



**INVITATION TO BID**

**Supply and Delivery of two Biogas plant including Construction services, Installation, Commissioning, Training and After sales support in Harari SNNPR Region of Ethiopia**

ITB No.: ETH3477

Project: Directly Implemented Development Project, UNDP Ethiopia

Country of Project to be implemented: Federal Democratic Republic of Ethiopia

Issued on: 30 March 2022

Contents

[Section 1: Letter of Invitation 5](#_Toc526175181)

[Section 2: Instructions to Bidders 6](#_Toc526175182)

[A. GENERAL PROVISIONS 6](#_Toc526175183)

[1. Introduction 6](#_Toc526175184)

[2. Fraud & Corruption, Gifts and Hospitality 6](#_Toc526175185)

[3. Eligibility 7](#_Toc526175186)

[4. Conflict of Interests 7](#_Toc526175187)

[B. PREPARATION OF BIDS 8](#_Toc526175188)

[5. General Considerations 8](#_Toc526175189)

[6. Cost of Preparation of Bid 8](#_Toc526175190)

[7. Language 8](#_Toc526175191)

[8. Documents Comprising the Bid 8](#_Toc526175192)

[9. Documents Establishing the Eligibility and Qualifications of the Bidder 8](#_Toc526175193)

[10. Technical Bid Format and Content 8](#_Toc526175194)

[11. Price Schedule 9](#_Toc526175195)

[12. Bid Security 9](#_Toc526175196)

[13. Currencies 9](#_Toc526175197)

[14. Joint Venture, Consortium or Association 9](#_Toc526175198)

[15. Only One Bid 10](#_Toc526175199)

[16. Bid Validity Period 11](#_Toc526175200)

[17. Extension of Bid Validity Period 11](#_Toc526175201)

[18. Clarification of Bid (from the Bidders) 11](#_Toc526175202)

[19. Amendment of Bids 11](#_Toc526175203)

[20. Alternative Bids 12](#_Toc526175204)

[21. Pre-Bid Conference 12](#_Toc526175205)

[C. SUBMISSION AND OPENING OF BIDS 12](#_Toc526175206)

[22. Submission 12](#_Toc526175207)

[23. Hard copy (manual) submission 13](#_Toc526175208)

[24. Email and e-Tendering submissions 13](#_Toc526175209)

[25. Deadline for Submission of Bids and Late Bids 13](#_Toc526175210)

[26. Withdrawal, Substitution, and Modification of Bids 14](#_Toc526175211)

[27. Bid Opening 14](#_Toc526175212)

[D. EVALUATION OF BIDS 14](#_Toc526175213)

[28. Confidentiality 14](#_Toc526175214)

[29. Evaluation of Bids 15](#_Toc526175215)

[30. Preliminary Examination 15](#_Toc526175216)

[31. Evaluation of Eligibility and Qualification 15](#_Toc526175217)

[32. Evaluation of Technical Bid and prices 15](#_Toc526175218)

[33. Due diligence 15](#_Toc526175219)

[34. Clarification of Bids 16](#_Toc526175220)

[35. Responsiveness of Bid 16](#_Toc526175221)

[36. Nonconformities, Reparable Errors and Omissions 16](#_Toc526175222)

[E. AWARD OF CONTRACT 17](#_Toc526175223)

[37. Right to Accept, Reject, Any or All Bids 17](#_Toc526175224)

[38. Award Criteria 17](#_Toc526175225)

[39. Debriefing 17](#_Toc526175226)

[40. Right to Vary Requirements at the Time of Award 17](#_Toc526175227)

[41. Contract Signature 17](#_Toc526175228)

[42. Contract Type and General Terms and Conditions 18](#_Toc526175229)

[43. Performance Security 18](#_Toc526175230)

[44. Bank Guarantee for Advanced Payment 18](#_Toc526175231)

[45. Liquidated Damages 18](#_Toc526175232)

[46. Payment Provisions 18](#_Toc526175233)

[47. Vendor Protest 18](#_Toc526175234)

[48. Other Provisions 18](#_Toc526175235)

[Section 3: Bid Data Sheet 20](#_Toc526175236)

[Section 4: Evaluation Criteria 26](#_Toc526175237)

[Section 5: Technical Requirements and Specifications including Scope of Works 28](#_Toc526175238)

[Section 5a: Schedule of Requirements 34](#_Toc526175239)

[Section 5b: Other Related Requirements 35](#_Toc526175240)

[Section 6: Returnable Bidding Forms/Checklist 36](#_Toc526175241)

[**FORM A:** Bid Submission Form 37](#_Toc526175242)

[**FORM B:** Bidder Information Form 38](#_Toc526175243)

[**FORM C:** Joint Venture/Consortium/Association Information Form 40](#_Toc526175244)

[**FORM D:** Eligibility and Qualification Form 41](#_Toc526175245)

[**FORM E:** Format of Technical Bid 44](#_Toc526175246)

[**FORM F:** Bill of Quantities 47](#_Toc526175247)

[**FORM G:** Form of Bid Security 70](#_Toc526175248)

[**FORM H:** Form for Performance Security 71](#_Toc526175249)

[Section 7: General Terms of Conditions for Civil Works 72](#_Toc526175250)

# Section 1: Letter of Invitation

The United Nations Development Programme (UNDP) hereby invites you to submit a Bid to this Invitation to Bid (ITB) for the above-referenced subject.

