

PONDICHERRY UNIVERSITY (A Central University)

Madanjeet School of Green Energy Technologies Centre for Green Energy Technology

Tender document for supply of Sophisticated Analytical Instruments

(Tender No. Ref: - PU/CGET/MNRE/ TENDER -1/2012-13/...... Dt. 09.04.2012)

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TERMS AND CONDITIONS (UNDER TWO BID SYSTEM)

I. Instructions to the Bidder: -

1. Purchase of Tender Document

The Tender document can be either downloaded from the University website www.pondiuni.edu.in or procured from the Information Facilitation Counter, Dr.Ambedkar Administrative Block, Pondicherry University on payment of tender document fee as specified below, by means of a Demand draft drawn in favour of the Finance Officer, Pondicherry University, payable at Puducherry. In case of downloaded documents, it should be submitted along with the tender document fee in the form of Demand draft drawn as mentioned above.

1. Tender Document fee and EMD to be submitted

Sl. No.	Name of the Equipment	Tender Document fee	E.M.D.				
1100	Major Equipments						
1.	Quantum Efficiency measurement unit	Rs.500/-	Rs. 25,000/-				
2.	Tube Oven	Rs.500/-	Rs. 25,000/				
3.	AAA 2x2 Simulator	Rs.500/-	Rs. 25,000/				
	Minor E	quipments					
4.	Source measurement unit	Rs.100/-	NIL				
5.	Junkers Gas Calorimeter	Rs.100/-	NIL				
6.	Orsat Apparatus/ Combustion gas analyzer	Rs.100/-	NIL				

7.	Viscometer	Rs.100/-	NIL
8.	Flash & Fire Point Apparatus / Penskymarten's	Rs.100/-	NIL
9.	Digital Hot Air Oven	Rs.100/-	NIL
10.	Transesterfication set-up (for Biodiesel production)	Rs.100/	NIL
11.	Solar water heater-Flat plate type	Rs.100/	NIL
12.	Solar water heater-Evacuated tube collector	Rs.100/	NIL
13.	Solar cooker – Box type	Rs.100/	NIL
14.	Solar cooker – Concentrating type	Rs.100/	NIL
15.	Solar drier Type – Tunnel	Rs.100/	NIL
16.	Solar air heater	Rs.100/	NIL
17.	Solar desalination unit	Rs.100/	NIL

		Rs.100/	NIL
18.	Digital temperature indicator with PT 100 sensors		
19.	Liquid flow meter	Rs.100/	NIL
20.	Digital weighing balance	Rs.100/	NIL
21.	Air blower	Rs.100/	NIL
22.	Oil Free Compressor	Rs.100/	NIL

2. Last Date & Time for submission of Tender Documents

30.04.12 at 3.00 p.m. and they will be opened on the same day at 3.30 p.m.

4. Submission of tender Document

Tender/ quotation (separately for technical bid and price bid) must be submitted in sealed cover super-scribing thereon bidder's name, Notification No. and name of the Item, along with tender document and EMD. Any tender, submitted without tender document fee, will not be accepted. This is to be dropped in the Tender Box placed at the Information Facilitation Counter, Pondicherry University, or sent by Registered post / courier service addressed to" The Coordinator, Centre for Green Energy Technology, Pondicherry University, R.V.Nagar, Kalapet, Puducherry — 605 014, India" positively before the tender bid closing time. Tenders sent through Fax will not be accepted.

5. Payment of EMD:

The Tender for each instrument must be accompanied by EMD (refundable) as stated above, by means of a Demand Draft, in favour of the Finance Officer, Pondicherry University, payable at Puducherry separately. The Small Scale units are exempted from payment of EMD provided they enclose proof of their exemption issued by the competent authority.

6. Quoting the Core price & Tax, Duties, Discount etc.

The taxes / duties / discounts, if applicable, are to be explicitly and separately shown in the bid and under no circumstances these components shall be added to the basic price and shown as single price. All the components of taxes, if applicable, should be shown explicitly and separately.

7. Electrical Power

All equipment must operate at 230V/50 Hz single phase and / or equivalent three phase electrical power.

8. The validity of the Quotation

The validity of the quotation should be for at least 180 days from the closing date of the bid.

