

NO.25/1/2010-BE (Part)
GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY
(BIO-ENERGY DEVELOPMENT GROUP)

BLOCK NO.14, C.G.O. COMPLEX,
LODI ROAD, NEW DELHI-110003
Dated: 29.11.2010

To

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

Subject: Continuation of Biogas based Distributed / Grid Power Generation Programme during 2010-11 - Administrative Approval – reg.

Sir,

I am directed to convey the sanction of the Government of India for continuation of implementation of the Biogas based Power Generation Programme (BPGP) during the financial year 2010-11 at a total outlay of ₹ 5.00 crore (Rupees Five crore only). The details of the Scheme for projects related to Biogas based Power Generation Programme are given in Annexure. I-III. The above programme/scheme will be implemented during 2010-11 as per the same guidelines and other provisions applicable during 2009-10.

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, 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/grid etc. on mutually agreeable terms.** The implementing organizations must ensure that sufficient feed 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 ₹1,00,000 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 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 or otherwise for a minimum period of ten years.

4. Release of funds

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

- I. 50 per cent of the eligible CFA and service charges will be released to the State Nodal Department/Agency/organization/BDTC's with the sanction order.
- II. The balance 50% of the eligible CFA and service charges will be released after successful commissioning of the biogas power plant as per the DPR norms (wherever DPR is required), receipt of utilization certificates, audited statement of expenditure. Project on completion, requires inspection report 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 10 kWh/day/kW of sanctioned capacity for 3 consecutive days.

- III. In case the project is set-up by the developer through his own resources, the entire eligible CFA could be released to the project developer after receipt of the successful commissioning and operational report from MNRE state Nodal departments/ Agencies, KVIC and BDTC's along with other documents and meeting conditions as mentioned under para 4 (ii) above.
- IV. 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 along with the sanction order. The balance will be released on receipt of the utilization certificates, audited statement of expenditure and the final report at the time of final acceptance and settlement of the expenditure account of the project as per the approved norms.

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. The project developers would extend all help required in monitoring of the projects.

6. Budgetary Provisions for 2010-11

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

| Head of Account | Description | Allocated Amount (₹ Crore) |
|-----------------|--|----------------------------|
| '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 2010-11 (plan). | 68.00* |
| '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 | 20.00 |

*out of the above 68.00 Crore (excluding ₹ 2.00 crore allocated for NER (North East Region)), ₹ 5.00 crore has been earmarked for Biogas based Distributed/Grid Power Generation Programme during financial year 2010-11. 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 and BDTC's are requested to initiate the action for implementation of Biogas based Distributed/Grid Power Generation during the year 2010-11 as per the scheme. Firmed up project proposals as per these guidelines are to be submitted to this Ministry for consideration and approval.

9. 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/1422/10-11 dated 24.11.2010.

Yours Sincerely,

(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

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
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

**GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY
(BIO-ENERGY 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 (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.

9. Fixed dome / Deenbandhu and other approved models of biogas plant up to capacity of 10 – 90 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.

**GOVERNMENT OF INDIA
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PATTERN OF CENTRAL FINANCIAL ASSISTANCE

Subsidy pattern for setting up Biogas Based Power Generation Systems (BPGP) and other charges under the Programme.

| 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. | Administrative Charges to State Nodal Department / Agencies/BDTC's for providing technical, supervision, training support and to initiate action on power purchase agreement with state electricity board/power purchasing companies and submission of project completion and monitoring report of successful operation. |
|---------------------------|---|--|--|--|
| 3-20kW | 25 M ³ to 85 M ³ | No DPR required | ₹40,000 per kW | 15% of the CFA (up to 20 kW capacity for which no assistance for DPR is provided), |
| >20kW up to 100kW | Any combination of above plants or approved alternate capacity / design | ₹20000 per plant | ₹35,000 per kW | 10% of the CFA (> 20 kW - 250 kW) |
| >100kW up to 250 kW | Any combination of above plants or approved alternate capacity / design | ₹1,00,000 per plant above 100 kW | ₹30,000 per 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 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 ³ 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 ₹) | |
| | 8. Amount of Central Financial Assistance (CFA) as per approved scheme of Biogas power plant (in ₹) | |

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)

Annexure III-b

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

| S.No | Name of the Project | Biogas based power generation |
|-------------|---|---|
| 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 ³) | |
| 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 & 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 / dual fuel (used with bio fuel) micro turbines etc in kVA | |
| 15. | a) Cost of 100% biogas engine or dual fuel engine, coupled with Genset, associated Central panel and power room etc (in ₹) | |
| | 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 ₹) | |
| 17. | Manure management system | |
| 18. | Approximated cost of electricity that may be generated through gas (₹/ kWh) | |
| 19. | Source of funding of the project (in ₹) | |
| | a) Own fund | |
| | b) Bank loan | |
| | c) Central financial assistance | |
| | d) Total (in ₹) | |
| 20. | Source of funds for meeting operation and maintenance cost of the system | |
| 21. | Undertaking from State Nodal Deptt.../Agencies/BDTC (An undertaking to this effect from agency for procurement installation, operation and maintenance of the system on regular basis.) | |
| 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
plant etc

Date
Place

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

On ₹ 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 ₹ 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 BPGP 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