This ITB includes the following documents and the General Terms and Conditions of Contract which is inserted in the Bid Data Sheet:

Section 1: This Letter of Invitation

Section 2: Instruction to Bidders

Section 3: Bid Data Sheet (BDS)

Section 4: Evaluation Criteria

Section 5: Technical Requirements and Specifications

Section 6: Returnable Bidding Forms

* Form A: Bid Submission Form
* Form B: Bidder Information Form
* Form C: Joint Venture/Consortium/Association Information Form
* Form D: Qualification Form
* Form E: Format of Technical Bid
* Form F: Price Schedule
* Form H: Form of Performance Security

Section 7: General Terms of Conditions of Contract for Civil Works

If you are interested in submitting a Bid in response to this ITB, please prepare your Bid in accordance with the requirements and procedure as set out in this ITB and submit it by the Deadline for Submission of Bids set out in Bid Data Sheet.

Please acknowledge receipt of this ITB by sending an email to [info.procurementet@undp.org](mailto:info.procurementet@undp.org) , indicating whether you intend to submit a Bid or otherwise. You may also utilize the “Accept Invitation” function in eTendering system, where applicable. This will enable you to receive amendments or updates to the ITB. Should you require further clarifications, kindly communicate with the contact person/s identified in the attached Data Sheet as the focal point for queries on this ITB.

UNDP looks forward to receiving your Bid and thank you in advance for your interest in UNDP procurement opportunities.

Approved by:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# Section 2: Instructions to Bidders

