

F. No. 12/10/PMC/BM - 2012
Ministry of New and Renewable Energy
Project Management Cell

**RE-ADVERTISESEMENT: NOTICE INVITING EXPRESSION OF INTEREST (EOI)
FOR TECHNICAL ASSISTANCE FOR ESTABLISHMENT OF BIOMASS SOLAR
HYBRID PLANTS FOR GENERATION OF GRID CONNECTED POWER**

The Ministry of New and Renewable Energy, Government of India, is implementing a MNRE - UNDP/GEF assisted Project on **“Removal of Barriers to Biomass Power Generation in India.”** The aim of the Project is to accelerate the adoption of environmentally sustainable biomass power technologies by removing the barriers identified, thereby laying the foundation for the large scale commercialization of biomass power through increased access to financing.

2. As part of this Project, the Ministry is contemplating to support preparation of Detailed Project Report and Bid Document for establishment of commercial scale projects based on **“Hybrid Biomass Solar Thermal (CSP) Technology”** for generation of grid connected power through augmentation of already existing biomass power plants. The capacity of such power plants may be in the range of 2 to 10 MW depending upon the technology deployed, location, economic viability etc.

4. **This is a re-advertisement and Project Developers who have responded to the similar EoI advertised on June 2013 need to reconfirm in writing their interest in the project.**

5. Expression of Interest (EOI) is invited from State Govt. Organizations / Agencies, Independent Power Producers (IPP), Project Developers, and other Investors with existing biomass based power plants for availing technical assistance to support preparation of DPR and bid document for establishment of above-mentioned projects. Interested Organizations / Project Developers can submit their proposal in the prescribed format to the **Project Management Cell (PMC), established in the Ministry of New and Renewable Energy, Block No.14, CGO Complex, Lodi Road, New Delhi – 110003**, Telefax: 011 - 24369788, Email: jainvk@nic.in. Last date for submission of the proposal is **5 December 2014**.

6. The Ministry reserves the right to reject all or any of the proposals without assigning any reason thereof.

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HYBRID PLANTS FOR GENERATION OF GRID CONNECTED POWER**

The Ministry of New and Renewable Energy, Govt. of India, is promoting a wide range of programmes for harnessing energy as well as grid interactive and off grid power from various renewable sources. The use of solar radiation and Biomass for power generation is growing rapidly where these resources are plentiful. Their use for power generation is growing rapidly because – biomass being carbon neutral, wide availability and has potential to provide large productive employment in rural areas; and solar for abundant radiation (1600 to 2300 kWh /m²) for 250 to 300 days in a year. **130** biomass power projects aggregating to **999.0 MW** have already been in operation and about 30 projects aggregating to 350 MW are currently under implementation in different parts of the country. Similarly, projects of aggregate capacity of **470 MW** based on Solar Thermal Technology [Concentrating Solar Power (CSP)] are at different stages of implementation for generation of grid power under the Jawaharlal Nehru National Solar Mission. The size of CSP projects is in the range of 20 MW to 100 MW. One project has already been synchronized, while two others are close to it. Other projects are delayed as of now.

2. However, one of the major barriers confronted by the biomass power plants is the secured supply of required quality and quantity of biomass at a competitive price for sustained operation of the plant. Similarly, solar power plants also expected to suffer from intermittency of day / night cycles and also from reduced radiation periods (winter, cloudy days, and short transients). On the other hand, hybrid systems may provide the solution to overcome these barriers, avoid the need for highly expensive heat storage system and / or backup support of fossil fuel in case of CSP based power plants and may also lead to higher process efficiency & greater security of electricity supply.

3. This Ministry is currently implementing a **UNDP / GEF assisted Project on Removal of Barriers to Biomass Power Generation in India**. The aim of the Project is to accelerate the adoption of environmentally sustainable biomass power technologies by removing the barriers identified, thereby laying the foundation for the large scale commercialization of biomass power through increased access to financing.

4. As part of this Project, the Ministry is contemplating to provide technical assistance for preparation of Detailed Project Report and Bid Document for establishment of commercial scale projects based on Hybrid Biomass Solar Thermal (CSP) Technology for generation of grid connected power through augmentation of already existing biomass power plants. The capacity of such power plants may be in the range of 2 to 10 MW depending upon the technology deployed, location, economic viability etc.

5. It is proposed to shortlist upto 5 existing biomass based power plants for augmentation to biomass solar hybrid projects or an aggregate capacity of about 80 MW, whichever is less, for technical assistance to support preparation of Detailed

Project Report and bid document. As part of this technical assistance, PMC/MNRE has engaged a reputed International consultant and would also engage a National Consultancy Organizations to prepare these reports for the shortlisted project developers. The DPR will provide detailed review of commercially available CSP and Biomass Combustion Technologies worldwide suggest options for plant configuration and specifications of critical sub-units evaluate techno-economic viability of the project, develop petition for tariff fixation for hybrid plants if required, and also to develop model bid document. However, exact scope of work of the consultant would be decided in consultation with the shortlisted Project Developers.

