



GEF-MNRE-UNIDO Project  
Organic Waste Streams for Industrial Renewable Energy Applications in India  
Organises

**Seminar**  
on  
**National Bioenergy Programme**

18<sup>th</sup> November 2022

**AGENDA**

**(Venue: - Royal Ballroom, First Floor, Eros Hotel, Nehru Place, New Delhi)**

09:30~10:30	<b>Registration</b>
10:30~11:00	<b><u>Session I - Inauguration</u></b> <ul style="list-style-type: none"><li>✓ Welcome address by Mr Sandeep Tandon, National Project Manager (NPM), United Nations Industrial Development Organisation (UNIDO)</li><li>✓ Inaugural address by Shri Bhupinder Singh Bhalla, Secretary, Ministry of New &amp; Renewable Energy (MNRE)</li><li>✓ Special address by Ms Vini Mahajan, Secretary, Department of Drinking Water and Sanitation (DDWS)</li><li>✓ Keynote address by Shri R. K. Singh, Hon'ble Minister, Power and New &amp; Renewable Energy</li></ul> <p><i><u>Unveiling of the Compendium of the National Bioenergy Programme and Launch of Biogas &amp; Bio-Urja Portal</u></i></p>
11:00~11:15	<b>Tea/Coffee break</b>
11:15~12:00	<b><u>Session II – 'Major pillars of the National Bioenergy Programme'</u></b> <ul style="list-style-type: none"><li>✓ Presentation on the 'Waste to Energy Programme' by Sh Vijay Bharti, Scientist C, MNRE</li><li>✓ Presentation on the 'Biomass Programme' by Sh Vikram Dhaka Scientist C, MNRE</li><li>✓ Presentation on the 'Biogas Programme' by Sh Sitaram Meena, Scientist D, MNRE</li></ul>



12:00~13:15	<p><b><u>Session III – Stakeholder contribution in accelerating the growth of Bioenergy in India</u></b></p> <ul style="list-style-type: none"><li>✓ Presentation on Financing of Biomass/Waste to Energy Projects by Mr Piyush Kumar Arora, Manager (TS), IREDA</li><li>✓ Presentation on National Mission on Co-firing of Biomass in Thermal Power Plants by Mr Sudip Nag, Mission Director, SAMARTH</li><li>✓ Presentation on State Bioenergy Policy by Mr Jatinder Kumar Desai, Assistant Project Executive, GEDA</li></ul>
13:15~14:00	<b>Lunch</b>
14:00~14:45	<p><b><u>Session IV – Potential of Bioenergy in the Renewable Energy portfolio of India</u></b></p> <p>Presentations by</p> <ul style="list-style-type: none"><li>✓ Assessment of Waste to Energy Potential in India by Mr Nikhil Khot, National Project Co-ordinator (NPC), UNIDO</li><li>✓ Assessment of Biomass Potential in India by Mr Amartya Awasthi, Asst. Professor, ASCI</li><li>✓ Development of Biogas Standards by Dr Sachin Kumar, Scientist C, NIBE</li></ul>
14:45~15:00	<b>Tea/Coffee break</b>
15:00~15:45	<p><b><u>Session V – Realising the socio-economic benefits of Bioenergy applications</u></b></p> <ul style="list-style-type: none"><li>▪ Presentation by Akash Gupta, Research Analyst, Council on Energy, Environment and Water (CEEW)</li><li>▪ Moderated panel discussion by CEEW:<ul style="list-style-type: none"><li>• Moderator: Ms Disha Agarwal, Senior Programme Lead, CEEW</li><li>• Shri Bhimashankar Shetkar, Chief Operations Officer, NDDDB Mrida Ltd.</li><li>• Mr. Nuriel Pezarkar, Founder &amp; CEO, Noble Exchange Environment Solutions</li><li>• Mr. Piyush Sohani, Managing Director, Sistema Bio India</li><li>• Lt. Col. Monish Ahuja, Punjab Renewable Energy Systems Private Limited (PRESPL)</li><li>• Mr. Harinder Singh Sandhu, Additional Director, PEDDA</li></ul></li></ul>
15:45~16:00	<p><b><u>Closing Remarks and Vote of Thanks-</u></b> Shri Dinesh Dayanand Jagdale, JS (Bioenergy), MNRE</p>

# Background

India has embarked upon an ambitious energy transition journey with a target of fifty percent cumulative electric power installed electricity capacity from non-fossil fuel-based energy resources by 2030 and achieving net zero by 2070. To attain the ambitious Renewable Energy targets and to achieve self-reliance in the energy sector it is imperative that domestically available Renewable Energy alternatives are optimally utilised.

One such alternative is modern bioenergy. With a large surplus of biomass and other waste available in the country, energy recovery from these resources is a viable solution. Modern bioenergy is unique as it provides several social and environmental benefits apart from providing clean fuels. For example, bioenergy applications can help mitigate air, water, and land pollution. It can also create local jobs, and business opportunities, and reduce energy import bills. It can help develop decentralised and independent communities. There are benefits to the private sector, as well, in the form of opportunities to decarbonise their industries. Other benefits include savings on fertiliser subsidies and a reduction in waste management costs.