|  |  |
| --- | --- |
| GENERAL PROVISIONS | |
| Introduction | * 1. Bidders shall adhere to all the requirements of this ITB, including any amendments made in writing by UNDP. This ITB is conducted in accordance with the UNDP Programme and Operations Policies and Procedures (POPP) on Contracts and Procurement which can be accessed at <https://popp.undp.org/SitePages/POPPBSUnit.aspx?TermID=254a9f96-b883-476a-8ef8-e81f93a2b38d>   2. Any Bid submitted will be regarded as an offer by the Bidder and does not constitute or imply the acceptance of the Bid by UNDP. UNDP is under no obligation to award a contract to any Bidder as a result of this ITB.   3. UNDP reserves the right to cancel the procurement process at any stage without any liability of any kind for UNDP, upon notice to the bidders or publication of cancellation notice on UNDP website.   4. As part of the bid, it is desired that the Bidder registers at the United Nations Global Marketplace (UNGM) website ([www.ungm.org](http://www.ungm.org)). The Bidder may still submit a bid even if not registered with the UNGM. However, if the Bidder is selected for contract award, the Bidder must register on the UNGM prior to contract signature. |
| Fraud & Corruption,  Gifts and Hospitality | * 1. UNDP strictly enforces a policy of zero tolerance on proscribed practices, including fraud, corruption, collusion, unethical or unprofessional practices, and obstruction of UNDP vendors and requires all bidders/vendors observe the highest standard of ethics during the procurement process and contract implementation. UNDP’s Anti-Fraud Policy can be found at <http://www.undp.org/content/undp/en/home/operations/accountability/audit/office_of_audit_andinvestigation.html#anti>   2. Bidders/vendors shall not offer gifts or hospitality of any kind to UNDP staff members including recreational trips to sporting or cultural events, theme parks or offers of holidays, transportation, or invitations to extravagant lunches or dinners.   3. In pursuance of this policy, UNDP:   (a) Shall reject a bid if it determines that the selected bidder has engaged in any corrupt or fraudulent practices in competing for the contract in question; (b) Shall declare a vendor ineligible, either indefinitely or for a stated period, to be awarded a contract if at any time it determines that the vendor has engaged in any corrupt or fraudulent practices in competing for, or in executing a UNDP contract.   * 1. All Bidders must adhere to the UN Supplier Code of Conduct, which may be found at <http://www.un.org/depts/ptd/pdf/conduct_english.pdf> |
| Eligibility | * 1. A vendor should not be suspended, debarred, or otherwise identified as ineligible by any UN Organization or the World Bank Group or any other international Organization. Vendors are therefore required to disclose to UNDP whether they are subject to any sanction or temporary suspension imposed by these organizations.   2. It is the Bidder’s responsibility to ensure that its employees, joint venture members, sub-contractors, service providers, suppliers and/or their employees meet the eligibility requirements as established by UNDP. |
| Conflict of Interests | * 1. Bidders must strictly avoid conflicts with other assignments or their own interests, and act without consideration for future work. Bidders found to have a conflict of interest shall be disqualified. Without limitation on the generality of the above, Bidders, and any of their affiliates, shall be considered to have a conflict of interest with one or more parties in this solicitation process, if they:   2. Are or have been associated in the past, with a firm or any of its affiliates which have been engaged by UNDP to provide services for the preparation of the design, specifications, Terms of Reference, cost analysis/estimation, and other documents to be used for the procurement of the goods and services in this selection process;   3. Were involved in the preparation and/or design of the programme/project related to the goods and/or services requested under this ITB; or   4. Are found to be in conflict for any other reason, as may be established by, or at the discretion of UNDP.   5. In the event of any uncertainty in the interpretation of a potential conflict of interest, Bidders must disclose to UNDP, and seek UNDP’s confirmation on whether or not such conflict exists.   6. Similarly, the Bidders must disclose in their Bid their knowledge of the following:   7. If the owners, part-owners, officers, directors, controlling shareholders, of the bidding entity or key personnel who are family members of UNDP staff involved in the procurement functions and/or the Government of the country or any Implementing Partner receiving goods and/or services under this ITB; and   8. All other circumstances that could potentially lead to actual or perceived conflict of interest, collusion or unfair competition practices.   Failure to disclose such an information may result in the rejection of the Bid or Bids affected by the non-disclosure.   * 1. The eligibility of Bidders that are wholly or partly owned by the Government shall be subject to UNDP’s further evaluation and review of various factors such as being registered, operated and managed as an independent business entity, the extent of Government ownership/share, receipt of subsidies, mandate and access to information in relation to this ITB, among others. Conditions that may lead to undue advantage against other Bidders may result in the eventual rejection of the Bid. |
| PREPARATION OF BIDS | |
| General Considerations | * 1. In preparing the Bid, the Bidder is expected to examine the ITB in detail. Material deficiencies in providing the information requested in the ITB may result in rejection of the Bid.   2. The Bidder will not be permitted to take advantage of any errors or omissions in the ITB. Should such errors or omissions be discovered, the Bidder must notify the UNDP accordingly. |
| Cost of Preparation of Bid | * 1. The Bidder shall bear all costs related to the preparation and/or submission of the Bid, regardless of whether its Bid is selected or not. UNDP shall not be responsible or liable for those costs, regardless of the conduct or outcome of the procurement process. |
| Language | * 1. The Bid, as well as any and all related correspondence exchanged by the Bidder and UNDP, shall be written in the language (s) specified in the BDS. |
| Documents Comprising the Bid | * 1. The Bid shall comprise of the following documents and related forms which details are provided in the BDS:  1. Documents Establishing the Eligibility and Qualifications of the Bidder; 2. Technical Bid; 3. Price Schedule; 4. Bid Security, if required by BDS; 5. Any attachments and/or appendices to the Bid. |