9. Late Bids

The offers will not be considered if received after the bid closing date and time.

10. Invalid quotes

The offers received through telex / tele-fax / e-mail will not be accepted by the University under any circumstances.

11. In case of Postal loss

The University shall not be responsible for any delay / loss or non-receipt of tenders by post / courier service.

12. No unsolicited correspondence

No unsolicited correspondence shall be entertained after the submission of the offer.

13. Purchase Agreement

If an order is placed with the firm, the purchase shall be governed by an agreement as per the University rules in force at the time.

14. Additions in terms and conditions

Additional terms and conditions will be incorporated in the purchase order, if needed, to safe guard the interests of the University.

15. Non-transferable

Tender is not transferable.

16. Power to reject the offer

Any offer containing incorrect and incomplete information shall be liable for rejection.

Pondicherry University reserves the right to accept / reject any offer in full or in part or accept any offer other than the lowest offer without assigning any reason thereof. However, deficiencies on any one or, more of the following crucial criteria will be a material factor, for consideration other than the Lowest Quotation: -

- 1. Total Number of installations of the similar Equipment in the premier Research Institutes in India.
- 2. Availability of Service Network in India, especially in Chennai or Bangalore.
- 3. Valuable feedback from the present users about the performance, service support, accuracy of result, etc.
- 4. Any other techno commercial information which is deemed fit to be important in the opinion of the University.

II. Price Schedule

- 1. The bidder who is capable of supplying the entire solutions for the instrument quoted as per the list of ITEMS mentioned in the schedule, is alone need to submit their quotation.
- 2. The rates should be quoted for a single unit.
- 3. The price should include the delivery and installation at the Centre for Green Energy Technology, Pondicherry University, Puducherry and training charges (if any).

III. Eligibility:

- 1. The firm must have the requisite domain expertise with regard to supply, installation and post-sale service of the items they are quoting.
- 2. The firm should have been in existence for at least six years as on the date of this document and must have executed at least three orders for this kind of equipment during the last five years.
- 3. The firm should have sufficient number of installations of the similar Equipment in the premier Research Institutes in India.

- 4. The firm should have nation-wide Service Network all over India, especially in Chennai or Bangalore.
- 5. The feedbacks from the present users of the similar equipment about the performance, service support, accuracy of result, etc. are to be submitted along with the Tender Document.
- 6. Any other techno commercial information, pertaining to this particular Equipment, principal suppliers, technical background and capability, local agents' background on Scientific Equipment Business, etc. may also be appended along with testimonials and documentary proof.

IV. Conditions of Contract: -

- 1. The offer must be in English. The rates should be indicated both in figures and words against item specified in the given Annexure. It is preferable that the price be quoted in Indian Rupees or in US Dollars or in major foreign currencies.
- 2. The total cost should be quoted for FOB as well as CGET Pondicherry University, Puducherry.
- 3. The price quotes under FOB and CIF should also include the expected installation cost in the University Laboratory at Puducherry and also cost of consumables which are required for the main equipment for initial operation up to a reasonable period.
- 4. In case of the Principal supplier of foreign country unable to meet the conditions stated at para no.4, the local agent / dealer should fulfil the above said conditions in respect of Local Insurance, Freight, safety transport and installation, etc.
- 5. The prices quoted shall remain firm until equipment is supplied to the Centre for Green Energy Technology, Pondicherry University, R.V.Nagar, Kalapet, Puducherry
- 6. The University has been granted the benefit of exemption from the payment of the Central Excise Duty and Customs Duty by the Department of Scientific and Industrial Research (DSIR), India, vide their Notification No. 10/97 dt. 01-03-1997 and 51/96 dt. 23.07.96 respectively.

In respect of

- a. Scientific and technical instruments, apparatus, equipment including computers.
- b. Accessories and spare parts of goods specified in (a) above and consumables.
- c. Computer software, compact disks, CD ROM, Recording magnetic tapes, microfilms, micro-chips etc.
- d. Prototypes.

Customs duties at Indian port, if any, will be to the account of the University.

