

TENDER

for

**Supply of Albedometers for DeveloPPP Economic and Environmental benefits
through agrivoltaic (APV) systems in India at selected location in India**

Tender Number: 91172251

Date: 05.05.2023

Brief Tender Notification

Particulars	Description
Purpose of Tender	To select an experienced company for Supply of Albedometers for DeveloPPP Economic and Environmental benefits through Agrivoltaic systems in India at selected locations in India.
Tender reference number	91172251
Date of tender announcement	05.05.2023
Last date to submit pre-bid queries by the interested bidders	11.05.2023
Last date to provide clarification to the queries. All the queries will be answered in the form of (Frequently asked question) FAQ and will be uploaded on tender portals where the tender was made live.	16.05.2023
Last Date and time for submission of bids	22.05.2023 ; 11:59 PM
Mode of Submission	Bids to be submitted in GIZ India's audit proof email ID as per the instructions given below.
Validity of Bids/ Offered Price	90 days from the last date of submission of bids i.e. 22.05.2023 The selected supplier will not be able to vary from their financial bid until the completion of the Order, if awarded by GIZ
Address for Bid Submission	Qn_quotation@giz.de
Location of Performance	Nashik, Maharashtra and New Delhi, India

Tender Notice

GIZ Country Office (India) is soliciting the bids from interested suppliers/companies for supply of Albedometers for **Indo-German Energy Forum** at Project Partner States of Maharashtra, India as per the terms and condition of tender documents.

Purpose of the Bid

Supply of Albedometers for DeveloPPP Economic and Environmental benefits through Agrivoltaic systems in India at Project Partner States- Maharashtra, India.

Process of tender submission

The following documents are attached with the tender applications: -

1. Terms of Reference
2. Covering Letter - Annexure- A
3. Declaration Letter - Annexure - B
4. Technical Criteria – Annexure -C
5. Checklist – Annexure - D
6. Price Submission – Annexure-E
7. Delivery Schedule – Annexure- F
8. General Terms & Conditions

Interested bidders are requested to carefully examine all documents and submit the entire tender proposal as instructed in above mentioned documents. Any deviation/ differentiation from the instruction will lead to disqualification of the tenderer from the bidding process. The bid must reach **by the deadline indicated in** the E-Mail **qn_quotation@giz.de**

No other form of bid submission is admissible.

PLEASE DO NOT CHANGE THE SUBJECT / TITLE WHILE SENDING THE QUERIES OR BID.

Please mark your email:

- **Request for proposal - Tender No. 91172251 - “Supply of Albedometers at Nashik, Maharashtra”.**

Bids received in any other manner, i.e.- hard copies, fax or in any other email ID will be summarily rejected.

**We also request interested bidders to frequently check their email for receiving any latest OR revised information pertain to the above-mentioned tender. Information may be updated such as extension of bid submission dates, keeping in view the ongoing COVID-19 situations and its implications nationwide.*

TERMS OF REFERENCE

Background:

In October 2021, GIZ India has entered a DeveloPPP project with the aim to develop agrivoltaic (APV) pilot projects in India. The overarching goal of the project is to prove the economic and ecological benefits of agrivoltaics in India. This shall be achieved by gathering evidence and data on agriculture production under an agrivoltaic pilot system as well as quantifying the enhancement in photovoltaic production when co-located with agriculture.

Context:

The Government of India has set an ambitious target of achieving 100 GW of solar capacity in year 2022 of which 40 GW is expected to be solar rooftop installations while the largest share (60 GW) is designated for utility-scale ground-mounted PV. Considering a further increase of land scarcity in India, creative solutions must be found to resolve land requirements of both, the solar and the agricultural sector. Countries with similar land scarcity issues like Japan have launched APV projects in the early 2000s to improve their Land Equivalent Ratio (LER).

Further benefits of co-location of agriculture and photovoltaics also called agrivoltaics, provide additional income for local farmers through higher yield as well as from the income from power generation or from renting land. Finally, a reduction in CO₂ by reducing local emissions from conventional power plants benefits the whole country. The current scale of APV in India is estimated at slightly above 4 MW installed capacity. The Government of India is now exploring possibilities to further increase the multipurpose usage of land by co-location of agriculture and solar PV. A major step forward to find a common solution for promoting the co-location of solar PV and agriculture in India was raised in July 2019 by the Union Finance Minister in the Parliament, stating that “Annadata [farmer] can also be urjadata [producer of energy]”. However, concrete regulations on how this might be implemented in the field of APV are not yet revealed.

