RESIDENTIAL TRAINING

COMPRESSED BIOGAS (CBG)

POTENTIAL, TECHNOLOGY, POLICY, OPERATIONS AND ECONOMICS

Date
NOVEMBER 29- DECEMBER 1, 2023

Last date to apply
OCTOBER 28, 2023

Venue
ANIL AGARWAL ENVIRONMENT TRAINING INSTITUTE (AAETI), NIMLI, RAJASTHAN
The Indian government has set a target to raise the share of gas in the energy mix to 15% by 2030 from the current 6.5%. This move aims to transform India into a gas-oriented economy. Presently, India produces 34,000 million standard cubic meters of gas (MMSCM) but consumes 64,000 MMSCM, resulting in a substantial shortfall of 30,000 MMSCM. This deficit accounts for 47% of the total consumption, which is fulfilled through imports. To address this gap and achieve the nation’s clean energy goals, Compressed Biogas (CBG) can play a vital role by serving as a significant domestic energy source.

The CBG production potential in India is estimated at around 62 million metric tons (Ministry of New and Renewable Energy, MNRE) of which the Sustainable Alternative Towards Affordable Transportation (SATAT) scheme aims to tap 15 million metric tons. In the 2023-24 Union Budget, Finance Minister Nirmala Sitharaman has earmarked Rs 10,000 crore for the establishment of 200 compressed bio-gas (CBG) plants and 300 community and cluster-based plants. In addition to this budgetary allocation, the government has introduced several policies and initiatives to accelerate the implementation of CBG projects in India. These measures include the Waste to Energy program by the Ministry of New and Renewable Energy (MNRE), the Swachh Bharat Mission (SBM), and the Galvanizing Organic Bio-Agro Resources (GOBAR)-DHAN scheme. However, despite these policy efforts, the number of CBG plants currently installed on the ground is only 46. This slow progress can be attributed to the limited dissemination of CBG-related information among potential investors.

To successfully accomplish these aspirational goals, it is essential to disseminate knowledge and impart the right technical skills to government officials, regulators, state renewable energy nodal agencies (SNAs), urban development authorities, civil society organizations (NGOs), start-ups, researchers, private sector consultants, and individual practitioners. The task this entails is vast and complex. There is room for all stakeholders to establish an ecosystem that will transform waste management services into a viable business model for long-term economic and environmentally sustainable growth, which fulfills the vision of energy access and security for all segments.

Centre for Science and Environment (CSE) is offering a tailor-made three-day residential training program on “CBG: Potential, Technology, Policy, Operation, and Economics”. The high-impact training is designed to provide an end-to-end solution to design and install a CBG plant that aligns with the principle of circular economy, energy transition, and sustainable development.
**COURSE HIGHLIGHTS**

**Assessment of the Current Status of CBG**
- The Potential of Biogas Generation in India
- Current National and International Scenario
- Environmental, Economic, and Social Benefits
- Existing Installed Capacity
- Initiatives and Policies by the Government

**Science and Technology Behind CBG Production**
- Process and Science
- Various Designs of Biogas Digesters
- Plant Machinery and Equipment
- Biogas to CBG Upgradation Methods
- Factors Affecting Biogas Production

**Different Feedstocks and Their Biogas Potential**
- Agricultural Waste
- Municipal Solid Waste
- Press Mud
- Cattle Waste
- Napier Grass

**Green Hydrogen from CBG Plant**
- Introduction to National Hydrogen Mission
- Production of Green Hydrogen from CBG
- Benefits and Application in Industries
- Overall Economics of Integration

**Financing Options/Funding Assistance**
- Priority Sector Lending by Banks
- MNRE’s National Bioenergy Program
- Gobar-Dhan Scheme
- SATAT Program by MoPNG
- CSR (Corporate Social Responsibility) Funds
- State Level Incentives

**Fermented Organic Manure (FOM) from CBG Plants**
- Composition of Digestate
- Comparison with Chemical Fertilizers
- Ways to Upgrade and Market
- Standards and Regulations

**Carbon Credits for CBG Projects**
- Basics of Carbon Credits
- Steps to Avail Carbon Credits
- Trading Platforms
- Revenue Generation for CBG plants

**Site Selection Criteria and Regulatory Requirements**
- Parameters to Identify Potential Sites
- Necessary Clearances Required
- Different Stakeholder Involvement

**CBG Plant Exposure Visit**
- Explanation of Plant Components
- Revenue Model
- Feedstock and Manpower Requirements
- Economic Viability

**Case Studies and Key Learnings**
- Projection of Different Feedstock-Based Models
- Implementation Challenges
- Successful Practices
Confirmed participants must make travel arrangements so that they arrive in Delhi on November 28th by the afternoon.

After reaching Delhi, all participants should make their way to the CSE office at 41, Tughlakabad Institutional Area, near Batra Hospital, New Delhi-110062.

From here, CSE buses will ferry them to the training campus of AAETI at Nimli, near Alwar. The time taken on this travel would be 3 h approximately.

Participants can make their return travel arrangements (departure from Delhi) for late evening on December 1. CSE buses will ferry them back.

Accommodation for the complete training duration will be provided at AAETI. The AAETI canteen will be serving all meals to the participants.

Participants shall carry walking shoes to explore nearby treks.

AAETI is a specially designed campus, conceptualized and built to facilitate a practice of sustainable living. Please follow the ground rules laid down for it.

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**COURSE FEES**

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<tr>
<th>Government Officials</th>
<th>Indian Participants</th>
<th>Foreign Participants</th>
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<tbody>
<tr>
<td>Free Registration*</td>
<td>₹ 21,000/-</td>
<td>$300</td>
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<td>The cost of travel to Delhi and back for the nominated officials is to be borne by the nominating government authority/participant</td>
<td>The cost of travel to Delhi and back is to be borne by the participant</td>
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*(nominated officials from Government of India, state government and City/Panchayat officials)

The course fee is inclusive of travel from Delhi to the training institute, accommodation, food, resource person, and training kit.