- 7. Infra-structural, power and any other requirement for satisfactory installation and commissioning of the whole system must be provided, at least 120 days in advance of the installation to be commenced. All drawing for electrical connections, electrical safety items piping work etc. must be provided in detail.
- 8. Complete technical specifications and literature, including process flow, to be included with the quotation. Manufacturers of various major parts/equipment must be mentioned explicitly.
- 9. A clear statement regarding availability of after-sales service and availability of spare-parts for next 5 to 10 years should be included.
- 10. Please give a recent customer list (within last five years) with contact details including email address.
- 11. If you have an authorized representative in India, you are requested to inform his technical ability to take care of the problems in the system, if developed later within the warranty and outside the warranty period. The responsibility of the Indian agent must be clearly specified.
- 12. The bidder from abroad shall obtain, if required, export permission from the appropriate authorities in his country or the country of origin for items to be shipped to India in case of items to be imported. The University shall provide necessary information if required for this purpose.
- 13. The bidder from within India shall obtain the requisite approval for Imports etc., if required.
- 14. Warranty: The material covered under the purchase order, when installed, shall be warranted for the quality, workmanship, trouble free operation and performance for a period of **at least 36 months from the date of putting the system into operation** at the Pondicherry University, or at least 42 months from the date of receipt of the last lot of the consignment in India. (A signed Bidder's Warranty as per Annexure I has to be submitted along with the Bid Document) If any item covered under warranty fails, the same shall be replaced free of cost including all the applicable charges including shipping cost both ways.
- 15. **Payments terms:** Normally a letter of Credit will be opened for 100% FOB price on receipt of order acknowledgement, however, 90% of the LC amount will be paid on proof of the shipment of the consignment with necessary documents to be detailed at the time of placing of the purchase order.
 - Balance of 10% of the LC amount shall be made after satisfactory installation and commissioning and against submission of the Installation & Commissioning certificate, duly accepted by the purchaser, and a performance bond of 10% of the

total contract / purchase value in the form of bank guarantee (obtained from Nationalized Bank of India) for the duration of the Warranty period. (Refer Annexure – II for Bank Guarantee Format)

Bank charges in India shall be borne by the purchaser and outside India shall be borne by the contractor / supplier.

- 16. In case of any dispute in respect of the tender, all legal matters shall be instituted within the jurisdiction of the place where the purchaser ordinarily resides.
- 17. No Agency commission will be paid to any authorized agent in India.
- 18. Liquidated damages: Timely supply of the ordered items, installation, commissioning (wherever is applicable) and training etc. is the essence of the contract. In case of failure to supply within the time specified in the Purchase order, a penalty/LD of 0.5% of the total value per week or a part thereof shall be levied subject to a maximum of 7.5% in respect of items which are not supplied. The decision of Pondicherry University shall be final in this regard.
- 19. The training should be provided by the firm on the specimen and operation of the equipments for a minimum period of three weeks from the date of installation with an expert team for two persons.

For any clarification with respect to technical specifications, please contact Prof. H. Surya Prakash Rao, Co-ordinator, Centre for Green energy Technology, Pondicherry University, Puducherry.