Purpose of the Tender

GIZ India would like to procure Albedometers as per the terms of reference for the DeveloPPP Economic and Environmental benefits through Agrivoltaic systems in India. The respective equipment will be used for the below mentioned measurements. Also, the count of the required instruments and the technical specifications are listed in Table 2 and

Table 3.

Albedometer equipment will be used to measures global and reflected solar radiation, and the solar albedo. An albedometer is composed of two pyranometers with thermopile sensors; the up facing one measuring global solar radiation, the down facing one measuring reflected solar radiation.

Detailed Scope of Work

The scope of work includes supply of albedometers for DeveloPPP Economic and Environmental benefits through Agrivoltaic systems in India at Maharashtra in India.

- The selected bidder shall make available the required equipment as specified in Annexure 1.
- The responsibility of transportation / loading / unloading / transit insurance of equipment till handing over to the end-user shall be with the selected bidder.
- The testing site is located at Nashik, Maharashtra. The address of the testing sites shall be provided by GIZ whereas the shipment of the equipment is arranged by the bidder assuring a safe transportation.
- Shipping of equipment shall be in coordination with the designated GIZ officer.
- At the testing sites, the selected bidder shall unpack the box in presence of GIZ officials and test the equipment as per the equipment manual, and set-up the demonstration units.

Testing

The contractor shall install, calibrate, and test the albedometers at the site. During the testing, if the equipment is not found as per the provided specifications, the bidder shall rectify the shortcomings/ replace the equipment and shall again communicate to the designated officer of GIZ the probable date for testing. GIZ shall undertake inspection & testing of the equipment with regard to the specifications as provided to the bidders. During such event, GIZ shall not be liable to compensate any additional cost incurred by the bidder and also the bidder shall not be permitted to deviate from the schedule it has proposed at the time of submitting the bid. The bidder in no way is relieved from any obligation of this tender.

Training

The contractor shall provide training on how to use/maintain the instruments to GIZ and project partner/s involved.

Liquidated damages and termination of contract

Except because of force majeure, if the bidder fails to perform the scope of work, to the satisfaction of GIZ, within the time period specified in the delivery schedule or within the extended time period if any, GIZ shall without prejudice to its other remedies under the contract, deduct from the contract price as liquidated damage, a sum equivalent to 1% of the price of the unperformed work/ services for each week of delay until actual completion of work, up to a maximum deduction of 10%. Once the maximum is reached GIZ may consider termination of the contract.

Force Majeure

Force Majeure Events shall include the following events to the extent they satisfy the foregoing requirements:

- Natural disasters, including but not limited to lightning, earthquake, volcanic eruption, landslide, flood, cyclone, typhoon, tornado
- any act of war (whether declared or undeclared), invasion, armed conflict or act of foreign enemy, blockade, embargo, revolution, riot, insurrection, terrorist or military action

- any requirement, action or omission to act pursuant to any judgment or order of any court or judicial authority or Statutory Entity in India of any Law or any of their respective obligations under this Agreement
- expropriation and/or compulsory acquisition of the Project in whole or in part by any Government or Statutory Entity
- radioactive contamination or ionising radiation originating from a source in India or resulting from another Force Majeure Event excluding circumstances where the source or cause of contamination or radiation is brought or has been brought into or near the Project Site by the Affected Party or those employed or engaged by the Affected Party
- industry wide strikes and labour disturbances having a nationwide impact in India.

Force Majeure Event shall not include the following conditions, except to the extent that they are consequences of a Force Majeure Event:

- unavailability, late delivery or change in cost of steel, equipment, materials, spares parts or consumables in local market
- delay in performance of any contractor or sub-contractor or their agents
- non-performance resulting from normal wear and tear of plant, materials or equipment at the bidder's facility
- strike or labour disturbances at the facilities of the bidder
- insufficiency of finances or funds or the agreement becoming onerous to perform
- non-performance caused by, or concerned with, the bidder negligent and
- intentional acts, errors or omissions
- failure to comply with Law, or
- breach of, or default under this Agreement

Payment Terms

- 30% of bid price as advance after signing the order and submission of proforma invoice.
- 70% after complete delivery of material.

Delivery of Material

The Bidder should note that it has to furnish and agree with GIZ, the delivery of the material at the project site (Annexure – F)

The equipment delivery must be coordinated with GIZ before the dispatch to the project site.

The delivery locations are given in Table 1. However, the address needs to be coordinated with GIZ just before delivery.

