

NO.25/1/2008-BE
GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY
(BIOENERGY DEVELOPMENT GROUP)

BLOCK NO.14, C.G.O. COMPLEX,
LODI ROAD, NEW DELHI-110003
Dated: 23.06.2009

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

Subject: Biogas based Distributed / Grid Power Generation Programme during 2009-10 -Administrative Approval – reg.

Sir,

I am directed to convey the sanction of the Government of India for implementation of the Biogas based Power Generation Programme(BPGP) during the financial year 2009-10 at a total outlay of Rs. 5.00 crores (Rupee Five crores only). The details of the Scheme for projects related to Biogas based Power Generation Programme are given in **Annexure. I-III**

1. Biogas based Power Generation Programme (BPGP)

Biogas based power units can be a reliable decentralized power generation option in the country. In order to promote this route of power generation, specially in the small capacity range, based on the availability of large quantity of annual 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/grid etc. on mutually agreeable terms.** The implementing organizations must ensure that sufficient feed materials for biogas plants 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 programmes 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 per event.

3. Implementation

The programme would be implemented through nodal departments/agencies of the States/UTs, KVIC, institutions and NGOs. 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 service 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.

4. Release of funds

Central Financial Assistance (CFA) for projects and service charges to State nodal organizations/implementing agencies/NGOs are given at Annexure-II and pattern of release of funds would be as follows:

- i. 50 per cent of the eligible CFA plus service charges will be released to the State nodal department/agency/organization with the sanction order.
- ii. 40 per cent of the eligible CFA will be made as second installment after the receipt of utilization certificates, based on report of supply & installations of equipments etc. on site and satisfactory progress made.
- iii. The balance 10% of the eligible CFA will be made after successful commissioning of the biogas power plant as per the DPR norms, receipt of utilization certificates, audited statement of expenditure, project on completion requires inspection report submitted by MNRE/ an authorized agency of MNRE. The condition of successful commissioning of the plant would, inter-alia, imply generation of operation of 19 kWh/day/kW sanctioned capacity for 3 consecutive days.
- iv. In case the project is set up by the developer through his own resources, the entire CFA would be released directly to the developer after successful commissioning of the project and certified by the State Nodal Agencies.
- v. For preparation of DPR for power projects, wherever required, and for programmes relating to Training & Awareness Promotion, 50% of the eligible CFA will be released to implementing organizations alongwith the sanction order. The balance will be released on receipt of the utilization certificates, audited statement of expenditure and the final report.

5. Monitoring Mechanism

Monitoring of the Bio-gas based power projects would be done based on half yearly/annual progress reports as well as monitoring by SNA/ an authorized agency of MNRE. .

6. Budgetary Provisions for 2009-10

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

<u>Hear of Account</u>	<u>Description</u>	<u>Allocated Amount</u> (Rs. Crores)
'2810'-NRE	The expenditure involved is debit to Demand No. 67, Major Head 2810, New and Renewable Energy 01-Biogas Energy 01.102 Renewable Energy for Rural Applications 02. Renewable Energy for all Villages 01. Biogas programme 31-Grants-in-aid During the year 2009-10 (plan).	63.00*
'3601'	Grants-in-aid to State Governments 03-Grants for Central Plan Schemes 105-New and Renewable- Renewable Energy For Rural Applications 01-Renewable Energy for all villages 01-Biogas Programme 31-Grants-in-aid	

*out of the above 63.00 Crores, Rs.5.00 crores has been earmarked for Biogas based Distributed/Grid Power Generation Programme during financial year 2009-10 . Selected biogas based power projects would be taken up during the year.

7. Each proposal will be examined and concurred in by the Integrated Finance Division of the Ministry, on case-to-case basis.
8. All State Government Agencies/Departments are requested to initiate the action for implementation of Biogas based Distributed/Grid Power Generation during the year 2009-10 as per the scheme. Firmed up proposals as per the guidelines are to be submitted to this Ministry for consideration.
9. This sanction issues in exercise of the powers conferred on the Department in consultation with the Integrated Finance Division of this Ministry vide their Dy. No. IFD/396/09 dated 16.06.09.

Yours faithfully,

(B.Routh)

Under Secretary to the Govt. of India

To

1. State Nodal Departments – All States/ Union Territories concerned
2. State Nodal Agencies – States and Union Territories concerned.
3. Khadi & Village Industries Commission, Mumbai.
4. All Biogas Development & Training Centres.

Copy for information and necessary action to:-

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. Secretary, Finance/Planning Department (All States/UTs).
5. RBI, Bombay/NABARD, Bombay.
6. Ministry of Programme Implementation, New Delhi.
7. Sr.PPS to Secretary, MNRE, New Delhi.
8. PS to AS and Financial Adviser, MNRE, New Delhi.
9. All Group Heads, MNRE
10. Managing Director, IREDA, New Delhi.
11. All Directors, MNRE, \ US(Fin)/AO(IFD)/ PAO, MNRE.
12. Dir.(Fin.)/ US(Fin)/AO(IFD)/ PAO, MNRE.
13. Individual files of States/UTs/Agencies/Guard file
14. NIC cell, MNRE

((B.Routh)
Under Secretary to the Govt. of India

**Ministry of New and Renewable Energy
(Bioenergy 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 kcla 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.