Email: getpcu@gmail.com

Ph : 0413-2654411 Fax : 0413 2656758 Cell : +91 9443264222

<u>List of Equipment purchasing under MNRE Centre for Excellence project</u>

S.No	Name of Equipment	Specification	Qty
1	Quantum Efficiency	• Dual light source (250nm to 2500nm),	
	measurement unit	• Monochromator (triple grating-400nm,	
	(Open box solution)	750nm, 1600nm or equivalent),	1
		 DC bias light source, 	1
		 IQE Reflectance accessory, 	
		 mount positioning stages and optics, 	
		• Source meter (20V, 1A, 20W),	
		• Detectors (300nm to 1800nm),	
		 Detection electronics, 	
		 Computer, Interface and software, 	
		 Lock-in amplifier 	
2	Source measurement unit with	 200V, 100 mA, 100 fA resolution 	1
	computer interface and control	 Interface code and software 	
	software		
3	AAA 2x2 Simulator	• 1 Sun, non-uniformity <2%,	1
		 spectral match 13.8% - 23% (400- 	
		500nm), 14.9%-24.9% (500-600nm),	
		13.8%-23% (600-700nm)	
		 Computer & software 	
4	Tube Oven	High purity AI203 Ceramic tube, max.	
		heat 1700;	1
		• Heating rate 5 °C /min;	
		• Cooling rate 5 ⁰ C /min;	
		• Temp accuracy ±1 0 C	
5	Junkers Gas Calorimeter for Calorific value of gases	• Range: 1000-26000 K cals/m ² , 120 – 300 B. Thu/C.Ft.	
		Equipments consist of Calorimeter with	4
		Powder Coated Stainless Steel exterior	
		having burner (with choice of two	
		nozzles) on a tripod stand, a Gas Flow	
		Meter and a pressure governor.	
		Requisite tubing & measuring jars as	
		well as thermometers (0.1°C graduation)	
		for reading inlet & outlet water	
		temperatures	
6	Orsat Apparatus 4 test/	Gas analysis apparatus particularly in	
	Combustion gas analyzer	fuel and furnace gases.	
		 Aspirator bottles for the analysis of CO₂, 	4
		CO, O ₂ and nitrogen oxides,	
		Comprising of leveling bottle, 100ml	
		gas burette with outer jacket,	
		 4-test manifold with stopcocks, 	
		4 absorption pipettes, calcium chloride	
		tube and rubber bellow.	
		 Complete in wooden cabinet with 	
		sliding doors	

7	Viscometer	Rotational advance viscometer cone	
•		plate geometry, operational at controlled	
		rate & controlled stress, RPM both.	
		 Viscosity range: 1 to 3 Million cP 	4
		Minimum sample volume detection:	
		Less than 2 ml.	
		• Speed: 0.01 to 1000 rpm.	
		• Torque range: 0.05 to 50 mNm.	
		Minimum two varied ranges of different	
		cone plate spindles for wide range detections of viscosity ranging from 1 –	
		3200000 cP at minimal volume.	
		Fully computer controlled using	
		software with data analysis, flow curves,	
		viscosity behavior, static yield,	
		Newton's law etc.	
		Compatible with temperature control	
		water bath.	
		Offer suitable system, printer for	
		operation of the main equipment.	
8	Flash & Fire Point Apparatus /	Conforms to ASTM D 93	
	Penskymarten's	Electrically heated model with Digital	
		Controller,	4
		 Voltage varied temperature controller, 	
		 Digital temperature indicator, 	
		Supply with all accessories.	
9	Digital Hot Air Oven	Inner Chamber - Stainless steel	
		o -Size 45(W) x 45 (D) x 60 (H)	
		cm (aprox.)	2
		o The dimensions can vary	
		within 2.5 cms on any side	
		Outer Chamber - Steel with rust prevent coating	
		o Preferable: 70 (W) x70 (D)	
		x105 (H) cm (aprox.)	
		• No. of Shelves - 3 (adjustable) stainless	
		steel	
		• Temperature - Ambient to 250°C ±2°C	
		under continuous	
		operation. • Timer - 5 − 120 minutes	
		 Timer - 5 – 120 minutes Digital indicator cum controller 	
		(electronic)	
		• 220/230 volts A.C. operation, 50 Hz	
10	Transesterfication set-up (for	Capacity: Min. 500 ml (working)	
	Biodiesel production)	volume)	2
	1	 Accessories: Heating mantel with 	2
		Energy regulator,	