The Address in Nashik is as below

Gat No. 314/2/1, A/P Mohadi, Tal. Dindori
Nashik - 422207, Maharashtra, India

Contact person : Mahesh Shelke, phone number : 8237825567

A. SPECIAL CONDITIONS

1. **Scope:** The scope of work to be carried out under this contract is illustrated in the technical specifications . The Contractor will carry out and complete the said work under this contract in every respect in conformity with the contract documents and with the direction of and to the satisfaction of the Owner's (GIZ is referred to as Owner) site representative. The contractor will furnish all labour, materials and equipment (except those to be supplied by the owner) as listed under technical specifications and specified otherwise, transportation and incidental necessary for supply, installation, testing and commissioning of the complete system as described in the technical specifications and as listed in technical specifications. This also includes any material, equipment, appliances and incidental work not specifically mentioned herein or noted on the drawings/documents as being furnished or installed, but which are necessary and customary to be performed under this contract.
2. **Civil Works:** All kind of civil works associated with Technical installation are part of the scope of this contract. All the installations will be done as mentioned in Table 2 and Table 4 and the cost is inclusive of the installation service.
3. **Performance Guarantee:** The contractor will perform the work in accordance with the tender documents, drawings and other documents forming part of the contract. At the close of the work and before issue of final certificate of virtual completion, the contractor will furnish written performance guarantee against defective materials and workmanship for a period of **one year** from date of testing, commissioning and satisfactory handing over. The Contractor will hold himself fully responsible for reinstallation or replacement, free of cost to Owner because of defective workmanship.
4. **Specifications:** The work will be installed as per technical specifications. However, any change found essential to coordinate the installation of this work with other trades will be made without any additional cost to the Owner wherever possible or an approval will be taken from Owner. The data given herein and on the Drawings is as exact as could be secured, but its complete accuracy is not guaranteed. The drawings are for the guidance of the contractor, exact locations, distances, and levels will be governed by the site conditions and the Architectural & Interior layouts.
5. **Materials & Equipment:** All materials and equipment will conform to the relevant Indian Standards and will be of the approved make and design. Makes will be strictly in conformity with list of approved manufacturers as listed in list of approved makes. Contractor will be responsible for the safe custody of all materials and will insure them against theft or damage in handling or storage etc.
6. **Penalty Clause:** The client shall withhold 10% of the total basic amount of the project until such time the project achieves the stated desired application up and running smoothly.

7. **Completion Certificate:** On completion, a certificate will be furnished by the Contractor countersigned by the supervisor, under whose direct supervision the installation was carried out.
8. **Demonstration to Owner:** At completion, devices subject to manual operation will be operated at least two times in presence of Owner's site representative to demonstrate satisfactory operation.

B. TECHNICAL SPECIFICATIONS

Equipment requirement with their delivery locations

Table 2: List of equipment required

Sl. No	Items	To be delivered in Nashik	Total Quantity
1	Kip & Zonen CMP-6 (Albedometer Kit • 2 x CMP6 • CMF1 • Glare Screen Kit • 2 x 10 meter cable), Installation, calibration, and testing	1+1	2
2	Kip & Zonen CMP-11 (Albedometer Kit • 2 x CMP11 • CMF1 • Glare Screen Kit • 2 x 10 meter cable). Installation, calibration, and testing	1+1	2

Table 3: Technical specifications

Sl. No	Name of the item	Technical Specification
1	Kip & Zonen CMP-11	Classification to ISO 9060:1990: Spectrally flat Class A Sensitivity: 7 to 14 $\mu\text{V}/\text{W}/\text{m}^2$ Maximum operational irradiance: 3500-4000 W/m^2 Response time (95%): < 5 s Spectral range (50% points): 285 to 2800 nm Temperature response: (-10 °C to +40 °C) <1 Field of view: upper 180° lower 170 ° Operational temperature range: -40 °C to +80 °C
2	Kip & Zonen CMP-6	Classification to ISO 9060:1990: Spectrally flat Class A Sensitivity: 5 to 20 $\mu\text{V}/\text{W}/\text{m}^2$ Maximum operational irradiance: 1500-2000 W/m^2 Response time (95%): < 20 s Spectral range (50% points): 285 to 2800 nm Temperature response: (-10 °C to +40 °C) <1

		Field of view: upper 180° lower 170 ° Operational temperature range: -40 °C to +80 °C
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Minimum Eligibility Criteria for participation in tender process

- The company must have a registered office with minimum experience of **03 years** in supplying albedometers analyser in India.
- The company must possess a valid **PAN, TIN, and GST Number.**
- The company has to provide a minimum client list of 5 medium/ large size companies in the past 03 years having undertaken the supply of albedometers or similar equipment.