1. Components of a Biogas Based Power Generation System (BPGS)

- Biogas Plants
- Gas Cleaning System
- Engine with alternator
- Control Panel
- 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.

4. Engine with alternator

- 100% biogas engines
- Micro-turbines
- Standard dual fuel engines preferably with bio-diesel in place of diesel.

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.

ANNEXURE – II

Ministry of New and Renewable Energy
(Bioenergy Development Group)

PATTERN OF CENTRAL FINANCIAL ASSISTANCE

Subsidy pattern for setting up Biogas Based Power Generation Systems (BPGS)

Power generating capacity	Biogas plant capacity	Maximum support for preparation of DPR	CFA/subsidy limited to the following ceiling or 40% of the cost of the system whichever is less.
3-20kW >20kW to 100kW	25 M ₃ to 85 M ₃ Any combination of above plants or alternate capacity / design	No DPR required Rs.20000 per plant	Rs.40,000 per kW Rs.35,000 per kW
>100kW to 250 kW	Any combination of above plants or alternate capacity / design	RS.1,00,000 per plant above 100 kW	Rs.30,000 per kW
<p>• Service Charges to State Nodal Department / Agencies for providing technical, supervision, training support and to initiate action on power purchase agreement with state electricity board, etc.</p>		10% of the CFA	15% of the CFA (upto20 kW capacity for which no assistance for DPR is provided) 10% of the CFA (20 kW - 250 kW)

ANNEXURE-III -a

FORMAT FOR BASIC INFORMATION FOR PROJECTS UPTO 8 KW ON BIOGAS BASED DISTRIBUTED / GRID POWER GENERATION PROGRAMME

1. Name and address of State Govt. Nodal Deptt./ Nodal Agency/Approved NGOs:
2. Name & Address of project executing Organisation/agency (if other than SND./Agency)
3. Details of Site indicating location and address with expected load and use of electricity etc.

Sl.No.	Capacity of the biogas plant	Name of Manufacturer/ Supplier and cost of 100% biogas engines, DG-Genset and associated control panel etc.	Installed capacity	No. of Systems proposed	Unit cost/Estimate/ actual price as intimated by the user/ manufacturer	Amount of Central financial Assistance (CFA) as per approved scheme of Biogas Power Plant

Certified that:

1. Certified that adequate quantity of surplus biomass is available at the site and ser/applicant is genuinely interested for installation and operation of biogas power plant on regular basis.
2. User organizations have agreed to provide balance funds over and above CFA for installation of proposed biogas power plant.
3. User organizations have agreed to operate and maintain the system at their own on a regular basis.

Name & Signature of the Promoter/User
(Countersigned by SNA or / and Manufacturer)

Date:
Place:

ANNEXURE-III-b

FORMAT FOR BASIC INFORMATION FOR PROJECTS ABOVE 8 KW ON BIOGAS BASED DISTRIBUTED / GRID POWER GENERATION PROGRAMME

A. GENERAL :

1. Name & Address of State Nodal Deptt./Agency :
2. Name & Address of project executing Organisation/agency
(if other than State Nodal Deptt./Agency) :
3. Name of Village, Block & Distt . :
4. No. of Households and Total population of village :
5. Category of village : Electrified/ Non electrified with census
number (mandatory)
6. Types of village industries etc. (if any) :

B. TECHNICAL

7. Capacity of the biogas plant proposed (in cu.m.) :
8. Capacity of 100% biogas engines / DG-Genset dual fuel (used with biofuel) / micro turbines etc.
coupled with biogas (in KVA)
9. Proposed electrical load with biogas power plant :
(a) Domestic (Details to be given) :
(b) Village Industry (Details to be given) :
(c) Irrigation/Agriculture Operation (Details to be given) :
10. Proposed hours of operation per day (Separate details for each load) :
11. Availability of cow dung and other biomass :

(Please give the details onfor regular operation of biogas power plant requirement and availability
of biomass source-wise on monthly / yearly basis in a separate sheet.)
12. Procurement and commissioning of :

Name of the proposed power generating system,
Mechanism for manufacturers and operation &
maintenance of the system suppliers to be given.
13. Cost of 100% biogas engines, DG-Genset and associated control panel etc. :
14. Cost of Internal transmission & :

Details of no. of poles of distribution line
transmission lines (Map/Sketch to be encl.)
15. Source of funding of the Project :
16. Source of funds for meeting operation and maintenance cost of the system.:
17. Expected cost of generation of electricity : From the system (Rs./kWhr.)
18. Undertaking from State Nodal Deptt./ :

An undertaking to this effect agency for procurement
Installation, operation and maintenance of the system on
regular basis.
19. Mechanism to transfer the power plant to user / Panchayat / Society/ Entrepreneur etc by SNA
after specific period.
20. Any other information supporting the proposal.

Name & Signature
Head of Deptt./Nodal Agencies/Authorized Officer with seal

Date :
Place :