| Documents Establishing the Eligibility and Qualifications of the Bidder | * 1. The Bidder shall furnish documentary evidence of its status as an eligible and qualified vendor, using the Forms provided under Section 6 and providing documents required in those forms. In order to award a contract to a Bidder, its qualifications must be documented to UNDP’s satisfaction. |
| Technical Bid Format and Content | * 1. The Bidder is required to submit a Technical Bid using the Standard Forms and templates provided in Section 6 of the ITB.   2. Samples of items, when required as per Section 5, shall be provided within the time specified and unless otherwise specified by the Purchaser, at no expense to the UNDP. If not destroyed by testing, samples will be returned at Bidder’s request and expense, unless otherwise specified.   3. When applicable and required as per Section 5, the Bidder shall describe the necessary training programme available for the maintenance and operation of the equipment offered as well as the cost to the UNDP. Unless otherwise specified, such training as well as training materials shall be provided in the language of the Bid as specified in the BDS.   4. When applicable and required as per Section 5, the Bidder shall certify the availability of spare parts for a period of at least one (1) years from date of delivery, or as otherwise specified in this ITB. |
| Price Schedule | * 1. The Price Schedule shall be prepared using the Form provided in Section 6 of the ITB and taking into consideration the requirements in the ITB.   2. Any requirement described in the Technical Bid but not priced in the Price Schedule, shall be assumed to be included in the prices of other activities or items, as well as in the final total price. |
| Bid Security | * 1. A Bid Security, if required by BDS, shall be provided in the amount and form indicated in the BDS. The Bid Security shall be valid for a minimum of thirty (30) days after the final date of validity of the Bid.   2. The Bid Security shall be included along with the Bid. If Bid Security is required by the ITB but is not found in the Bid, the offer shall be rejected.   3. If the Bid Security amount or its validity period is found to be less than what is required by UNDP, UNDP shall reject the Bid.   4. In the event an electronic submission is allowed in the BDS, Bidders shall include a copy of the Bid Security in their bid and the original of the Bid Security must be sent via courier or hand delivery as per the instructions in BDS.   5. The Bid Security may be forfeited by UNDP, and the Bid rejected, in the event of any, or combination, of the following conditions:      1. If the Bidder withdraws its offer during the period of the Bid Validity specified in the BDS, or;      2. In the event the successful Bidder fails:      3. to sign the Contract after UNDP has issued an award; or      4. to furnish the Performance Security, insurances, or other documents that UNDP may require as a condition precedent to the effectivity of the contract that may be awarded to the Bidder. |
| Currencies | * 1. All prices shall be quoted in the currency or currencies indicated in the BDS. Where Bids are quoted in different currencies, for the purposes of comparison of all Bids:  1. UNDP will convert the currency quoted in the Bid into the UNDP preferred currency, in accordance with the prevailing UN operational rate of exchange on the last day of submission of Bids; and 2. In the event that UNDP selects a Bid for award that is quoted in a currency different from the preferred currency in the BDS, UNDP shall reserve the right to award the contract in the currency of UNDP’s preference, using the conversion method specified above. |
| Joint Venture, Consortium or Association | * 1. If the Bidder is a group of legal entities that will form or have formed a Joint Venture (JV), Consortium or Association for the Bid, they shall confirm in their Bid that : (i) they have designated one party to act as a lead entity, duly vested with authority to legally bind the members of the JV, Consortium or Association jointly and severally, which shall be evidenced by a duly notarized Agreement among the legal entities, and submitted with the Bid; and (ii) if they are awarded the contract, the contract shall be entered into, by and between UNDP and the designated lead entity, who shall be acting for and on behalf of all the member entities comprising the joint venture.   2. After the Deadline for Submission of Bid, the lead entity identified to represent the JV, Consortium or Association shall not be altered without the prior written consent of UNDP.   3. The lead entity and the member entities of the JV, Consortium or Association shall abide by the provisions of Clause 9 herein in respect of submitting only one Bid.   4. The description of the organization of the JV, Consortium or Association must clearly define the expected role of each of the entities in the joint venture in delivering the requirements of the ITB, both in the Bid and the JV, Consortium or Association Agreement. All entities that comprise the JV, Consortium or Association shall be subject to the eligibility and qualification assessment by UNDP.   5. A JV, Consortium or Association in presenting its track record and experience should clearly differentiate between:  1. Those that were undertaken together by the JV, Consortium or Association; and 2. Those that were undertaken by the individual entities of the JV, Consortium or Association.    1. Previous contracts completed by individual experts working privately but who are permanently or were temporarily associated with any of the member firms cannot be claimed as the experience of the JV, Consortium or Association or those of its members, but should only be claimed by the individual experts themselves in their presentation of their individual credentials    2. JV, Consortium or Associations are encouraged for high value, multi-sectoral requirements when the spectrum of expertise and resources required may not be available within one firm. |
| Only One Bid | * 1. The Bidder (including the individual members of any Joint Venture) shall submit only one Bid, either in its own name or as part of a Joint Venture.   2. Bids submitted by two (2) or more Bidders shall all be rejected if they are found to have any of the following:   3. they have at least one controlling partner, director or shareholder in common; or   4. any one of them receive or have received any direct or indirect subsidy from the other/s; or   5. they have the same legal representative for purposes of this ITB; or   6. they have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about, or influence on the Bid of another Bidder regarding this ITB process;   7. they are subcontractors to each other’s Bid, or a subcontractor to one Bid also submits another Bid under its name as lead Bidder; or some key personnel proposed to be in the team of one Bidder participates in more than one Bid received for this ITB process. This condition relating to the personnel, does not apply to subcontractors being included in more than one Bid. |