		out joint B24,(300mm jacket length),	
		Pipe hose for water supply to condenser.	
11	Solar water heater-Flat plate type 125 litres	Specification should be in compliance with Bureau of Indian Standards: IS 12933: Part 1: 2003	1
		 Type: Solar water heater – Flat plate type Total Capacity – 125 litres Work Scope: Supply and installation of complete flat plate solar water heating system including supporting stand, storage tank, overhead tank (syntax tank of 500 l capacity), piping, ducting, etc. at Centre for Green Energy Technology, Pondicherry Central University 	
12	Solar water heater-Evacuated tube collector 125 litres Type of ETC – Water in glass Length (mm) - 1500 Outer/Inner Tube Dia (mm)- 47/37	Specification should be in compliance with MNRE Standards Type of ETC – Water in glass Length (mm) - 1500 Outer/ Inner Tube Dia (mm)- 47/37 Total Capacity – 125 litres Work Scope: Supply and installation of complete ETC based solar water heating system including supporting stand, storage tank, overhead tank, piping, ducting, plumping etc. at Centre for Green Energy Technology, Pondicherry Central University	1
13	Solar cooker – Box type	Specification should be in compliance with Bureau of Indian Standards • Work Scope: Supply of solar cooker with cooking pots	1
14	Solar cooker – Concentrating type Domestic model dish type-SK 14	Specification should be in compliance with MNRE standards • Work Scope: Supply and installation of solar concentrating cooker with cooking pots and pressure cooker (black painted)	1
15	Solar drier Type – Tunnel (Loading area-2m2 + Unloading area-2m2)	 Area-4m² Absorber plate-selective coated aluminium sheet Bottom plate-aluminium sheet Side and bottom insulation- 50 mm rock wool Top cover- 4 mm toughened glass Air channel depth - 40 mm Work Scope: Supply and installation of solar tunnel drier with accessories like Solar PV module for operating DC fans 	1

16	Solar air heater	 Area-4m² Absorber plate-selective coated corrugated aluminium sheet Bottom plate-aluminium sheet Circulation-Forced Side and bottom insulation- 50 mm rock wool Top cover- 4 mm toughened glass Air channel depth - 40 mm Work Scope: Supply and installation of solar air heater with accessories like blower at CGET, PU 	2
17	Solar desalination unit	 Area-2m² Absorber plate-selective coated aluminium sheet Bottom plate-aluminium sheet Side and bottom insulation- 50 mm rock wool Top cover- 4 mm toughened glass Daily water collection-Approx 10-15 	1
18	Digital temperature indicator with PT 100 sensors	 litres 6 channel digital temperature indicator PT100 temperature sensor- approx 350 m 	7
19	Liquid flow meter	Capable of measuring water flow in a closed type with digital flow indicator	1
20	Digital weighing balance	 Capacity-15Kg Division-2g Pan Size - 225 x 350mm 	1
21	Air blower	• Flow rate – 200 kg/h	2
22	Oil Free Compressor, model HS-WP-2T	 Single phase with 20 Ltrs. capacity tank with standard fittings Pressure Switch, High Pressure Hose, Pressure Gauge, Relief Valve, Solenoid Valve, Drain Valve & Outlet Valve, Non Return Valve (for 5 ltrs. tank), MCB (for 20 ltrs. tank) 	2

ANNEXURE - I

BIDDER'S WARRANTY

The Registrar, Pondicherry University, Puducherry invited Bid Document	for Supply of
Sophisticated Instruments at Centre for Green Energy Technology, Pondicherry	y University
and M/s	
There in after referred to as "The Bidder" having carefully studied all the b	oid documents,
Specifications, etc. accompanying the tender for supply of the	(Name
of the Instrument) and desirous to submit the bids as per the Tender Docum	nent advertised
vide Notification -Tender No PU/CGET/MNRE/ TENDER -1/2012-13/ Dt	

DO HEREBY WARRANTY THAT

- 1. The bidder is familiar with all the requirements of the bid documents.
- 2. The bidder has investigated the site and satisfied, he regarding the character and scope of the work and local conditions that may affect the supply or its Performance.
- 2. The bidder is satisfied that the supply can be performed and completed as required in the contract.
- 4. The bidder accepts all risk directly or indirectly connected with the performance of the contract.
- 5. The bidder has had no collusion with other contractors, with any of the men of Pondicherry University, Puducherry, or with any other person in preparation of the bid.
- 6. The bidder has not been influenced by any statement or promise of the Officials of Pondicherry University, Puducherry but only by the bid documents.
- 7. The bidder is financially solvent.
- 8. The bidder is experienced and competent to perform the contract to the satisfaction of the Co-ordinator, Centre for Green Energy Technology, Pondicherry University, Puducherry.
- 9. The statements submitted with the bid are true.
- 10. The contractor is familiar with all general and special laws, acts, ordinances, rules and regulations of the Municipal, District, State and Central Government that may affect the work, its performance or personnel employed therein.
- 11. All the terms & conditions of the Supply Order will bind the bidder once his quote is accepted and supply order issued.

