of the biogas industry. We pride ourselves on delivering turnkey solutions that go beyond traditional norms, overcoming limitations, and contributing significantly to India's renewable energy objectives.

Engineering Excellence:

At the core of our success lies our unwavering dedication to engineering excellence. Mohraj Greens Pvt Ltd excels in the design, engineering, procurement, and construction of state-of-the-art biogas plants, harnessing the latest advancements in sustainable technology. We engineer systems that maximize the utilization of renewable feedstock, resulting in the highest possible biogas yields.

Proprietary Technological Advancements:

Our ascendancy in the biogas industry is attributed to the relentless pursuit of proprietary technological breakthroughs. These innovations have revolutionized biogas production by surmounting conventional limitations. Our technology optimizes process efficiency, resulting in substantial operational cost reductions. It integrates advanced emissions control measures, ensuring minimal environmental impact. Moreover, its adaptability allows us to tailor solutions to the unique requirements of each project, cementing our status as a technology-driven leader.

Contributing to India's Renewable Energy Vision:

As India charts its ambitious course towards a renewable energy-driven future, Mohraj Greens Pvt Ltd remains at the forefront, actively contributing to the nation's objectives. We align seamlessly with government initiatives that promote renewable energy adoption and the reduction of India's carbon footprint. Our participation in programs dedicated to expanding biogas infrastructure has a tangible impact on India's journey towards achieving its renewable energy targets.

Project Excellence:

Our illustrious portfolio showcases a diverse array of successful biogas plant installations spanning various sectors. From agriculture to industrial applications and municipal waste management, our turnkey solutions deliver tangible results that extend beyond conventional expectations. We have a proven track record of engineering excellence, sustainability, and client-centricity, all converging to craft exemplary projects.

Advantages

1. **Proprietary Technology:** Our avant-garde technology differentiates us, ensuring peerless biogas production and operational efficiency.
2. **EPC Mastery:** We offer comprehensive end-to-end project solutions, encompassing design, engineering, procurement, and construction.
3. **Sustainability Champion:** Our unwavering commitment to environmental sustainability permeates every project we undertake.
4. **Government Collaboration:** We actively collaborate with government initiatives, making tangible contributions to accelerate renewable energy adoption.
5. **Client-Centric Excellence:** The satisfaction of our clients is paramount, leading to enduring, fruitful partnerships.

Problem Statement in the Current Biogas Industry:

Renewable Energy Demand and Environmental Impact:

- In the quest for sustainable development, the world is experiencing a surge in the demand for renewable energy sources. The urgency is driven by environmental concerns stemming from the adverse impact of conventional energy sources.
- Fossil fuels, often used for energy generation, contribute significantly to greenhouse gas emissions, air pollution, and climate change. This has necessitated a transition to cleaner alternatives, where biogas holds immense promise.

Challenges in the Biogas Industry:

- High Calorific Value (CV) Raw Material Requirement:
- Biogas production relies heavily on feedstock with a high calorific value, such as organic waste and agricultural residues. However, sourcing an adequate supply of such materials can be challenging.
- Insufficient Raw Material Availability:
- The biogas industry faces an ongoing challenge of securing a consistent and sufficient supply of raw materials to meet the surging demand for biogas. This scarcity hampers the scalability of biogas projects.
- Lack of Integrated Expertise:
- Lack of Finely Tuned Technology: The biogas industry has been grappling with the absence of finely tuned technologies that can optimize biogas production. Achieving optimal efficiency and yield has been a persistent challenge.

Mohraj Greens Pvt Ltd's Groundbreaking Solutions:

Overcoming Industry Limitations:

- Mohraj Greens Pvt Ltd has emerged as an industry leader by successfully addressing these formidable limitations. Through relentless innovation and a deep commitment to sustainable energy, we have pioneered solutions that redefine the biogas landscape.
- Our proprietary technology stands as a testament to our dedication to overcoming conventional constraints. This technology has been meticulously engineered to maximize biogas production efficiency while minimizing resource requirements, making it a game-changer in the field.

