

TENDER NO

VUS/GASIFIER /IRADe /2006-07

**To,**

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**Sub:** Supply, Installation, commissioning, operation & annual maintenance of 100% producer gas mode 10KW biomass gasifier based Electrical Generation with associated accessories at two villages: Vavdi & Vaddithar, Taluka: Santalpur, District: Patan (Gujrat)

Dear...

IRADe is implementing the project at hamlets Vavdi & Vaddithar, Taluka: Santalpur, District: Patan, Gujarat under the Test Projects on Village Energy Security by Ministry of Non-Conventional Energy Sources (MNES), Government of India

We invite sealed tender for 4 Gasifier of 10 KW each with Gen Set and accessories as per the enclosed tender details on behalf of Vavdi Urja Samiti & Vaddithar Urja Samiti.

Thanking you,

Your Sincerely,

Project Director.

## Tender Document

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**Vavdi/Vaddithar Urja Samiti,  
Taluka: Santalpur, District: Patan  
GUJARAT-**

**TENDER NOTICE NO. VUS/1/2006-2007**

**TENDER NOTICE**

Sealed & separate tenders are invited from experienced, competent firms/ contractors, who have experience in manufacturing 100% producer gas based biomass gasifiers with electrical generator of net output 10KW, can submit tender for supply, installation, testing and commissioning including operation and maintenance.

The tenders shall be received at this office on or before date-10-09-2006 up to 5.00 p.m. The tender should be submitted in two separate sealed envelopes i.e., Part I, as TECHNICAL BID and Part II as FINANCIAL BID, with Earnest Money Deposit (EMD) of Rs. 1,00,000 in the form of Cheque of scheduled Bank, in the name of IRADe, New Delhi. The technical bid shall be also opened on 10.09.2006 at 5.00 P.M.

The tender should be submitted to:

Project Director  
MNES- VES Project, IRADe  
C-50, Chhota Singh Block,  
Asian Games Village Complex  
New Delhi-110049  
Ph:011-26495522  
Fax:011-26495523  
Email: bdsharma@irade.org  
tendervesp@irade.org

## PARTICULARS OF TENDER

**Name of work:** Supply, Installation, commissioning, operation & annual maintenance of 100% producer gas mode 10KW biomass Gasifiers (four) based electrical generator with associated accessories, including 5 years annual maintainace and 2 years warranty/free maintenance of the systems at Vavdi and Vaddithar (two systems). The tender should include the cost of Annual Maintenance Cost (AMC).

All the item comprising the system should clearly specified with details technical specifications, make, model and performance test which would be carried out at the time of acceptance as well as commissioning. The cost break up should be provided for the main as well as optional items.

TENDER NO	VUS/GASIFIER /IRADe /2006-07
DATED:	August 31, 2006
Last date of submission of Tender	10.09.2006 up to 5.00 A.M
Date of opening of Tender	10.09.2006 5.00 PM
Amount of Earnest Money Deposit (EMD)	1, 00,000 (One lakh)
Validity of Tender	Three months

## PART - 1

### 2.1.GENERAL CONDITIONS OF CONTRACT

2.1.1 The Contract should specify general condition of the contract for supply, erection, maintenance of the system including force majeure.

### 2.2. INSPECTION AND TESTS

The system will be inspected at the supplier works before departure. Please provide test format.

### 2.3. Warranty Quality Standards.

- (a) The supplier / firm shall warrant as per standards for quality that anything to be furnished shall be free from all defects and faults in material, workmanship and manufacture, shall be of the highest grade and consistent with established and generally accepted standards for material of the type ordered, shall be in full conformity with the specifications, drawing or samples, if any and shall if operable, operate properly.
- (b) Performance of Equipment: In addition to the warranty as already provided, the firm shall guarantee satisfactory performance of the all equipment/ devices/ models/ systems and shall be responsible for the period or up to the date specified in sub-clause (c) hereof after the equipment has been accepted by the IRADe. If any defect develops in the equipment/ devices/ models/ systems then the same shall be removed by the contractor at his own cost whenever called upon to do so by the IRADe.
- (c) The Warranty period shall be 2 Years( two year) for complete equipment/ devices/ models/system from the date of commissioning and handing over of the system. Defects developed in the system within Warranty period shall be rectified by the contractor promptly. In case the contractor does not rectify the defects within 10 days of the receipt of the complaint. VUS shall have full liberty to restore the system in working condition. The expenditure so incurred by VUS shall be deducted from the contractor's pending claims, security deposit or in other lawful manner.
- (d) The warranty card shall be supplied for each & every systems/ devices /model /equipment containing the serial number including no Motor pump set, machines, systems, associated accessories etc. The full name and address of contact

