INDIA/Ministry of New and Renewable Energy , Govt. of India

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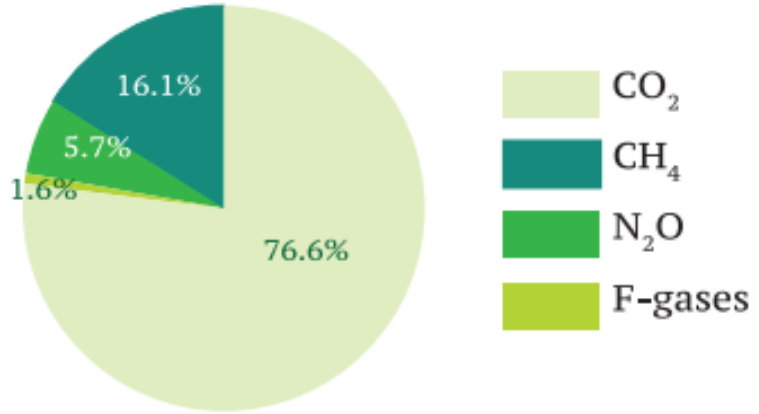
Global Methane Initiative

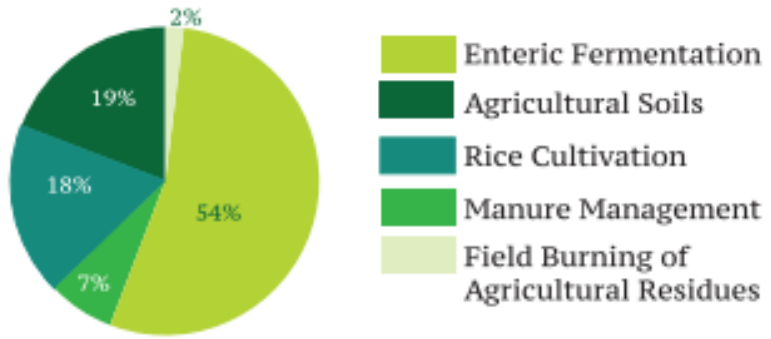
GMI Biogas Subcommittee Meeting 28 October 2019

Methane emission in India

- Methane in India(2014)-
  - Methane contributes **16.1%** (4,20,112 Gg CO2e)in GHG emission
- Methane from Agriculture(2014)
  - **73.5%** of total CH4 (3,08,905.4 Gg CO2e) in India comes from Agri-sector which is 11.85% of GHG emission
  - Methane from Manure Management
    - **2695 Gg** CO2e of methane emissions from dung
    - Which is 0.64% of total methane and 0.1% of GHG in India



igure 2.7: Distribution of emissions, by gas, 2014



Source:
India-Second Biennial Update Report to the United Nations Framework Convention on Climate Change-2018

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Policies to promote Biogas in India for Methane mitigation

Waste to Energy Programme

- Focuses on energy recovery in the form of Biogas, purified Biogas and Power from Industrial, Agricultural & Urban waste/effluent
- Financial support of **25 to 30% of project cost** in the form of back-ended capital subsidy to enterprises.
- This programme helps to establish **large scaled biogas plants** (>2500m3/day) in **industries (e.g.** distillery, paper and pulp, sugar mills, food processing),STP to meet pollutions norms and independent CBG & biogas based Power plants.
- **Achievement**- 6,84,504 m3/day Biogas, 84,759 kg/day Compressed Biogas (CBG) and 141 MW of power based on biogas

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New National Biogas and Organic Manure Programme

- Target- Biogas from Cattle manure and other organic waste in rural areas
- This program has helped to establish small-scale biogas plants (<2500m3/day) that families in rural areas can use to obtain cooking fuel and organic fertilizer.
- Financial support of **30 to 35% of project cost** in the form of back-ended capital subsidy to individual beneficiary.
- **Achievement**
  - ✓ 5 million Biogas plants (1-25m^3/day size)
  - ✓ Power generation capacity - 8.753 MW (<250kw)
  - ✓ Biogas generation capacity- 86,595 m3 /day (<2500m^3/day)

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National Policy on Biofuels & SATAT (Sustainable Alternative Towards Affordable Transportation)

- **National Policy on Biofuels-2018** aims on reducing import of crude oil by 10% by 2022 by increasing blending of biofuels ethanol, biodiesel and bioCNG (Compressed Biogas).

- To promote Compressed Biogas(CBG), **SATAT programme** was launched in 2018 to develop 5000 CBG plants with expected production capacity of **15 million tonnes of CBG** per annum by 2023, ;

- Guarantees off-take by publicly owned oil and gas companies of all CBG produced; and plans for bio-CNG distribution as automotive fuel.

