

No.25-2/2013-BE  
GOVERNMENT OF INDIA  
MINISTRY OF NEW AND RENEWABLE ENERGY  
(BIO-ENERGY TECHNOLOGY DEVELOPMENT GROUP)  
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BLOCK NO.14, C.G.O. COMPLEX,  
LODI ROAD, NEW DELHI-110003  
Dated: 03.01.2014

To

The Pay & Accounts Officer,  
Ministry of New & Renewable Energy,  
New Delhi

**Subject: Continuation of Biogas Power (Off-grid) Programme during 2013-14 and the remaining period of 12<sup>th</sup> Five Year Plan - Administrative Approval – reg.**

Sir,

I am directed to convey the sanction of the President to the continuation of implementation of the Biogas Power (Off-grid) Programme during the financial year 2013-14 and the remaining period of the 12<sup>th</sup> Five Year Plan at a total outlay of Rs.36.62 crore (Rupees Thirty Six Crore Sixty Two Lakh Only). The year-wise break-up of the outlay for Biogas Power (Off-grid) Programme during 2013-14 and the remaining period of 12<sup>th</sup> Five Year Plan, is given at Appendix. The details of the Scheme for projects related to Biogas Power (Off-grid) Programme, are given at Annexures I to III. The above mentioned programme / scheme will be implemented during 2013-14 and the remaining period of the 12<sup>th</sup> Five Year Plan, as per the guidelines and other provisions contained in the Administrative Approval.

**1. Biogas Power (Off-grid) Programme**

Biogas based power units can be a reliable decentralized power generation option in the country. In order to promote this route of power generation, specifically in the small capacity range (3 kW to 250 kW), based on the availability of large quantity of animal wastes and wastes from forestry, rural based industries (agro/food processing), kitchen wastes, etc; a number of projects of different capacities and applications will be taken up for refining the technical know-how, developing manpower and necessary infrastructure, establishing a proper arrangement of operation & maintenance and large scale dissemination. The projects to be taken up by any village level organization, institution, private entrepreneurs etc. in rural areas as well as areas covered under the Remote Village Electrification (RVE) programme of MNRE other than the industries and commercial establishments covered under Urban, Industrial & Commercial Applications (UICA) programmes for sale of electricity to individual/ community on mutually agreeable terms. The implementing organizations must ensure that sufficient feed stock/ materials for proposed biogas plants size are available on sustainable basis and the beneficiary organization gives an undertaking that the plant would be maintained and operated for a minimum period of ten years.

## **2. Training & Awareness Promotion**

The programme provides support for a variety of workshops, seminars, meetings, training programmers to the implementing agencies/specialized organizations/Biogas Development & Training Centers (BDTCs) for developing the required specifications and standards, discussions/deliberations on the performance of systems, setting up operation and maintenance mechanism, training of required manpower, capacity building, business meets for the prospective industries, etc. with the ultimate objective of promotion of power generation based on biogas in the country.

The quantum of financial assistance to be provided by Ministry of New and Renewable Energy (MNRE) for conducting these programmers will be decided on the basis of nature & duration of the programme, number of participants, etc. The maximum assistance, however, is limited to Rs.1,00,000/- (Rupees One Lakh Only) per event.

## **3. Implementation**

The programme would be implemented through State Nodal Departments/Agencies of the States/UTs, KVIC, BDTC's and institutions. The implementing organizations are required to submit proposals on prescribed format (Annexure-III a or b). Funds for implementation will be disbursed through State nodal organizations/implementing agencies. The extent of administrative charges to be provided to the implementing organizations is given in Annexure-II. Installation of projects should be encouraged only if specific responsibility is taken upright from the initiation of project by the institution including for operation and maintenance for the specified period as per DPR norms or otherwise for a minimum period of ten years.

## **4. Release of funds**

Central Financial Assistance (CFA) for projects and administrative charges to State Nodal organizations/implementing agencies/BDTC's are given at Annexure-II and pattern of release of funds would be, as given below:-

The funds would be released on re-imburement after successful commissioning of the biogas based power plant as per the DPR norms (wherever DPR is required) receipt of utilization certificates, audited statement of expenditure (duly audited by Chartered Accountant on letter head). The installation/ commissioning of biogas based power plants should be completed within a year and in any case not more than 18 months from the date of sanction of the project. Project on completion, requires inspection report alongwith photographs of biogas plants, its accessories (gas flow meter and scrubbers) and power generating systems submitted to MNRE by an authorized agency of MNRE. The condition of successful commissioning of the plant would, inter-alia, imply generation of power with operational capacity of the sanctioned biogas plants with the minimum power generation data for 3 months including the operational time and unit generated per day.