- person(s) for after sales service and warranty obligation must also be stated on the warrantee card. A copy of warranty card will also be provided to VUS
- 2.3.2. Notice statement and other communication send by IRADe through registered post or telegram or fax to the contractor at his specified addresses shall be deemed to have been delivered to the contractor.
- 2.3.3. Any work, which is not covered under this contract but is essentially required for the completion of job (to the satisfaction of IRADe), shall be carried out by the contractor as extra item for which payment shall be made separately at the rates decided by IRADe.
- 2.3.4. The work shall be carried out by the contractor as per design and drawings approved by IRADe. The contractor shall submit relevant designs and drawings for approval in IRADe, well in advance. Work carried out without IRADe 's approval shall not be accepted and the IRADe shall have right to get it removed and to recover the cost so incurred from the contractor.
- 2.3.5 The contractor shall provide one copy each of instruction manual and routine maintenance manual with each system supplied or installed" this shall be both in Gujarati and English. The contractor shall also give training to the person nominated /deputed by IRADe for the operation and routine maintenance of the system/devices/ model etc. installed at site.

### 2.3. TAXES AND DUTIES

- 2.3.1 The price quoted should include all taxes and duties, custom duty, excise duty, service tax, sales tax, C.S.T. local taxes, Trade tax, Income Tax, Surcharge on income tax etc. if any. A supplier / contractor shall be entirely responsible for all taxes, duties, license fees etc. All taxes payable as per Government income tax & service tax norms will be payable by the contractor. If any news tax/duty is levied during the contract period the same will be borne by the firm exclusively. TDS will be deducted from the payment of the contractor as per the prevalent laws and rules of Government of India and Government of Gujarat in this regard.
- 2.3.2 The contractor in consultation with concerned project officer of IRADe will conduct training programme for VUS field staff etc. focusing on main features, operation and maintenance of the systems /device/models e.t.c.
- 2.3.3 The contractor/ supplier either by himself or through his authorized shop/ dealer etc. in the concerned district will maintain a stock of essential spares and consumables at the district level to ensure sufficient stock of spares and consumable by periodically replacing the consumed items.

### 2.4 ANNUAL MAINTENANCE CONTRACT

- 2.4.1 The contractor shall provide 5 years annual maintenance, contract from the date of completion of two-year mandatory warrantee. AMC should include of parts or components such as batteries, electronics, lamps, bulbs, motor, pumps, electronics, mechanical assemblies etc. for securing proper and sustained energy supply, working of all devices and recreational services e.t.c. The scope of work of five-year annual maintenance will be as follows:
- (a) Quarterly inspection of the system by the contractor even if no fault is Reported. An inspection logbook will be maintained at the site.
  - (b) Replacement/repair of defective components of the every system / devices/equipment/ model etc. to ensure the smooth functioning of the gasifier system.
  - (c) In case any component of the system/ devices/equipment/ model including filter, Motor, pump, any other part etc. are damaged or lost due to theft, burglary, and natural calamity such as fire, storm, etc. the same shall be replaced by the contractor free of cost. Thus the contractor is advised to insure the system for such causality.
  - (d) The Two years warranty period shall also include the above scope of work as defined in clause 3.31-1 (b) & (c).

2.5 SPARES:

A set of spares for one year of trouble free operations will be provided in the contract. Additional spare will be quoted separately.

2.6 COMMISSIONING

The contractor shall submit a joint commissioning report after commissioning of the all required systems devices/equipment/ model at the site on the prescribed format of by IRADe.

2.7 PAST PERFORMANCE:

The contractor will information on similar system supplied in the past and their performance. Please fill in information about similar projects under taken over the past two years.

- 1- Name of organization which has awarded the work ( please enclosed list of organization )
- 2- Name of location of the work (please enclosed list of installation)
- 3- Total contract amount
- 4- Years of award
- 5- Detail of involvement in work as an individual or as a company.