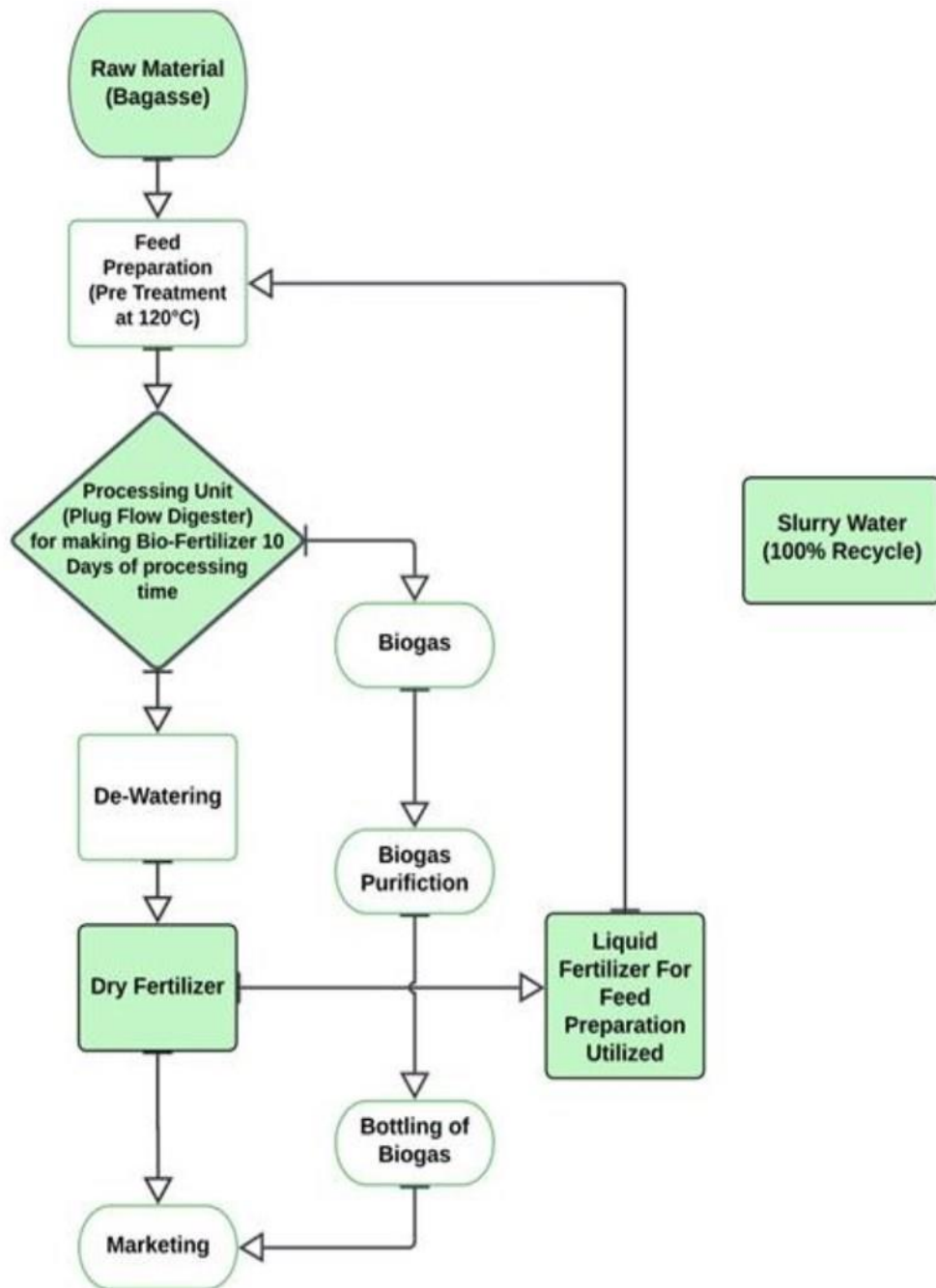
Comprehensive Expertise:

- We take immense pride in being the sole solution provider that possesses unparalleled expertise across various industrial domains, all supported by a proven track record. This expertise extends to:
- Consultancy Services: Offering invaluable insights and strategic guidance for biogas plant development.
- Engineering, Procurement, and Construction (EPC): Providing comprehensive end-to-end solutions encompassing design, procurement, and construction.
- Operation and Maintenance (O&M) Services: Taking on the crucial responsibility of plant operations and maintenance based on client requirements.
- In testament to our capabilities, Mohraj Greens Pvt Ltd is currently spearheading the construction of a 10-ton biogas plant, showcasing our commitment to providing practical solutions that address energy demands sustainably.