Promotion, deployment and sustained operations of efficient bioenergy technologies build robust supply chains and attract entrepreneurs and investor interest in the sector.

Therefore the Ministry of New and Renewable Energy (MNRE) has notified the National Bioenergy Programme for a period 01.04.2021 to 31.03.2026 with an outlay of Rs.858 crore under Phase-I. The National Bioenergy Programme will comprise the following sub-schemes:

- i. **Waste to Energy Programme** (*Programme on Energy from Urban, Industrial and Agricultural Wastes / Residues*)
- ii. **Biomass Programme** (*Scheme to Support Manufacturing of Briquettes & Pellets and Promotion of Biomass (non-bagasse) based cogeneration in Industries*)
- iii. **Biogas Programme**

While the guidelines for the sub-schemes are given in succeeding chapters, the salient features are given below:

## 1. Biomass Programme:

- i) MNRE has been implementing the programme to promote Biomass Power and Bagasse Cogeneration in the country since the 1990s. The Biomass-based Cogeneration Programme (launched in May 2018) was under implementation with the main objective of promoting cogeneration for optimum use of the country's biomass resources through cogeneration technology in sugar mills and other industries (rice, paper mills, etc).
- ii) The Programme which earlier focused on cogeneration will now support the manufacturing of pellets and briquettes for use in power generation. The scheme will support the implementation of the National Mission on Co-firing of Biomass in Thermal Power Plants. This will enable a reduction in the practice of stubble burning particularly in the northern states of the country.
- iii) Under new guidelines of the programme for the period of 2021-22 to 2025-26, Central Financial Assistance shall be made available to projects for setting up of pellets and briquettes for use in power generation and non-bagasse based power generation projects.
- iv) **Physical Achievements:** More than 800 Biomass based Power plants (IPPs, Bagasse/Non-Bagasse Cogeneration) of a cumulative capacity of 10205.6 MW have been installed in the country as on 30.09.2022.

**Grid Connected:** 9433.6 MW (Grid connected plants include Independent Biomass Power Producers (IPPs) and Bagasse Cogeneration Power Plants)

**Off-Grid:** 772 MW (Off-grid plants include Non-Bagasse Cogeneration Power Plants)

## 2. Waste to Energy Programme:

- i) MNRE has been implementing a **Programme on Energy from Urban, Industrial, Agricultural Wastes/ Residues and Municipal Solid Waste** since 2018 for recovery of energy in the form of Biogas/BioCNG/Power from urban, industrial, agricultural wastes and municipal solid waste.
- ii) Under new guidelines of the programme for the period of 2021-22 to 2025-26, Central Financial Assistance shall be made available to projects for setting up of large Biogas, BioCNG and Power plants (excluding MSW to Power projects).
- iii) There exists tremendous scope for generating bio-CNG (Compressed Biogas-CBG) in the Country for meeting various applications such as vehicles, industries for captive energy needs, cooking etc besides generating bio-fertilizers and India through **SATAT' (Sustainable Alternative Towards Affordable Transportation)** scheme of Ministry of Petroleum and Natural Gas on CBG envisages to target production of 15 MMT of CBG from 5000 plants by 2023. Oil Marketing Companies have offered long-term pricing on CBG to make projects bankable and have agreed to execute long term agreements on CBG. The BioCNG component of the programme supports the SATAT initiatives of MoPNG.
- iv) **Achievement under Waste to Energy Scheme:** As of **30.09.2022**, a total of **258** Waste to Energy projects with a cumulative capacity of **477** MWeq including **223** MW of Grid capacity and **254** MWeq of Off-Grid capacity for generation of Biogas, BioCNG and grid/off-grid Power have been added in the Country.

## 3. Biogas Programme:

- i) MNRE has been promoting the installation of small biogas plants since the year 1981-82 under *New National Biogas and Organic Manure Programme (NNBOMP)* to provide clean gaseous fuel mainly for cooking and lighting purposes in rural areas. Since the inception of the Biogas Programme, a cumulative total of about 50.8 lakh family type biogas plants have been installed in rural areas of the country as of 31st March 2021.
- ii) Similarly, the *Biogas Power Generation (Off-grid) and Thermal energy application Programme (BPGTP)* for medium size biogas plants in the capacity range of 25 m<sup>3</sup> to 2500 m<sup>3</sup> per day biogas generation for decentralized power generation in the range of 3-250 kW was launched in the year 2005-06. BPGTP covers the generation of electrical and thermal power from biogas (100 per cent biogas engines). Since the inception of the BPGTP, the cumulative power generation capacity of about 7.8 MW (328 nos) has been installed up to 31.03.2021.
- iii) Under the new scheme for the period of 2021-22 to 2025-26, the aforementioned schemes have been merged into a single scheme as the "Biogas Programme" expanding the scope of the scheme and revising financial assistance provided to set up biogas plants.