## 2.8 PAYMENTS

The payment shall be made as per the following terms and conditions:

1. 30% of the system cost excluding AMC cost shall be released as mobilizing advance against Bank Guarantee of equal amount valid for the period of 12 months.
2. 30% of the payment will be released after inspection of items at supplier's works.
3. 20% of payment will be released after receipt of item at site
4. 20 % after erection, commissioning at site against performance bank guarantee of similar amount, valid for one year.

## PART -2

### SCOPE OF WORK

VUS would set up a 100% producer gas biomass based gasifier electricity generations systems in Vavdi and Vaddithar of Santalpur Taluka, Gujarat with object to generate electricity and distribution to the households and other needs to theses hamlets. This is under the MNES test project on Village Energy Security by Integrated Research and Action for Development (IRADe), New Delhi.

S. No.	System Devices	Qty.
1.	Biomass gasifier with 100% producer gas engine (output power rating of 10KW rating under standard testing condition) (As per MNES specification)	4
2.	Genset coupled to gasifier	4
3.	Other accessories	As required

The work includes manufacturing, supply, installation, testing & commissioning of gasifier based system, working model/devices including Genset and other accessories at Vavdi and Vaddithar, Gujarat on turnkey basis in accordance with the technical satisfactory operation under prevalent operating and climatic conditions of project site unless otherwise specified. Work shall conform in all respect to the latest Indian standard codes, contractor shall arrange for transportation , loading and unloading and safe storage of material at site . The work also includes annual maintenance of five years after two years of warranty of devices with supply of necessary spare parts, for period of one year from the date of commissioning of the exhibits.

A- Such works not listed in schedule of works but required for completion of work of the project shall deemed to have been enclosed in the scope of this bid.

- B- Matter not called by the specifications given in the contract, as the relevant Indian Standard codes shall cover a whole. If such code on a particular subject has not been framed, the decision of the IRADe shall be final and binding.
- C- All Indicated item will be of reputed make and mentioned on the offer specifically.
- D- The work shall be carried out under the direction and supervision of the Scheme /project- in-charge of IRADe/their representative at site. On acceptance of the tender, the contractor shall intimate the name of his accredited representative who would be supervising the construction and would be responsible for taking instruction for carrying out work.
- E. IRADe's decision with the regard to the quality of the material and workmanship will be final. Any material rejected by the scheme - the contractor at his own cost and risk without any compensation shall immediately remove in-charge from the site of work.
- F. The entire work shall be performed on turnkey basis. Any monitor item (s) not included in the schedule of works, shall have to be supplied by the contractor without any extra cost.
- G. Any civil construction required will be intimated with full drawing and specifications for IRADe to get it ready in time.

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PART -3

TECHNICAL DETAILS & SPECIFICATIONS OF SYSTEMS /WORKS

Sr No.	Item description	Qty	Unit Price
1.	Biomass Gasifier based power pack consisting of Biomass Gasifier coupled to suitable engine duly modified to operate in 100 % producer gas mode with a suitable alternator to give gross out put to 11 KWe (with a net out put of 10 KWe) along with basic accessories and auxiliaries, KW, PF and KW-Hr meter panels and items	4 nos	
2.	Wood drying Arrangement (Based on engine exhaust)	2 Nos	
3.	Installation and commissioning charges	Lump Sum	
<b>OPTIONAL ITEMS</b>			
4	Moisture meter	2 Nos	
5	Carbide tip circular saw based biomass cutter suitable for above project.	2 Nos	

## The Technical Specifications of Gas-11

<b>Gasifier (Make &amp; Model)</b>	
Mode of Operation (Power Mode)	Cold and Clean Gas
Gasifier Type	Down Draft
Rate of Gas Flow	50 N m <sup>3</sup> /Hr
Average Gas Caloric value	
Gasification temperature	
Ash Removal	
Start up	
Fuel Type And Size	
Permissible content of Moisture	
Biomass charging	On-line batch mode By tapping up once every two to four hour
Rated hourly consumption	
Typical conversion efficiency	
Typical gas composition	
<b>Engine Genset (Make &amp; Model)</b>	
Rated output (gross)	11 KWe
Rated Output (Net)	10 KWe
Gasifier start up power	Through battery
Engine start up	Through battery
Specific biomass consumption	Less than 1.4 kg /kWhr

1. Annual Maintenance
2. Warranty Details
3. List of spares supplied with system (for one year guarantee)
4. List & cost of spares required annually
5. **Specify the voltage and current stability of the system.**