Proprietary Technology:

- At the heart of our solutions lies our proprietary biogas production technology, a true marvel of engineering. While we are eager to discuss the specifics during meetings with interested parties, rest assured that our technology represents a paradigm shift.
- It optimizes biogas yield, energy efficiency, and environmental sustainability, setting new industry standards and paving the way for a more sustainable and greener future.

Manufacturing Process Flow Chart



Ongoing Developments

Research and Development Milestones:

- Over the past three years, Mohraj Greens Pvt Ltd has dedicated significant resources to the research and development (R&D) phase of our groundbreaking biogas technology. Our journey began with the identification of innovative solutions to address the limitations of the biogas industry, as previously outlined in our report.
- Two years ago, we achieved a major breakthrough by defining a comprehensive solution that promised to reshape biogas production. Following this breakthrough, we conducted rigorous testing and optimization to refine our technology into a finely tuned and efficient product.
- Currently, we are in the advanced stages of testing at our 1.5-ton biogas plant, a facility we have been meticulously operating and fine-tuning for over a year. This facility serves as a testament to our commitment to delivering a reliable and proven solution.
- In UP, our installation of a 10-ton biogas plant is nearing completion, with approximately 90% of the project already executed. This plant will further showcase the real-world applicability and efficiency of our technology.
- Internally, at the Mohraj Greens Pvt Ltd facility, we have embarked on the installation of a 20% capacity biogas plant to demonstrate the effectiveness of our technology on our own premises, underscoring our confidence in its capabilities.
- Furthermore, we have received work confirmation for the construction of four new biogas plants, a testament to the industry's recognition of our expertise and technology.
- In parallel, more than 5 projects are currently in the final discussion phase, reflecting the widespread interest and anticipation surrounding our innovative biogas solutions.

Sustainable Business Approach and Manufacturing Excellence:

- At Mohraj Greens Pvt Ltd, our commitment to a sustainable business approach runs deep. We firmly believe in integrating world-class manufacturing practices to ensure that our solutions not only meet but exceed industry standards.
- Our EPC (Engineering, Procurement, and Construction) operations are firmly rooted in Lean Principles, emphasizing efficiency, waste reduction, and continuous improvement. This approach aligns perfectly with our commitment to environmental sustainability, as highlighted in our earlier report.
- Additionally, we prioritize a green supply chain, selecting partners and suppliers who share our values of environmental responsibility. This ensures that our entire ecosystem adheres to the highest sustainability standards.

Team

Founder- Visionary Leadership of Suraj Saini:

At the helm of the groundbreaking technological revolution driving Mohraj Greens Pvt Ltd is Suraj Saini, a visionary leader and first-generation entrepreneur. His remarkable journey as an industry luminary with a profound commitment to environmentally sustainable solutions has been instrumental in shaping the company's transformative path.

A Proven Track Record:

Suraj Saini boasts an extensive background in various sectors, including construction, textiles, and notably, the biogas industry. With years of engineering expertise under his belt, he has consistently demonstrated his ability to drive innovation and excellence across diverse domains.

Pioneering Environmental Solutions:

Suraj Saini's dedication to environmental solutions is a cornerstone of his career. His journey in this direction began more than five years ago when he embarked on a rigorous study to design and develop technology that would not only be groundbreaking but also address the pressing limitations of the biogas industry. His unwavering commitment to adhering to international standards in every facet of the technology's development and installation underscores his dedication to excellence.

A Technology Visionary:

The technology that has emerged under Suraj Saini's visionary leadership is nothing short of groundbreaking. With an unwavering commitment to solving industry challenges, he has set a new global standard for biogas production. This technology promises to revolutionize the biogas sector, positioning India as a leader in pioneering sustainable energy solutions. It's a testament to his Kaizen philosophy, where continuous improvement and innovation drive every aspect of the business.

A Business Savvy Leader:

Beyond his technical acumen, Suraj Saini possesses a deep understanding of the business landscape. His innovative solutions aren't just environmentally friendly; they are also economically lucrative. This dual focus on sustainability and profitability sets Mohraj Greens Pvt Ltd apart in the market.