## **5. Monitoring Mechanism**

The monitoring of the Biogas Power (Off-grid) Projects would be done based on half yearly and annual progress reports by the respective State Nodal Departments/ Agencies of the

States/ UTs, authorized agency of MNRE Viz. BDTCS, KVIC, institutions over and above MNRE officials. The project developer would extend all help required in monitoring of the projects.

**6. Budgetary Provisions for 2013-14:**

The budget provision for implementation of the scheme during the financial year 2013-14 is Rs.2.33 crore (Rupee Two Crore Thirty Three Lakh only).

The expenditure on the scheme during 2013-14 will be met from the budget provision given below: -

Head of Account	Description	Allocated Amount (Rs. in Crore)
2810-NRE	The expenditure involved is debit to Demand No. 69, Major Head 2810, New and Renewable Energy, 00.101- Grid Interactive and Distributed Renewable Power, 02-Off-Grid / Distributed and Decentralized Renewable Power 03- Bio Power, 33-Subsidy during the year 2013-14 (Plan).	2.33 (Rupees Two Crore Thirty Three Lakh only)

- Each proposal will be examined and concurred in by the Integrated Finance Division of the Ministry, on case-to-case basis.
- All State Government Agencies/Departments and BDTC's are requested to initiate the action for implementation of Biogas Power (Off-grid) Programme during the year 2013-14 as per the scheme. Firmed up project proposals as per these guidelines are to be submitted to this Ministry for consideration and approval.
- This sanction issues in exercise of the powers conferred on the Ministry in consultation with the Integrated Finance Division of this Ministry vide their Dy. No.IFD/2182/13-14 dated 24.12.2013.

Yours faithfully,

  
(G.R. Singh)  
Director (Bio-Energy)

To,

- State Nodal Departments – All States/ Union Territories concerned
- State Nodal Agencies – States and Union Territories concerned.
- Khadi & Village Industries Commission, Mumbai.
- All Biogas Development & Training Centers.

**Copy for information:-**

1. The Accountant General (Audit) - All States/UTs.
2. The Director of Accounts - (All States/UTs).
3. The Principal Director of Audit (Scientific Deptt.), DGACR Building, I.P. Estate, New Delhi.
4. The Principal Director (Local Bodies Accounts) or Director (Local Bodies), Office of the Comptroller and Auditor General of India, 9 Deen Dayal Upadhyaya Marg, New Delhi.
5. Secretary, Finance/Planning Department (All States/UTs).
6. RBI, Bombay/NABARD, Bombay.
7. Ministry of Programme Implementation, New Delhi.
8. PS to Minister (NRE).
9. PSO to Secretary, MNRE, New Delhi.
10. PS to JS and Financial Adviser, MNRE, New Delhi.
11. PS to Adviser (Dr. NPS).
12. All Group Heads, MNRE.
13. Managing Director, IREDA, New Delhi.
14. All Directors, MNRE/ Director (BE)/ US (BE)/ SO(BE) / UDC (BE).
15. DS (Fin)/ US(Fin)/SO(IFD) SC/(IFD)/ PAO, MNRE.
16. Individual files of States/UTs/Agencies/Guard file.
- ✓ 17. NIC cell, MNRE.

  
(G.R. Singh)

Director (Bio-Energy)

**GOVERNMENT OF INDIA  
MINISTRY OF NEW AND RENEWABLE ENERGY  
(BIO-ENERGY TECHNOLOGY DEVELOPMENT GROUP)**

**BIOGAS BASED POWER GENERATION SYSTEM**

Biogas technology provides an alternative source of energy mainly from organic wastes. It is produced when bacteria degrade organic matter in the absence of air. Biogas contains around 55-65% of methane, 30-40% of carbon dioxide and small quantities of Hydrogen, Nitrogen, Carbon Monoxide, Oxygen and Hydrogen Sulphide. The calorific value of biogas is appreciably high (around 4700 kcal or 20 MJ at around 55% methane content). The gas can effectively be utilized for generation of power through a biogas based power-generation system after dewatering and cleaning of the gas. In addition, the slurry produced in the process provides valuable organic manure for farming and sustaining the soil fertility.

**1. Components of a Biogas based Power Generation System**

- Biogas Plants
- Gas Cleaning System
- Engine with alternator
- Control Panel along with Energy Meter
- Machine Room / Shed
- Manure management system / protocol

**2. Biogas plants**

Standard KVIC floating drum model (vertical or horizontal type) would be supported. The eligible item associated with a biogas plant includes:

- Digester, gas holder and accessories
- Feed / slurry handling system (composed pits) with water supply and storage
- Initial feed
- Gas outlet

**3. Gas Cleaning System**

The biogas contains hydrogen disulphide gas. Concentration of hydrogen disulphide in excess of 0.1 % is harmful to the engine. Hence it is necessary to remove hydrogen sulphide before the gas is taken to the engines by putting with H<sub>2</sub>S and CO<sub>2</sub> Scrubber.