Documents to be submitted with the financial proposals - MANDATORY

- Documents pertain to the legal status of organisation (Certificate of Incorporation/Registration/Memorandum/Partnership deed etc);
- Copy of PAN, TIN and GST Registration;
- Copy of annual statement of income tax return – last two financial year;
- Prior work order/purchase order will be attached for at least 03 companies demonstrating the similar nature of work undertaken in the past 03 years with minimum value of INR 10 Lakhs;
- Reference of 3 established clients for reference check- Following details should be provided for each client:
 - a. Name of Company;
 - b. Name and Contract of person;
 - c. Total tenure with the organization;
- Technical questionnaire details- As per Annexure -C;
- Quality Certifications- any ISO, Quality or any Green certification – Desirable though not mandatory;
- ***The company will also declare that no child labour engaged in their organisation directly or indirectly. (As per Annexure- A);***
- ***Self-certification to the effect that the tenderer has not been blacklisted by any company or its contract has been terminated on account of poor performance. (As per Annexure-A);***

The financial proposal/ technical specifications must be duly signed and stamped by the authorised signatory with a covering letter, mentioning complete details/coordinates of company. The detailed technical specifications are attached with the tender documents. The agency is requested to quote for each and every items/equipment mentioned in the respective technical specifications.

The financial proposal must also mention the following:

- (a) Clear date for Supply to Pilot sites- Nashik, Maharashtra
- (b) Warranty/Guarantee of equipment.

- (c) GST must be indicated separately with GST rate.
- (d) Payment terms if different from the GIZ proposed payment terms.
- (e) Freight/Packing/delivery charges (if any) must be mentioned separately.

Submission of Bids:

- The tender documents duly completed should be submitted in email as details given below:

Description	Deadline	Email ID	Remarks
Per-bid Queries from Bidders	11 th May 2023	Please send it to: shimpa.kalra@giz.de and swarup.mallik@giz.de	Please mention the subject line as- Queries- Request for proposal - Tender No. 91172251- “Supply of albedometers at Nashik, Maharashtra”. Pre-bid queries received after this deadline shall not be entertained.
Clarification given by GIZ	16 th May 2023		The response will be prepared in the form of an FAQ document and shall be uploaded on tender portals where the tender was made live.
Bid Submission deadline	22nd May 2023 ; 11:59 PM	Please send it only on: qn_quotation@giz.de	Don't send the bids on any other email id apart from qn_quotation@giz.de or else the bids shall be disqualified.

- The bids will be complete in all respect and the bidder will submit all the relevant documents as described under this tender. If required, GIZ may solicit in writing further information from the bidder.

Price Submission

- The price quoted should be exclusive of taxes (GST) and tax rate should be clearly indicated “Price Sheet/BOQ” – Annexure- D and any such other levies/ taxes that may be should be clearly defined.
- If no mention is made regarding taxes in the price bid, it will be presumed that your rate is inclusive of taxes.

Opening and Evaluation of Tenders

- The following Tenders will be **DISQUALIFIED**:
 - Bids/Proposals received after deadline of submission.
 - Bids/Proposals submitted by fax/hard copy or any other email ID's except specified in tender documents.
 - Incomplete Bids.
 - Bidders not meeting eligibility/commercial suitability
- The Financial bids will be evaluated only in respect of those firms, which meet the technical bid criteria mentioned above by submitting all relevant documents and declaring child labour/ blacklisting declaration.
- Based on the offers presented, the different proposals will be scored for excellence and final selection will be made of the best of the offers with lowest prices and as per the quality of make/brand recommended by GIZ in List of specifications.
- Any arithmetical error by the Bidder in pricing the List of Specifications/Annexure D or in the additions or in carrying forward subtotals to the summary or to the Tender will be corrected during the evaluation of the Tenders. In such cases the Tender sum will be adjusted accordingly, and the Bidder will be informed. It will be assumed that the unit price rates entered in the List of Specifications/ Annexure D, are correct.
- GIZ does neither bind itself to accept the lowest bid or any bid, nor will it be responsible or pay for expenses or losses, which may be incurred by any Bidder with the preparation of his bid.

Cancellation of Tendering Action

- The Tendering Action can be cancelled, if
 - (a) No Tender has been received which corresponds to the Tender Conditions,
 - (b) There have been substantial changes to the basis of the Tendering Action, or
 - (c) There are other serious reasons for such a cancellation.
- The Bidders will be informed without delay of the cancellation of the Tendering Action by the GIZ or his authorized representative and of the reasons for the same.
- This tender notification does not entail any commitment on the part of GIZ, either financial or otherwise. GIZ reserves the right to accept or reject any or all proposals without incurring any obligation to inform the affected applicant/s of the grounds.
- Cost incurred towards submitting the bids will in any case not be reimbursed/paid by GIZ

Annexure A: Covering letter

Covering Letter
(To be submitted along with the Proposal/bid on company's Letter Head)

M/s
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To,

The Head of Contracts and Procurement
GIZ India, GDCO Office
46, Paschimi Marg, Vasant Vihar
New Delhi – 110 057

Subject: Offer in response to Tender No. 91172251

Dear Sir/ Madam,

I/We the undersigned hereby offer to execute the scope of work and accordingly submit our offer in full compliance with terms & conditions of the bid.

