Biological Natural Gas or BioCNG is an alternative to fossil fuels and is produced from organic wastes such as agricultural residues, industrial wastes, fruit vegetable wastes, and sewage wastes, among others. It is generated by removing the CO₂, H₂S, and moisture of biogas and subsequently increasing the methane content to over 90% and compressing it for storage and transportation. The calorific value of ~47,000 to 52,000 KJ/kg is almost equivalent to that of CNG.

**PROGRAM**

GGGI’s Biological Compressed Natural Gas (BioCNG or CBG) program in India aims to develop a vibrant BioCNG market and create an enabling ecosystem by reducing policy & technology barriers and creating localized sustainable & viable business models.

**RATIONALE**

India’s import dependence on crude oil, natural gas, and large share of carbon-intensive energy sources necessitates action to ensure energy security and economic sustainability in the long run. In this regard, the Government of India (GOI) targets to reduce its crude oil dependency by 10% in 2022 and increase the share of natural gas in the total energy mix of the country to 15% by 2030. Also, through Sustainable Alternative Towards Affordable Transport (SATAT), GOI aims to set up 5000 BioCNG plants by 2024.

**OBJECTIVE**

To create an enabling ecosystem for scaling up the BioCNG market development that will support clean energy transition in the transport and industrial sector.

**PROGRAM APPROACH**

- Creating an enabling policy environment to identify and address regulatory & policy issues.
- Formulating innovative and novel business models.
- Creating an enabling framework and ecosystem for service providers & Investors.
- Mobilizing green finance from national and international financial institutions/ banks.

**FOCUS STATES**

- **APPLICATIONS**
  - DOMESTIC
  - INDUSTRY
  - TRANSPORT

**KEY HIGHLIGHTS**

- Create a pipeline of 15 BioCNG projects and shortlist at least 8 high potential projects (with prefeasibility studies).
- Development of bankable business models for replication and scale-up.
- Demonstrating and supporting financial closure of 4-5 BioCNG projects (using different feedstock).
- Investment mobilization target of ~USD 25 million in large projects and exploring concessional line of credit for future BioCNG projects.
- Generation of ~5000 Direct and Indirect Green Jobs.
- Reduction of ~50,000 tons direct CO₂ emission annually.
Global Green Growth Institute is supporting the Ministry of Petroleum and Natural Gas (MoPNG), the Government of India, and public sector oil & gas companies in developing BioCNG market, which will contribute to India’s energy security and reduction in the import of fossil fuels.

**GGGI’S STRATEGIC ROLE**

Global Green Growth Institute is a knowledge partner to MoPNG to support designing projects, engaging with the stakeholders, and developing viable business models.

**TRUSTED PARTNER**

GGGI will leverage its global relationships to develop financial instruments and mobilize green finance for the BioCNG sector.

**FINANCE FOR GREEN INFRASTRUCTURE**

GGGI’s implementation of business models in the program will act as a model case for large-scale deployment of BioCNG projects across India and will help in achieving the GOI’s targets under SATAT.

**IMPACT AT SCALE**

**POTENTIAL IMPACTS**

- **REDUCING ~ 27 MILLION TONNES CO₂ PER ANNUM FROM 5000 BIOCNG PROJECTS**
  - 3 GOOD HEALTH AND WELL-BEING
  - 13 CLIMATE ACTION

- **GENERATING 75,000 DIRECT JOBS & LAKHS OF INDIRECT JOBS**
  - 1 NO POVERTY
  - 8 DECENT WORK AND ECONOMIC GROWTH

- **PRODUCE APPROXIMATELY 15 MILLION TONNES OF BIOCNG PER ANNUM (~32% OF CURRENT LNG DEMAND)**
  - 7 AFFORDABLE AND CLEAN ENERGY

- **APPROXIMATE INVESTMENT OF 24 BILLION USD IN INFRASTRUCTURE DEVELOPMENT**
  - 9 INDUSTRY INNOVATION AND INFRASTRUCTURE

**Partners**

Nodal Agency for the Sustainable Alternative Towards Affordable Transportation (SATAT) scheme.

Global Green Growth Institute is a knowledge partner to MoPNG for the SATAT scheme.

**Funding**

Ministry of Foreign Affairs (MoFA) of Denmark is providing the funding support to the program.

**About GGGI**

Global Green Growth Institute, headquartered in Seoul, Republic of Korea, is a treaty-based international intergovernmental organization dedicated to supporting and promoting strong, inclusive, and sustainable economic growth in developing countries and emerging economies.

**Contact**

India Country Representative,
Community of Practice Lead (Energy), GGPI Division
Mr. Nishant Bhardwaj
Email: nishant.bhardwaj@gggi.org