Signature of the Bidder

ANNEXURE - II

BANK GUARANTEE

Pondicherry University Bharat Rathna Dr. B R Ambedkar Administrative Building R Venkataraman Nagar Puducherry 605 014

This guarantee made this	day	of	201 by
Bank having its Registered Office at	t		and one of its
Bank having its Registered Office at branches at which expression shall, unless it be repugnant to	(hereina	after referi	ed to as "the Guarantor"
which expression shall, unless it be repugnant to	the subj	ect, meani	ng or context thereof, be
deemed to mean and include its successors a	and assign	ns) in fav	our of the Pondicherry
University, Puducherry 605 014 represented			
R. Venkataraman Nagar, Kalapet hereinafte			
expression shall include his successors in office			
(Runees	only)	at	the request of
(Rupees (more fully	described	l hereunde	r)
(more runy	described	i iici cuiiac	1)
Whereas the University has placed wo	ork Order	No. PU	1
dated for	71K 01 GC 1	110. 10/	with
2. Whereas the University has placed word dated for M/s. at the "Contractor" which expression shall include the "Contractor" which expression shall express the "Contractor" which expression shall express the "Contractor" which expression shall express the "Contractor" which express th			having its office
at		and	hereinafter referred to as
the "Contractor" which expression shall include t	their succe	essors and	assions
the Contractor which expression shall merade t	onen sacc	bbbotb and	ussigns.
3. And whereas the Contractor has accepted work order as per undertaking / agreement dated and in the manner specified therein.			
4. And whereas the University has called up for the sum of Rs. (Rupees			
for the sum of Rs. (Rupees Contractor.	n the wor	rk order a	and as agreed to by the
5. And whereas the Contractor has requirevocable and unconditional Bank Guarantee i Rs as guarantee towards execution of the University.	n favour	of the Uni	versity for an amount of
6. Now, therefore, we	ability on	the part	University the sum not only) in of the Contractor in the
execution of the said work on demand without i	reference	of the mat	ter to the Contractor and

without any prior consent of the Contractor, at all times throughout the period of execution of the work, without demur, cavil or argument or delay.

7. The Guarantor agrees and undertakes that the decision of the University as to whether the contractor has committed any breach of the obligation with respect to the wok to be executed, and the quantum of amount therefore payable by the Contactor to the University in that regard, shall be final, binding and conclusive as against the Guarantor and the Guarantor shall make payment accordingly, on demand by the University.
8. The Guarantor further agrees and undertakes to pay to the University the amount demanded by the University irrespective of and not withstanding any dispute raised by the Contractor in any suit or proceeding before any judicial forum relating to the Contracted work and the Guarantor's liability under this Guarantee shall be absolute and unequivocal.
9. This Guarantee is issued subject to the condition that the liability of this Guarantor under this guarantee is limited to the maximum of Rs. (Rupees only) and the guarantee shall remain in full force up to and cannot be invoked otherwise than by a written
demand or claim by the University for the payment of the said amount by the Guarantor on or before or any extended date as decided by the University.
10. This University shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the contracted work or to extend time for performance of the work by the Contractor. Any change to the contracted work shall not in any way release the Bank (Guarantor) from liability under this Guarantee and we waive notice of any such change. The University shall have full liberty to forbear or enforce any of the terms and conditions of the contracted work.
11. This Guarantee shall not be affected by any legal limitation, disability or other circumstances relating to the Contractor or the Guarantor.
12. This Guarantee shall be valid for the period up to and shall extend further and beyond for such period as determined by the University.
13. The Guarantor undertakes not to revoke this guarantee except with the previous consent of the University in writing.
14. Notwithstanding anything contained herein:

(Rupees_____only)

Our liability under this guarantee shall be limited to Rs._____

	This guarantee shall be valid up to determined by the University for fulfilmer We are liable to pay the guaranteed am Bank Guarantee only and only if you serv on or before or such extended	nt of the contract. nount or any part thereof under the two terms of the contract. The very second of the contract of the contract.	this
	ereof, this Guarantee has been executed by the Bank (Guarantor) on the day, month and		an
	S	SIGNATURE AND SEAL	
NAME OF T ADDRESS:	HE BANK (GUARANTOR):		