**4. Engine with alternator**

- 100% biogas engines
- Micro-turbines

#### **5. Control / Monitoring Panel**

BIS Standard control / monitoring panel would be supported.

#### **6. Machine Room / Shed**

A proper machine room with shed would be planned as per standard practices. The biogas generated in the digester, if necessary can be stored in a suitable storage unit or membrane type storage balloon.

#### **7. Manure management system /protocol**

Manure management is an integral part of a biogas based power generation system for arriving at an economically feasible operation level. Marketing strategy of the biogas slurry or the value added bio-manure is required to be defined.

8. Any new efficient system for production of biogas, cleaning of the gas and conversion of the gas to electricity, etc. can also be used subject to prior approval of the Ministry.

9. Fixed dome / Deenbandhu and other approved models of biogas plant up to capacity of 10 – 100 cubic meter per day may also be propagated as per design dimensions and standards for the same developed at BDTC, PAU, Ludhiana, Punjab and medium and large capacity approved models of Biogas plants for digestion of cattle dung and other suitable biomass. Approval of MNRE may be sought for any new model of Biogas plant before submission of project proposal(s) under these guidelines.

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Annexure III-a

**FORMAT FOR BASIC INFORMATION FOR PROJECTS UPTO 8 KW ON BIOGAS POWER (OFF-GRID) PROGRAMME**

1	Name and address of state Govt. Nodal Deptt. / Nodal Agency / Approved NGO's/BDTC	
2	Name & Address of project executing organization/agency (if other than SND./Agency/BDTC)	
3	Details of Site indicating location and address with expected load and use of electricity etc	
	1. Capacity of the biogas plant (cubic meter per day or cubic meter per hour)	
	2. Name of manufacturer/supplier and cost of 100% biogas engines, DG-Genset and associated control panel etc.	
	3. Total Installed capacity in kW	
	4. No. of biogas plants with capacity of each in m <sup>3</sup> proposed	
	5. Proposed operational hours per day entirely based on Biogas	
	6. Unit /Estimated actual cost intimated by the user/manufacturer and verified by the concerned SND / SNA / KVIC / BDTC	
	7. Total cost of the project (in Rs)	
	8. Amount of Central Financial Assistance (CFA) as per approved scheme of Biogas power plant (in Rs)	

Certified that

1. Adequate quantity of surplus biomass is available at the site and user/applicant is genuinely interested for installation and operation of biogas power plant on regular basis.
2. User organization has agreed to provide balance funds over and above CFA for installation of proposed biogas power plant.
3. User organization has agreed to operate and maintain the system at their own on regular basis for a minimum period of 10 years.

Name & Signature of the promoter/user

Date:

Place:

(Countersigned by Head of SND/SNA/BDTC or/and Manufacturer)

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**PATTERN OF CENTRAL FINANCIAL ASSISTANCE**

Subsidy pattern for setting up Biogas based Power Generation Systems and other charges under the Biogas Power (Off-grid) Programme.

Power generating capacity	Biogas plant capacity	Requirement of DPR	CFA/subsidy limited to the following ceiling or 40% of the cost of the system whichever is less.	Administrative Charges to State Nodal Department / Agencies/BDTC's for providing technical, supervision, training support and submission of project completion and monitoring report of successful operation.
3-20kW	25 M <sup>3</sup> to 85 M <sup>3</sup>	No DPR required	Rs.40,000/- (Rupees Forty thousand only) per kW	10% of the CFA
>20kW up to 100kW	Any combination of above plants or approved alternate capacity / design	DPR required	Rs.35,000/- (Rupees Thirty five thousand only) per kW	Rs.1,00,000/-
>100kW up to 250 kW	Any combination of above plants or approved alternate capacity / design	DPR required	Rs.30,000/- Rupees Thirty thousand only) per kW	Rs.1,50,000/-