| Bid Validity Period | * 1. Bids shall remain valid for the period specified in the BDS, commencing on the Deadline for Submission of Bids. A Bid valid for a shorter period may be rejected by UNDP and rendered non-responsive.   2. During the Bid validity period, the Bidder shall maintain its original Bid without any change, including the availability of the Key Personnel, the proposed rates and the total price. |
| Extension of Bid Validity Period | * 1. In exceptional circumstances, prior to the expiration of the Bid validity period, UNDP may request Bidders to extend the period of validity of their Bids. The request and the responses shall be made in writing and shall be considered integral to the Bid.   2. If the Bidder agrees to extend the validity of its Bid, it shall be done without any change to the original Bid.   3. The Bidder has the right to refuse to extend the validity of its Bid, in which case, the Bid shall not be further evaluated. |
| Clarification of Bid (from the Bidders) | * 1. Bidders may request clarifications on any of the ITB documents no later than the date indicated in the BDS. Any request for clarification must be sent in writing in the manner indicated in the BDS. If inquiries are sent other than specified channel, even if they are sent to a UNDP staff member, UNDP shall have no obligation to respond or confirm that the query was officially received.   2. UNDP will provide the responses to clarifications through the method specified in the BDS.   3. UNDP shall endeavour to provide responses to clarifications in an expeditious manner, but any delay in such response shall not cause an obligation on the part of UNDP to extend the submission date of the Bids, unless UNDP deems that such an extension is justified and necessary. |
| Amendment of Bids | * 1. At any time prior to the deadline of Bid submission, UNDP may for any reason, such as in response to a clarification requested by a Bidder, modify the ITB in the form of an amendment to the ITB. Amendments will be made available to all prospective bidders.   2. If the amendment is substantial, UNDP may extend the Deadline for submission of Bid to give the Bidders reasonable time to incorporate the amendment into their Bids. |
| Alternative Bids | * 1. Unless otherwise specified in the BDS, alternative Bids shall not be considered. If submission of alternative Bid is allowed by BDS, a Bidder may submit an alternative Bid, but only if it also submits a Bid conforming to the ITB requirements. Where the conditions for its acceptance are met, or justifications are clearly established, UNDP reserves the right to award a contract based on an alternative Bid.   2. If multiple/alternative bids are being submitted, they must be clearly marked as “Main Bid” and “Alternative Bid” |
| Pre-Bid Conference | * 1. When appropriate, a pre-bid conference will be conducted at the date, time and location specified in the BDS. All Bidders are encouraged to attend. Non-attendance, however, shall not result in disqualification of an interested Bidder. Minutes of the Bidder’s conference will be disseminated on the procurement website and shared by email or on the e-Tendering platform as specified in the BDS. No verbal statement made during the conference shall modify the terms and conditions of the ITB, unless specifically incorporated in the Minutes of the Bidder’s Conference or issued/posted as an amendment to ITB. |
| SUBMISSION AND OPENING OF BIDS | |
| Submission | * 1. The Bidder shall submit a duly signed and complete Bid comprising the documents and forms in accordance with requirements in the BDS. The Price Schedule shall be submitted together with the Technical Bid. Bid can be delivered either personally, by courier, or by electronic method of transmission as specified in the BDS.   2. The Bid shall be signed by the Bidder or person(s) duly authorized to commit the Bidder. The authorization shall be communicated through a document evidencing such authorization issued by the legal representative of the bidding entity, or a Power of Attorney, accompanying the Bid.   3. Bidders must be aware that the mere act of submission of a Bid, in and of itself, implies that the Bidder fully accepts the UNDP General Contract Terms and Conditions. |
| Hard copy (manual) submission | * 1. Hard copy (manual) submission by courier or hand delivery allowed or specified in the BDS shall be governed as follows:   a) The signed Bid shall be marked “Original”, and its copies marked “Copy” as appropriate. The number of copies is indicated in the BDS. All copies shall be made from the signed original only. If there are discrepancies between the original and the copies, the original shall prevail.  (b) The Technical Bid and Price Schedule must be sealed and submitted together in an envelope, which shall:   1. Bear the name of the Bidder; 2. Be addressed to UNDP as specified in the BDS; and 3. Bear a warning not to open before the time and date for Bid opening as specified in the BDS.   If the envelope with the Bid is not sealed and marked as required, UNDP shall assume no responsibility for the misplacement, loss or premature opening of the Bid. |
| Email and e-Tendering submissions | * 1. Electronic submission through email or eTendering, if allowed as specified in the BDS, shall be governed as follows:  1. Electronic files that form part of the Bid must be in accordance with the format and requirements indicated in BDS; 2. Documents which are required to be in original form (e.g. Bid Security, etc.) must be sent via courier or hand delivered as per the instructions in BDS.    1. Detailed instructions on how to submit, modify or cancel a bid in the eTendering system are provided in the eTendering system Bidder User Guide and Instructional videos available on this link: <http://www.undp.org/content/undp/en/home/operations/procurement/business/procurement-notices/resources/> |
| Deadline for Submission of Bids and Late Bids | * 1. Complete Bids must be received by UNDP in the manner, and no later than the date and time, specified in the BDS. UNDP shall only recognise the actual date and time that the bid was received by UNDP.   2. UNDP shall not consider any Bid that is received after the deadline for the submission of Bids. |