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Galvanising Organic Bio-Agro Resources Dhan (GOBAR-Dhan)

•Announced on February 1, 2018, to improve sanitation in Indian villages by processing livestock manure and solid agricultural waste to produce biogas.

•Helps to establish small-scale digesters in villages to larger-scale projects at dairies and other waste generating facilities.

•financial incentives of **upto 100% project cost** of biogas plants to village council /NGO/Enterprise or registered entities

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Policies to promote Biogas in India

- India has significant potential to produce biogas and reduce methane emissions. To help meet this potential, India is investing heavily in a national strategy to increase biogas production and reduce methane emissions. The biogas strategy includes many policy initiatives, as well as capacity building and public-private partnerships. In addition to promoting biogas development, the benefits of this strategy include supporting sustainable development goals , improving sanitation, and increasing generation of renewable energy.

Policies to Promote Biogas in India

India has significant potential to produce biogas and reduce methane emissions. According to India's Second National Communication to the United Nations Framework Convention on Climate Change (UNFCCC), approximately 20 percent of its anthropogenic methane emissions—81.9 MMTCO$_2$e—come from agriculture (manure management), coal mines, municipal solid waste, and natural gas and oil systems. To help meet this potential, India is investing heavily in a national strategy to increase biogas production and reduce methane emissions. The biogas strategy includes many policy initiatives, as well as capacity building and public-private partnerships. In addition to promoting biogas development, the benefits of this strategy include supporting sustainable development goals, improving sanitation, and increasing generation of renewable energy.

Policies and Incentives

Sustainable Alternative Towards Affordable Transportation (SATAT) Initiative, announced on October 1, 2018 by the Ministry of Petroleum and Natural Gas, is geared toward reducing India's dependence on oil and gas imports by producing compressed biogas (bio-CNG), i.e., compressed natural gas using agricultural residues, cattle dung, sugarcane press mud, municipal solid waste, and sewage treatment plant waste. The Ministry anticipates development of 5,000 bio-CNG plants in 5 years; guarantees offtake by publicly owned oil and gas companies of all biogas produced; and plans to invest INR 175,000 Crore (about USD 24 billion) in infrastructure development for bio-CNG distribution as automotive fuel.

Galvanizing Organic Bio-Agro Resources (GOBAR)-DHAN, announced on February 1, 2018, is an effort to improve sanitation in Indian villages by processing livestock manure and solid agricultural waste to produce biogas. A great deal of livestock waste generated in rural India is disposed in harmful ways, such as burning or dumping in stockpiles. The initiative is led by the Ministry of Drinking Water and Sanitation, and it includes financial incentives for biodigesters, ranging from small-scale digesters in villages to larger-scale projects at dairies and other waste generating facilities.

National Policy on Biofuels, approved in 2018, whereby the Government of India announced a goal of reducing crude oil purchases by ten percentage points by 2022. The policy promotes the production of bio-CNG and other biofuels through project financing, as well as through research into developing new feedstocks and conversion technologies.

Electricity Act of 2003 helps State Electricity Regulatory Commissions promote co-generation and generation of electricity from non-conventional sources. It includes provisions for government support of biogas in India. These provisions include open access to the grid for renewable sources of power, preferential tariffs by state regulators, targets for renewable energy, and decontrolled captive generation.

The National Biogas and Manure Management Program, first implemented in 1981 by the Ministry of New and Renewable Energy (MNRE), promotes the use of biogas produced from cattle manure and other organic waste. This program helped establish small-scale biogas plants that families in rural areas can use to obtain cooking fuel and organic fertilizer. In 2018, MNRE stated that it aims to produce at least 255,000 (2.55 lakh) biogas plants by the end of 2020 in the capacity range of 1 m^3 to 24 m^3 per day.

Waste to Energy Program is a national program from MNRE that promotes the recovery of energy from industrial and urban wastes through waste-to-energy projects. The program focuses on converting municipal solid waste and agricultural waste into fuel for heating and cooking, CHP, and bio-CNG. MNRE provides financial incentives to encourage participation in these projects, including subsidies for demonstration projects, incentives to state agencies for promoting biogas projects, training, and outreach to project developers.

Biogas plant

Cattle

Agriculture

Global Methane CHALLENGE Profile Type

METHANE REDUCTION POLICIES

Location

INDIA

Submitter

The Ministry of New and Renewable Energy (MNRE)

MNRE is the nodal Ministry of the Government of India for all matters relating to new and renewable energy. The broad aim of the Ministry is to develop and deploy new and renewable energy, including biogas, to help meet the energy requirements of the country.