Chief Executive Officer-

Shreeshailysiddha Kole is a result-driven techno-marketing expert with over 10 years of entrepreneurial experience. Committed to elevating client satisfaction, he has honed his expertise in product development, market rollout, public relations, and cross-cultural management.

Education:

- Master of Engineering - Manufacturing Systems, University of Mumbai
Result: First class with Distinction
Thesis: Critical Factors in Green Supply Chain Management
- BE in Mechanical Engineering, Pune University
Result: Passed with First Class

Certifications:

- Six Sigma, IIT Kharagpur
- Certificate Program in Public Procurement, World Bank & Charter for Public Procurement Studies

Experience

- Joint Venture with Campbell Corp USA:
 - Started as a plant layout design engineer and advanced to lead a joint venture with Campbell Corp. USA, showcasing exceptional leadership and expertise.
- Recognition by Department of Science and Technology (GoI):
 - Received special recognition from the Department of Science and Technology (Government of India) in Delhi, highlighting contributions to the field.
- Consultancy Projects in Five Countries:
 - Successfully delivered over 30 consultancy projects in five different countries.
 - Led a diverse team of 15+ professionals and collaborated with multiple associates on these projects.

Consulting Expertise:

- Lean Plant Layout Design:
 - Developed a proprietary roadmap for creating and implementing lean plant layouts based on Six Sigma principles.
 - Successfully designed and installed Camlin Vendor's Crayon and Eraser Manufacturing Unit from scratch.
 - Created a delivery processing unit in Pune for an Austrian-based company.
 - Conducted precise measurements and CAD modelling for various industrial units.

- Established a design unit specializing in low-cost automation solutions, designed, manufactured, and installed SPMs.
- Notable projects include:
 - Autoloader for gear hobbing machine replacement for robots at Mahindra.
 - SPM for two-way grooving and slitting machine.
 - SPM for producing "o" ring-shaped rubber tubes.
 - SPM for Taping and Box Making.
- Engineering Product Consultancy:
 - Secured projects from diverse global markets and prominent Indian organizations in niche sectors, including:
 - Energy: Consulted on a Thermal Power Plant of 8*135MW for boiler erosion at JSW Barmer.
 - New Product: Provided patented solar roof analysis and certification for ATUM Solar Panels.
 - Infrastructure: Offered fire simulation consultation for Hyderabad's tallest commercial tower developer.
 - Oil & Gas: Delivered structural consultancy for Abu Dhabi National Oil Company (via Dubai-based vendor).
 - Automotive: Provided structural consultancy for WSO & WSL.
- Government Solar Tracker Projects:
 - Formed an EPC alliance and secured a Letter of Intent (LoI) for the installation of 100MW ground-mounted solar projects.
 - Generated prospects exceeding 14 GW in Business-to-Government (B2G) projects, with 250+ MW in Business-to-Business (B2B) projects (194 MW overseas and 60+ MW in India) for solar trackers.

Chief Procurement Officer-

Mahesh Barkul, CPO, is a seasoned professional renowned for his financial acumen and strategic prowess. As a co-founder, he has played an integral role in the company's growth from its inception. Mahesh's expertise extends to SAP Materials Management, Industry 4.0, SAP Implementation, Lean Management, Six Sigma, and Purchasing. His key responsibilities encompass crafting and executing financial strategies, overseeing financial operations, managing risks, ensuring compliance, and delivering meticulous financial reporting. With a solid background in information services, He is a driving force behind the fiscal health and stability of the organization.

Education:

- Master of Engineering - Digital Systems, Pune University
Result: First class Distinction
- BE in Electronics and Telecommunication Engineering, Pune University
Result: Passed with First Class

Certifications:

- Six Sigma, IIT Kharagpur
- Certificate Program in Public Procurement, World Bank & Charter for Public Procurement Studies
- SAP MM Configuration and End User (Udemy)



Chief Technical Officer-

Dr. Kiran B. is a highly qualified and experienced Chief Technical Officer with a diverse background in both academia and industry. With a strong foundation in engineering and computational mechanics, Dr. Kiran has successfully executed numerous international consultancy projects, leveraging expertise in Finite Element Methods and computational simulations. Dr. Kiran is a Chartered Engineer and a member of prestigious institutions, demonstrating commitment to excellence in engineering and technology.