| Withdrawal, Substitution, and Modification of Bids | * 1. A Bidder may withdraw, substitute or modify its Bid after it has been submitted at any time prior to the deadline for submission.   2. Manual and Email submissions: A bidder may withdraw, substitute or modify its Bid by sending a written notice to UNDP, duly signed by an authorized representative, and shall include a copy of the authorization (or a Power of Attorney). The corresponding substitution or modification of the Bid, if any, must accompany the respective written notice. All notices must be submitted in the same manner as specified for submission of Bids, by clearly marking them as “WITHDRAWAL” “SUBSTITUTION,” or “MODIFICATION”   3. eTendering: A Bidder may withdraw, substitute or modify its Bid by Cancelling, Editing, and re-submitting the Bid directly in the system. It is the responsibility of the Bidder to properly follow the system instructions, duly edit and submit a substitution or modification of the Bid as needed. Detailed instructions on how to cancel or modify a Bid directly in the system are provided in the Bidder User Guide and Instructional videos.   4. Bids requested to be withdrawn shall be returned unopened to the Bidders (only for manual submissions), except if the bid is withdrawn after the bid has been opened. |
| Bid Opening | * 1. UNDP will open the Bid in the presence of an ad-hoc committee formed by UNDP of at least two (2) members.   2. The Bidders’ names, modifications, withdrawals, the condition of the envelope labels/seals, the number of folders/files and all other such other details as UNDP may consider appropriate, will be announced at the opening. No Bid shall be rejected at the opening stage, except for late submissions, in which case, the Bid shall be returned unopened to the Bidders.   3. In the case of e-Tendering submission, bidders will receive an automatic notification once the Bid is opened. |
| EVALUATION OF BIDS | |
| Confidentiality | * 1. Information relating to the examination, evaluation, and comparison of Bids, and the recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with such process, even after publication of the contract award.   2. Any effort by a Bidder or anyone on behalf of the Bidder to influence UNDP in the examination, evaluation and comparison of the Bids or contract award decisions may, at UNDP’s decision, result in the rejection of its Bid and may subsequently be subject to the application of prevailing UNDP’s vendor sanctions procedures. |
| Evaluation of Bids | * 1. UNDP will conduct the evaluation solely on the basis of the Bids received.   2. Evaluation of Bids shall be undertaken in the following steps:   3. Preliminary Examination including Eligibility   4. Arithmetical check and ranking of bidders who passed preliminary examination by price.   5. Qualification assessment (if pre-qualification was not done)   6. Evaluation of Technical Bids   7. Evaluation of prices   Detailed evaluation will be focussed on the 3 - 5 lowest priced bids. Further higher priced bids shall be added for evaluation if necessary |
| Preliminary Examination | * 1. UNDP shall examine the Bids to determine whether they are complete with respect to minimum documentary requirements, whether the documents have been properly signed, and whether the Bids are generally in order, among other indicators that may be used at this stage. UNDP reserves the right to reject any Bid at this stage. |
| Evaluation of Eligibility and Qualification | * 1. Eligibility and Qualification of the Bidder will be evaluated against the Minimum Eligibility/Qualification requirements specified in the Section 4 (Evaluation Criteria).   2. In general terms, vendors that meet the following criteria may be considered qualified:   3. They are not included in the UN Security Council 1267/1989 Committee's list of terrorists and terrorist financiers, and in UNDP’s ineligible vendors’ list;   4. They have a good financial standing and have access to adequate financial resources to perform the contract and all existing commercial commitments,   5. They have the necessary similar experience, technical expertise, production capacity, quality certifications, quality assurance procedures and other resources applicable to the supply of goods and/or services required;   6. They are able to comply fully with the UNDP General Terms and Conditions of Contract;   7. They do not have a consistent history of court/arbitral award decisions against the Bidder; and   8. They have a record of timely and satisfactory performance with their clients. |
| Evaluation of Technical Bid and prices | * 1. The evaluation team shall review and evaluate the Technical Bids on the basis of their responsiveness to the Schedule of Requirements and Technical Specifications and other documentation provided, applying the procedure indicated in the BDS and other ITB documents. When necessary, and if stated in the BDS, UNDP may invite technically responsive bidders for a presentation related to their technical Bids. The conditions for the presentation shall be provided in the bid document where required. |
| Due diligence | * 1. UNDP reserves the right to undertake a due diligence exercise, aimed at determining to its satisfaction, the validity of the information provided by the Bidder. Such exercise shall be fully documented and may include, but need not be limited to, all or any combination of the following:   2. Verification of accuracy, correctness and authenticity of information provided by the Bidder;   3. Validation of extent of compliance to the ITB requirements and evaluation criteria based on what has so far been found by the evaluation team;   4. Inquiry and reference checking with Government entities with jurisdiction on the Bidder, or with previous clients, or any other entity that may have done business with the Bidder;   5. Inquiry and reference checking with previous clients on the performance on on-going or completed contracts, including physical inspections of previous works, as deemed necessary;   6. Physical inspection of the Bidder’s offices, branches or other places where business transpires, with or without notice to the Bidder;   7. Other means that UNDP may deem appropriate, at any stage within the selection process, prior to awarding the contract. |
| Clarification of Bids | * 1. To assist in the examination, evaluation and comparison of Bids, UNDP may, at its discretion, request any Bidder for a clarification of its Bid.   2. UNDP’s request for clarification and the response shall be in writing and no change in the prices or substance of the Bid shall be sought, offered, or permitted, except to provide clarification, and confirm the correction of any arithmetic errors discovered by UNDP in the evaluation of the Bids, in accordance with the ITB.   3. Any unsolicited clarification submitted by a Bidder in respect to its Bid, which is not a response to a request by UNDP, shall not be considered during the review and evaluation of the Bids. |