The bid is being submitted as per the instructions mentioned in the tender documents.

Name of the Contact Person	
Mobile Number	
Email Id	
Land line Number, if any	
Office address	

(Signature and stamp of Bidder)

Annexure B: Declaration by the bidder

Declaration by the bidder (to be submitted along with the bid)

I/We the undersigned (herein after referred to as manufacturer) having fully understood the nature of the work and having carefully noted design, specification, terms and conditions, etc. as mentioned in the bid document do hereby declare that,

1. All the requirements of the bid document have been understood properly and accordingly agree with all provisions of the bid document and accept all risks, responsibilities and obligations directly or indirectly connected with the performance of the bid.
2. All the relevant information with regard to proper execution of the proposed work have been understood, with respect to the proposed specifications, its intended end use, availability of required materials and labour etc.
3. Are capable of executing and completing the work as required in the bid and is financially sound to execute the scope of work as per the work execution schedule. We have sufficient experience and are competent enough to perform the contract up to the satisfaction of GIZ. We also give the assurance to execute the scope of work as per the specifications, terms and conditions on award of order.
4. We have no collusion with other bidders, any employee of GIZ or team engaged in executing the scope of work.
5. We have not been influenced by any statement or promises by any employee of GIZ or anyone from the team engaged by GIZ but only by the bid document.
6. We are 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.
7. We have never been debarred to undertake similar work by any Government undertaking/department, never been blacklisted or our companies' contract been terminated due to poor performance
8. The submitted offer will remain valid for acceptance for 90 days from the last date of submission of bid.
9. All the information and the statements submitted with the bid are true to the best of knowledge.
10. We are not engaged in any kind of child labour nor any of our partner/suppliers are indulge in any child labour activities.

(Signature and stamp of Bidder)

Name:

Seal/Stamp:

Date:

Annexure C: Technical Criteria

S No	Description	Critical Points / Criteria to follow	Yes/No
A		All the supply and installation shall be in accordance with the technical specifications described on page 7.	
B			
C			

Annexure D: Document Submission

1. Checklist

Bidder should confirm that following documents has been submitted along with the bid.

Sl. No	Documents	Yes	No
1.	Covering letter as per prescribed format (Annexure A)		
2.	Declaration on Company's letter head with complete contact details as per prescribed format (Annexure B)		
3.	Agreement of Technical Criteria (Annexure C) <i>Signed and stamped</i>		
4.	Price bid as per prescribed format (Annexure E)		
5.	Delivery Schedule: Total time frame required for supply of equipment (Annexure F)		
6.	Filled checklist (Annexure D)		
7.	Further documents required as per section 2 below		

2. Bidders to provide following information and need to attach documentary evidence in support of each of them

S.no	Description	Relevant document to be submitted	Documents Submitted	
			Yes	No
1.	A minimum experience of 03 years as supply for Albedometers	<ul style="list-style-type: none">- Certificate of Incorporation or any other document for registration or partnership deed- 2 or more years old Purchase orders / Work contracts / commissioning certificates of albedometers in the name of the bidder		
2.	Annual turnover of INR 10 Lacs or more in the last two financial years.	Copy of audited statement by CA.		
3.	It should possess the documents showing registration e.g., GST, PAN, etc. Self-attested copy of the documents should be furnished by the bidder along with the bid.	Copy of Pan card Copy of GST number		

Signature of the bidder

Name:

Seal / Stamp

Annexure E: Price bid submission

Separate excel sheet (Pricebid_Albedometers) enclosed with the tender document.

Annexure F: Delivery Schedule

Overview

Sl. No	Description	Expected Plan (GIZ)	Plan Proposed by the bidder
1.	Date of Purchase Order / Award of Contract	D0 (Day 0)	
2.	Complete Delivery of equipment and associated training at project site	D0 + 45 days	

Detailed Schedule

Sl. No	Tentative Delivery Schedule	Expected Plan (GIZ)	Plan Proposed by the bidder
1.	Procurement and inspection of material	D0 + 35 days	
2.	Transportation of the equipment to the Project site	D0 + 35 days	
3.	Testing & training of equipment at the Project site	D0 + 45 days	

Name of the Supplier:

Signature & Stamp

Date