**Annexure III-b****FORMAT FOR BASIC INFORMATION FOR PROJECTS ABOVE 8 KW BIOGAS POWER (OFF-GRID) PROGRAMME**

<b>S. No</b>	<b>Name of the Project</b>	<b>Biogas based power generation</b>
1.	Name of the Beneficiary and address	
2.	Geographical details of the proposed site	
	A) Name of the village	
	B) Post	
	C) Block	
	D) Taluk	
	E) District	
	F) Pin code Number	
	G) State	
	H) Nearest bus stand /Railway station	
	I) Name of the contact person	
	J) Telephone /Mobile Nos of contact person	
	K) Telephone No. of the site	
3.	Name of address of the State Agency/BDTC who propose to undertake the work	
4.	Category of Beneficiary / Institution Please (✓) tick	a) General b) Private c) Government d) Public organization e) Other
5.	Proposed use of generated power with detailed configuration	
6.	Mode of use and total requirement of power kWh/day	
7.	Proposed size of Biogas plant in cubic meter (m <sup>3</sup> )	
8.	Available cattle	
9.	a) Details of Cattle (Availability of dung in kg.)	
	b) Any other like goats, pigs, poultry etc. Please specify the Nos & its dropping in kg.	
	c) Agricultural waste in kg.	
	d) Other degradable biomass in kg. (please attach separate sheet along with the full details of each raw material)	
	e) No. of latrine attached & No. of users	
	f) Availability of land for proposed biogas plant and housing generator etc.	
10.	Procurement and commissioning of ( <i>Name of the proposed power generating system, Mechanism for manufacturers and operation &amp; Maintenance of the system suppliers to be given</i> )	
11.	Estimated quantum of power to be generated through biogas plant, keeping in view the minimum 10 hours daily operation of the proposed power plant entirely based on	

	Biogas generation	
12.	Proposed Electrical Load Distribution with Biogas power plant	
	a) Domestic (Details to be given)	
	b) Village industry (Details to be given)	
	c) Irrigation/Agriculture (Details to be given)	
13.	Types of engine proposed for power generation	
14.	Capacity of engine / micro turbines etc. in kVA	
15.	a) Cost of 100% biogas engine coupled with Genset, associated Central panel and power room etc. (in Rs.)	
	b) Cost of internal transmission system used for electrification (for a & b please attach separate sheet along with full details)	
16.	Cost of proposed biogas plant (in Rs.)	
17.	Manure management system	
18.	Approximated cost of electricity that may be generated through gas ( Rs./kWh)	
19.	Source of funding of the project (in Rs.)	
	a) Own fund	
	b) Bank loan	
	c) Central financial assistance	
	<b>d) Total Cost</b> (in Rs.)	
20.	Source of funds for meeting operation and maintenance cost of the system	
21.	Undertaking from State Nodal Deptt.../Agencies/BDTC <i>(An undertaking to this effect from agency for procurement installation, operation and maintenance of the system on regular basis.)</i>	
22.	Mechanism to transfer the power plant to user / Panchayat/ Society/ Entrepreneur etc. by SNA/SND/BDTC after specific period.	
23.	Any other information with regard to the project	

**Date**  
**Place**

**Signature of the Beneficiary**  
**Who undertakes the project**

**Date**  
**Place**

**Signature of the agency who promote/**  
**Undertake the work of power generation & construction of Biogas**  
**plants etc.**

**Date**  
**Place**

**Verified & countersigned by the Head of the concerned**  
**SND / SNA / KVIC / BDTC**

On Rs. 50 Stamp paper

**UNDERTAKING**

The management of **<beneficiary name>** has submitted proposal for setting up of \_\_\_\_\_ kWe power generation project using **<type of raw material>** as feed material for financial assistance from Ministry of New and Renewable Energy, Government of India.

We undertake that,

1. The cost over and above the MNRE/GOI share will be borne by our organization.
2. We will operate the plant for a minimum period of 10 years and shall not dislocate the same without the prior permission of the Ministry.

Deponent

Attested as identified  
(dated)  
Notary Public

Authorized signatory of the industry

On Rs. 50 Stamp paper

**AFFIDAVIT**

I, **<Beneficiary name and full address>** do hereby declare solemnly declare and affirm as under:-

1. That the company of <beneficiary name> has applied for getting up of biogas based power generation project at <site address> under the scheme of Biogas Power (Off-grid) to MNRE, New Delhi through <implementing agency name>.
2. That the company has sufficient funds/materials at present and same will be available to run the plant on sustainable basis for a minimum of 10 years.

Deponent

**Verification:**

Verified that the content of this affidavit are true and correct to the best of my knowledge and belief nothing has been concealed therein.

Attested as identified

Deponent

(dated)

Notary Public

Authorized signatory of the industry

**Appendix**

**Year-wise break-up of the outlay for Biogas Power (Off-grid)  
Programme during 2013-14 & the remaining period of 12<sup>th</sup> Plan**

<b>Financial Year</b>	<b>Outlay (Rs. In Crore)</b>
2013-14	2.33
2014-15	10.00
2015-16	10.00
2016-17	14.29
<b>Total</b>	<b>36.62</b>