| Responsiveness of Bid | * 1. UNDP’s determination of a Bid’s responsiveness will be based on the contents of the bid itself. A substantially responsive Bid is one that conforms to all the terms, conditions, specifications and other requirements of the ITB without material deviation, reservation, or omission.   2. If a bid is not substantially responsive, it shall be rejected by UNDP and may not subsequently be made responsive by the Bidder by correction of the material deviation, reservation, or omission. |
| Nonconformities, Reparable Errors and Omissions | * 1. Provided that a Bid is substantially responsive, UNDP may waive any non-conformities or omissions in the Bid that, in the opinion of UNDP, do not constitute a material deviation.   2. UNDP may request the Bidder to submit the necessary information or documentation, within a reasonable period, to rectify nonmaterial nonconformities or omissions in the Bid related to documentation requirements. Such omission shall not be related to any aspect of the price of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.   3. For the bids that have passed the preliminary examination, UNDP shall check and correct arithmetical errors as follows:  1. if there is a discrepancy between the unit price and the line item total that is obtained by multiplying the unit price by the quantity, the unit price shall prevail and the line item total shall be corrected, unless in the opinion of UNDP there is an obvious misplacement of the decimal point in the unit price; in which case, the line item total as quoted shall govern and the unit price shall be corrected; 2. if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and 3. if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail.    1. If the Bidder does not accept the correction of errors made by UNDP, its Bid shall be rejected. |
| AWARD OF CONTRACT | |
| Right to Accept, Reject, Any or All Bids | * 1. UNDP reserves the right to accept or reject any bid, to render any or all the bids as non-responsive, and to reject all Bids at any time prior to award of contract, without incurring any liability, or obligation to inform the affected Bidder(s) of the grounds for UNDP’s action. UNDP shall not be obliged to award the contract to the lowest priced offer. |
| Award Criteria | * 1. Prior to expiration of the period of Bid validity, UNDP shall award the contract to the qualified and eligible Bidder that is found to be responsive to the requirements of the Schedule of Requirements and Technical Specification and has offered the lowest price. |
| Debriefing | * 1. In the event that a Bidder is unsuccessful, the Bidder may request for a debriefing from UNDP. The purpose of the debriefing is to discuss the strengths and weaknesses of the Bidder’s submission, in order to assist the Bidder in improving its future Bids for UNDP procurement opportunities. The content of other Bids and how they compare to the Bidder’s submission shall not be discussed. |
| Right to Vary Requirements at the Time of Award | * 1. At the time of award of Contract, UNDP reserves the right to vary the quantity of goods and/or services, by up to a maximum twenty-five per cent (25%) of the total offer, without any change in the unit price or other terms and conditions. |
| Contract Signature | * 1. Within fifteen (15) days from the date of receipt of the Contract, the successful Bidder shall sign and date the Contract and return it to UNDP. Failure to do so may constitute sufficient grounds for the annulment of the award, and forfeiture of the Bid Security, if any, and on which event, UNDP may award the Contract to the Second highest rated or call for new Bids. |
| Contract Type and General Terms and Conditions | * 1. The types of Contract to be signed and the applicable UNDP Contract General Terms and Conditions, as specified in BDS, can be accessed at <http://www.undp.org/content/undp/en/home/procurement/business/how-we-buy.html> |
| Performance Security | * 1. A performance security, if required in the BDS, shall be provided in the amount specified in BDS and form available at   <https://popp.undp.org/_layouts/15/WopiFrame.aspx?sourcedoc=/UNDP_POPPDOCUMENT_LIBRARY/Public/PSU_Solicitation_Performance%20Guarantee%20Form.docx&action=default> within a maximum of fifteen (15) days of the contract signature by both parties. Where a performance security is required, the receipt of the performance security by UNDP shall be a condition for rendering the contract effective. |
| Bank Guarantee for Advanced Payment | * 1. Except when the interests of UNDP so require, it is UNDP’s standard practice to not make advance payment(s) (i.e., payments without having received any outputs). If an advance payment is allowed as per the BDS, and exceeds 20% of the total contract price, or USD 30,000, whichever is less, the Bidder shall submit a Bank Guarantee in the full amount of the advance payment in the form available at   <https://popp.undp.org/_layouts/15/WopiFrame.aspx?sourcedoc=/UNDP_POPPDOCUMENT_LIBRARY/Public/PSU_Contract%20Management%20Payment%20and%20Taxes_Advanced%20Payment%20Guarantee%20Form.docx&action=default> |
| Liquidated Damages | * 1. If specified in the BDS, UNDP shall apply Liquidated Damages for the damages and/or risks caused to UNDP resulting from the Contractor’s delays or breach of its obligations as per Contract. |
| Payment Provisions | * 1. Payment will be made only upon UNDP's acceptance of the goods and/or services performed. The terms of payment shall be within thirty (30) days, after receipt of invoice and certification of acceptance of goods and/or services issued by the proper authority in UNDP with direct supervision of the Contractor. Payment will be effected by bank transfer in the currency of the contract. |
| Vendor Protest | * 1. UNDP’s vendor protest procedure provides an opportunity for appeal to those persons or firms not awarded a contract through a competitive procurement process. In the event that a Bidder believes that it was not treated fairly, the following link provides further details regarding UNDP vendor protest procedures: <http://www.undp.org/content/undp/en/home/procurement/business/protest-and-sanctions.html> |
| Other Provisions | * 1. In the event that the Bidder offers a lower price to the host Government (e.g. General Services Administration (GSA) of the federal government of the United States of America) for similar goods and/or services, UNDP shall be entitled to the same lower price. The UNDP General Terms and Conditions shall have precedence.   2. UNDP is entitled to receive the same pricing offered by the same Contractor in contracts with the United Nations and/or its Agencies. The UNDP General Terms and Conditions shall have precedence.   3. The United Nations has established restrictions on employment of (former) UN staff who have been involved in the procurement process as per bulletin ST/SGB/2006/15 <http://www.un.org/en/ga/search/view_doc.asp?symbol=ST/SGB/2006/15&referer> |