Academic & Industrial Achievements:

- Qualified Chartered Engineer Examination, 2013, Institute of Mechanical Engineers (IMechE), United Kingdom
- Overseas Research Student Award, 2004, University of Leeds, United Kingdom
- MTech, 2004, Department Rank 1 in Structural Engineering, Indian Institute of Technology (IITG), Guwahati, Assam, India
- GATE 2002, All India Rank 147 with 97.91 percentile.
- BE (Civil Engineering), 2000-2002, University Rank 1 in the second, third, and final year of engineering

Professional Memberships:

- Chartered Engineer (CEng), Institute of Mechanical Engineers (IMechE), United Kingdom.
- Professional Simulation Engineer (PSE) Assessor, NAFEMS, UK.

Areas of Expertise/Interest:

- 12 years of industrial consultancy and training experience.
- 6 years of academic research and teaching experience.
- Experience of working in industrial projects requiring a research approach towards problem-solving. Executed many international-level consultancy projects of various durations during the last 8 years.
- Expertise in Finite Element Methods (FEM) with research experience in developing a FEM code using C language for the optimization of composite laminates.
- Experience in providing industrial training of more than 400 hours in the United Kingdom in various topics related to Finite Element Analysis & Explicit Dynamics.
- Developed customized courses in Finite Element Methods through ANSYS for various academic students and industrial engineers.

Chandrashekhar Lihare - The Microbiology Expert

Chandrashekhar Lihare stands as an indispensable pillar within Mohraj Greens Pvt Ltd, embodying the spirit of innovation and dedication that defines the company's ethos. With a profound commitment to each project, he approaches every endeavor as an opportunity for new development, driven by his unwavering quest to deliver best-in-class products.

As a visionary leader and bio-chem enthusiast, Chandrashekhar Lihare has played an instrumental role in shaping Mohraj Greens Pvt Ltd's trajectory towards pioneering sustainable biogas solutions. His relentless pursuit of excellence, honed by his vast knowledge and educational background in biology, has been a driving force behind the company's transformative projects.

Chandrashekhar's contributions span a multitude of groundbreaking biogas initiatives, each meticulously designed to harness the full potential of renewable energy sources and eco-friendly practices. His commitment to environmental sustainability and his technical prowess have earned him a reputation as an industry luminary.

Moreover, Chandrashekhar's visionary leadership extends beyond his technical expertise. He exemplifies Mohraj Greens Pvt Ltd's core values by viewing each project as an opportunity for innovation and improvement. His dedication to delivering best-in-class products is evident in the company's ongoing projects, where he continues to push the boundaries of biogas technology.

In essence, Chandrashekhar Lihare is not just a key contributor to Mohraj Greens Pvt Ltd; he is a driving force that propels the company towards a future where sustainable energy solutions are the norm. His leadership, technical acumen, and commitment to excellence make him an invaluable asset to both the company and the broader renewable energy industry. Under his guidance, Mohraj Greens Pvt Ltd continues to redefine the boundaries of what is possible in the realm of biogas technology, ensuring a brighter, more sustainable future for all.

EPC POWERED PROJECTS

Project Name: BIOGAS REACTOR/DIGESTER CIVIL FOUNDATION

Client: GREEN HOUSE BIO ENERGY PVT LTD(MUZAFFARNAGAR, PRIVATE SECTOR)

Project Duration: COMPLETED

Budget: 2.00 Cr

Project Name: BIOGAS PRODUCTION SETUP

Client: GREEN HOUSE BIO ENERGY PVT LTD (MUZAFFARNAGAR, PRIVATE SECTOR)

Project Duration: ONGOING(LAST PHASE)

Budget: 6.50 Cr

Project Name: BIO CNG FUEL STATION SETUP

Client: GREEN HOUSE BIO ENERGY PVT LTD (UP, PRIVATE SECTOR)

Project Duration: WORK ORDER IN HAND

Budget: 5.50 Cr

Project Name: MULTIPLE BIOGAS REACTOR FOUNDATION AND OTHER CIVIL WORKS

Client: SR BIO FUELS PVT LTD (UP, PRIVATE SECTOR)

Project Duration: WORK ORDER IN PROCESS

Budget: 8.50 Cr estimated

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Project Scope:

1. Objective:

To set up Bio CNG fuel stations and establish biogas plants across several industrial and commercial locations, promoting green energy solutions and eco-friendly fuel options for transportation.