Indicative Criteria for the Selection of Projects for Technical Assistance

6. The broad criteria proposed to be used for short listing the projects will be as follows:

- i) Capacity and location of the proposed project;
- ii) Present Status and creditworthiness / financial health of the Applicant Company for taking up such projects;
- iii) Past experience of the Applicant Company in the area of renewable energy, particularly in generation of power from solar and/or biomass;
- iv) Present status of the project in terms of preparation of pre-feasibility / feasibility report, availability of land required for setting up the project; Policy of State Govts to promote such projects
- v) Tie up for supply of solar thermal technology / plant & machinery and /or funding required for establishment of the project;
- vi) Availability of surplus biomass in the area and proposed fuel supply linkages;
- vii) Project configuration

7. Organizations / Project Developers interested in availing technical assistance to support preparation of DPR and bid document for biomass solar hybrid projects may submit two copies of the proposal as per the Proforma given at **Annexure - I**, to the **Project Management Cell (PMC) established in the Ministry of New and Renewable Energy, Block No.14, CGO Complex, Lodi Road, New Delhi - 110003**, Telefax: 011 - 24369788, Email: jainvk@nic.in. Last date for submission of the proposal is **5th December 2014**.

8. Other Conditions

- i) The Ministry reserves the right to reject any or all the proposals submitted in response to this EOI without assigning any reasons whatsoever;
- ii) The proposals can be sent by Registered Post / Courier or in Person, so as to reach the Ministry by the time and date stipulated by the Ministry; and
- iii) The Ministry shall not be responsible for any delay in submission of the proposal. Any proposal received by the Ministry after the deadline may not be accepted by the Ministry.

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**PROFORMA FOR SUBMISSION OF EXPRESSION OF INTEREST (EOI) FOR
TECHNICAL ASSISTANCE FOR ESTABLISHMENT OF BIOMASS SOLAR HYBRID
PLANT FOR GENERATION OF GRID CONNECTED POWER**

(To be filled in duplicate)

1. General Information

i) Name of the Project Developer _____

ii) Type of User / Beneficiary : State Govt. Organizations / Agencies /
Independent Power Producers(IPP)/
Power Generation Companies, others
(Please specify)

iii) Proposed Project / Power Plant Location

Village : _____
Taluka / Block : _____
District : _____ Pin Code _____
State : _____

iv) Details of Contact Person -

Name & Designation of the Applicant : _____
Contact Address : _____
Phone : _____
Fax : _____
Email : _____

v) Status and Creditworthiness of the Applicant Company.

Please submit supporting documents - MoA, AoA, and audited balance sheet of the company and / or CA certificate for last 3 years to assess when the company was incorporated and its financial health.

vi) Past Experience of the Applicant Company in the area of renewable energy, particularly in solar thermal / biomass combustion for power generation.

Please provide details of the projects, if any, indicating location, capacity, year of commissioning, feedstock, investment, etc. (max. 200 words per project and not more than 3 projects).

2. Proposed Capacity of the Hybrid Power Plant

- i) Installed Capacity of the Plant (MW) : _____
- ii) Concentrating Solar Thermal (MW) : _____
- iii) Biomass Combustion (MW) : _____
- iv) Proposed Boiler Operating Configuration
 - Pressure (kg/ cm²) : _____
 - Temperature °C) : _____

3. Proposed Means of Project Finance

- i) Equity
- ii) Term Loan
- iii) Any other source (foreign grant / loan)

4. Details of Biomass Availability and Fuel Supply Linkages

- i) Type of Biomass proposed to be used

Cane Trash / Cotton Stalks/ Rice Husk /Other Crop / Residues /Wood Produced in dedicated Energy Plantation / Wild Bushes (Prosopis Juliflora), other (please specify)

- ii) Likely Composition of Biomass to be used (% percent of various types of biomass)

Name of Biomass	Annual Availability (%)

- iii) Details of Infrastructure required for Fuel Supply Linkages

5. Solar Thermal Power Generation System, if identified

- i) Solar Collector Technology : _____
- ii) Collector Area (Sq. mt.) : _____
- iii) Capacity & Make : _____
- iv) Solar Concentration ratio : _____
- v) Working fluid Temp. : _____
- vi) Maximum Conversion efficiency : _____

6. Current status of the project

Please submit copy of each of the following document (s), if available:-

- i) Pre-feasibility / feasibility report of the project
- ii) Biomass resource assessment

- iii) Availability of land required for setting up the project
- iv) Status of statutory approvals/clearances from state govt. / agencies
- v) Tie up for supply of technology/plant & machinery and /or funding

7. Any other document / information relevant to the proposed project which you may wish to add in support of the proposal.