2. Work Involved:

○ Design and Engineering:

- Designing the layout and technical specifications for biogas plants and Bio CNG stations.
- Integrating advanced technologies for energy efficiency and optimal biogas production.

○ Procurement and Setup:

- Procuring materials, equipment, and machinery required for plant construction and fuel station setup.
- Installation of gas compressors, purification systems, and fueling infrastructure.

○ Construction:

- Civil work for the establishment of Bio CNG stations and biogas plants, including the foundation, storage tanks, pipelines, and gas distribution systems.

3. Execution:

- Project is being executed in phases with site-specific customization to meet local needs, regulations, and energy demand.
- Collaboration with local authorities for permitting and compliance.

4. Key Milestones:

- Completion of design phase for the first Bio CNG station in [Location].
- Installation and testing of biogas plant components.
- Initial supply of Bio CNG to fleet vehicles in the region.

5. Challenges and Solutions:

- **Challenge:** Delays in the procurement of specialized equipment for Bio CNG stations.
Solution: Developed partnerships with multiple suppliers to ensure a steady supply of materials.
- **Challenge:** Environmental and regulatory approvals.
Solution: Worked closely with regulatory bodies to ensure compliance with all environmental guidelines and secured necessary permits.

Future Plans:

- Expand Bio CNG fuel stations to additional cities.
- Increase capacity of biogas plants to cater to more industries.
- Explore new opportunities in the renewable energy sector including wind and solar power.

Contact Information:

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This report and company profile provide a comprehensive overview of Mohraj Greens Pvt Ltd's services, key personnel, and ongoing projects. The company continues to lead in the renewable energy and civil construction sectors, offering innovative solutions and sustainable energy options.

BIO CNG PROPOSAL

Scope of Work

A. Owner's Scope

- Land acquisition and availability with necessary access.
- Regulatory clearances and statutory approvals including Environmental Clearance (EC), PESO, Pollution, Fire, Ground Water, LOI with OMC's, etc.
- Power and water supply for construction and operation.
- Feedstock availability and supply chain management.
- Utility bills, manpower post-handover, and O&M (if not under AMC).
- Office Buildings, Labour Quarters, feed stock area and such civil work.
- Equipments and machinery like tractor, loader, weighing bridge, electricity setup and connection, power backup systems, fire fighting setup, etc will be in owner's scope of supply.

B. Contractor's Scope (Mohraj Greens Pvt Ltd)

- Detailed engineering and layout design.
- Procurement and supply of equipment (pre-treatment, digesters, gas cleaning and upgrading units, compressors, cascades).
- Civil works including foundation, RCC structures, tanks, control room, etc.
- Mechanical, Electrical, and Instrumentation installation.
- Automation and SCADA integration.
- Trial runs and commissioning of the plant.
- Operator training and post-commissioning support.

S.No.	UNITS & PARTS	QTY	SPECIFICATION
1.	Bio Gas Reactor/Digester	2	Type: CSTR Feed: Press Mud / Multi feed. Material: Mild Steel with grade E350 Br (reactor tank fabrication with all its machinery parts according to industrial norms)
2.	Purification Unit	1	Type: VPSA Flow rate: 1500Nm ³ /hr
3.	Bio Gas Compressors	2	600Nm ³ /hr Type: Reciprocating with Blower Medium: Bio-CNG Suction Pressure: 0.8 Bar g Discharge Pressure: 250 Bar g VFD Drive (Included)
4.	SCADA, Lab setup and Heating System Units	1	Fully automation with PLC System integration. Lab for quality check and control of the feed stock. In House Heating System powered by raw biogas.
5.	Civil Works		Foundation for Digester Excavation and Soil Preparation Concrete and RCC Works Reinforcement Waterproofing Additional Structural Purification Shed Work Foundation RCC concrete reinforcement Fabrication of MS Pipes and roofing sheets Fittings, Fixtures and Erection. Foundation for Pits and Tanks Hydrolysis Tank Slurry Tank Equilibrium Tank Gas Holders Tank