Section 3: **Bid Data Sheet**

The following data for the goods and/or services to be procured shall complement, supplement, or amend the provisions in the Invitation to Bid In the case of a conflict between the Instructions to Bidders, the Bid Data Sheet, and other annexes or references attached to the Bid Data Sheet, the provisions in the Bid Data Sheet shall prevail**.**

|  |  |  |  |
| --- | --- | --- | --- |
| **BDS No.** | **Ref. to Section 2** | **Data** | **Specific Instructions / Requirements** |
| 1 |  | Project Title: | Biogas, Biomass and Solar Trilateral Cooperation Transitioning to Sustainable Energy Uses in the Agro-Industry |
| 2 |  | Title of Goods/Services/Works required | Supply & delivery of two Biogas systems including Construction services, Installation, Commissioning, Training and After sales Services & Technical support in Harari and SNNPR Regions of Ethiopia |
| 3 |  | Country | Federal Democratic Republic of Ethiopia |
| 4 | 7 | The language of the Bid | English |
| 5 |  | Submitting Bids for Parts or sub-parts of the Schedule of Requirements (partial bids) | Allowed  Interested Bidders are allowed to bid for either one  or two lots; If any bidder is successful (i.e. has  submitted lowest-priced & technically responsive  bid) in either one or two lots, UNDP under its discretion will/ may award both LOTs to one or two bidders.  • Note: UNDP will reject partial bid within LOTs. |
| 6 | 20 | Alternative Bids | Shall not be considered |
| 7 | 21 | Pre-Bid Conference & Site Visit | N/A |
| 8 | 16 | Bid Validity Period | 150 days |
| 9 | 12 | Bid Security | Not Required |
| 10 | 44 | Advanced Payment upon signing of the contract | Not allowed |
| 11 | 45 | Liquidated Damages | Will be imposed as follows:  If the contractor fails to deliver the specified works within the time period(s) stipulated by the Contract, UNDP shall, without prejudice to its other remedies under the contract, deduct from the payments due to the Contractor, as liquidated damages, a percentage of 0.05%. Once the delay reaches to the maximum limit (5%), UNDP may consider termination of the Contract. |
| 9 | 43 | Performance Security | Required  Amount: 10% of the total contract value  Form: Within 14 days after signature of the contract, the successful Bidder shall furnish a Performance Security to UNDP in the amount of 10% of the Contract Value. Performance security of 10% of the estimated price of the contract will be returned to the contractor, upon completing of all the works under the contract and issuance of Certificate of Substantial Completion. |
| 10 | GCC 47.1 | Defect Liability Period | Upon acceptance of Substantial completion report by UNDP, the contractor shall provide a bank guarantee in the amount of 5% of the contract value to cover the Defect Liability Period of 12 months, returnable upon issuance of Certificate of Final Completion. During the 12 (twelve) months of Defect Liability Period, the contractor is obligated to correct, repair and/or reconstruct any faults as may arise or any items listed in the Certificate of Substantial Completion by UNDP, at the Contractors own cost and within 14 (fourteen) calendar days of notification by UNDP. |
| 11 | 13 | Currency of Bid | United States Dollar  For evaluation purposes bid prices expressed in different currencies shall be converted in: [US Dollars]  The source of exchange rate shall be: [ UN Exchange Rate]  The date for the exchange rate shall be [UN Exchange rate for the month which bids are evaluated] |
| 12 | 18 | Deadline for submitting requests for clarifications/ questions | 5 days before the submission deadline  UNDP will endeavor to provide the above clarifications expeditiously, but any delay in providing such information will not be considered a reason for extending the submission date of a bid. |
| 13 | 18 | Contact Details for submitting clarifications/questions | Focal Person in UNDP: UNDP Procurement unit in Ethiopia  Email: [info.procurementet@undp.org](mailto:info.procurementet@undp.org) |
| 14 | 18, 19  and 21 | The manner of Disseminating Supplemental Information to the ITB and responses/clarifications to queries | Posted directly to e-Tendering  Supplemental Information will be uploaded to the system (Atlas-E-tendering System). Once uploaded, bidders who accepted Tender Invitation will be notified automatically by a system that changes have occurred. It is the responsibility of the bidders to view the respective changes and clarifications in the system.  Note: The Subject Line Email Should read, ETH3477– Biogas plant |
| 15 | 25 | Deadline for Submission | As indicated in the e-Tendering system.  Date and Time: As specified in the system (note that the time zone indicated in the system in New York Time zone).  PLEASE NOTE: -  The date and time visible on the main screen of the event (on the E-Tendering portal) will be final and prevail over any other closing time indicated elsewhere, in case they are different. Please also note that the bid closing time shown in the PDF file generated by the system is not accurate due to a technical glitch that we will resolve soon. The correct bid closing time is indicated in the E-Tendering portal. The system will not accept any bids after that time. It is the responsibility of the bidder to make sure bids are submitted within this deadline. UNDP will not accept any bid that is not submitted directly to the system.  Try to submit your bid a day prior to or well before the closing time. Do not wait until the last minute. If you face any issue submitting your bid at the last minute, UNDP may not be able to assist. |
| 16 | 24 | Allowable Manner of Submitting Bids | ☒ e-Tendering  Your bid, comprising of requested documents, should be submitted through the UNDP ATLAS E-tendering system.  The step-by-step to be followed for bid submission through the UNDP ATLAS E-tendering system is available in the instruction manual for the bidders, attached with this ITB as Annexes.  The solicitation documents and the manual are also posted on the following websites:  <http://procurement-notices-undp.org/index.cfm>  <https://www.ungm.org/notices/notices.aspx>  Once uploaded, Prospective Proposers (i.e., Proposers that have accepted the bid invitation in the system) will be notified via email that changes have occurred. It is the responsibility of the Proposers to view the respective changes and clarifications in the system. |
| 17 | 22, 23 & 24 | Bid Submission Address | Shall be submitted through e-Tendering System:  <https://etendering.partneragencies.org> |
| 18 | 24 | Electronic submission (email or e-Tendering) requirements | Official Address for e-submission:  <https://etendering.partneragencies.org>  ☒ Format: PDF, Word, JPG files only  ☒ Max. File Size per transmission: [8 MB]  ☒ Max. No. of transmission: [not limited]  ☒ No. of copies to be transmitted: [one]  ☒ Virus Scanning Software to be Used before transmission.  ☒ Time Zone to be Recognized: The bid closing date is according to New York Time Zone in E-Tendering System. |
| 19 | 27 | Date, time, and venue for the opening of the bid | In the case of e-Tendering submission, bidders will receive an automatic notification once the Bid is opened. |
| 20 | 29 &  32 | Evaluation Method for the Award of Contract | Lowest priced, technically responsive, eligible, and qualified bid.  ☒ Non-Discretionary “Pass/Fail” Criteria on the Technical Requirements; and  ☒ Lowest price offer of technically qualified/responsive Bid |
| 21 | SCC 4.18 | Expected date for commencement of Contract | *April 30, 2022* |
| 22 | Scope of Work | Maximum expected duration of the contract | LOT 1 &2: 5 months including the shipment of Biogas equipment to two sites, Construction works, Installation, Testing, Commissioning & Training |
| 23 | 37 | UNDP will award the contract to: | Multiple suppliers:  Depending on the Bidders' fulfilment of minimum qualification requirements for each LOT, one or more Bidders shall be selected. The following is an explanation of awarding rule:  In the event that one bidder offers lowest price for both LOTs, UNDP will assess the capacity of the bidder and uses its own discretions and will decide if two LOTs would be awarded to a single bidder or two bidders.  Moreover, UNDP at his own discretion may decide to implement one or two LOTs and may decide to drop one LOT as a whole. |
| 24 | 42 | Type of Contract | Contract for Civil Works to UNDP  <http://www.undp.org/content/undp/en/home/procurement/business/how-we-buy.html> |
| 25 | 42 | UNDP Contract Terms and Conditions that will apply | UNDP General Terms and Conditions for Works  <http://www.undp.org/content/undp/en/home/procurement/business/how-we-buy.html> |
| 26 | SCC | Other Information Related to the ITB | *N/A* |
| 27 |  | Other documents that may be Submitted to Establish Eligibility | N/A |
| 28 | 8 & 10 | Structure of the Technical Bid and List of Documents to be Submitted | * Bid submission form signed and stamped by an authorized person (as per section 3) * Bid technical approach, work plan, including detailed Project Schedule, Implementation Timelines, Quality Assurance Mechanisms, and other relevant information signed and stamped by an authorized person (as per section 6) * Bid personnel & resume (as per section 5) * Bidder’s qualification information (as per section 5) |
| 29 | 33 & 38 | Criteria for the Award and Evaluation of Bid | Award Criteria  Non-discretionary “Pass” or “Fail” rating on the detailed contents of the Schedule of Requirements and Technical Specifications.  Lowest price offer of technically qualified/responsive Bid per LOT |
| 30 | 33 | Post qualification Actions | Inquiry and reference checking with other previous clients on the quality of performance on ongoing or previous contracts completed;  Physical inspection of the bidder’s plant, factory, branches or other places where business transpires, with or without notice to the bidder; (Virtual meeting) |
| 31 |  | Conditions for Determining Contract Effectivity | Signing of Contract by Both Parties & receipt of Performance Security |
| 32 |  | Other Information Related to the ITB | *N/A* |

Section 4: **Evaluation Criteria**

**Preliminary Examination Criteria**

Bids will be examined to determine whether they are complete and submitted in accordance with ITB requirements as per below criteria on a Yes/No basis:

Appropriate signatures

Bid Submission Form

Bid Price Schedule

Technical Bid (requirements as outlined in Section E)

Profile of the company

Authorization letter from the manufacturer as authorized dealer or distributor

Note: Bids from Logistic and Consultancy firms will not be evaluated if they do not show relevant and specific experiences in biogas plants' construction and supply/installation.

**Minimum Eligibility and Qualification Criteria**

Eligibility and Qualification will be evaluated on a Pass/Fail basis.

If the Bid is submitted as a Joint Venture/Consortium/Association, each member should meet the minimum criteria, unless otherwise specified.

|  |  |  |
| --- | --- | --- |
| **Subject** | **Criteria** | **Document Submission requirement** |
| **ELIGIBILITY** |  |  |
| **Legal Status** | Vendor is a legally registered entity.  In case of Joint Ventures, the Lead partner must provide legal registration | Form B: Bidder Information Form |
| **Eligibility** | The vendor is not suspended, nor debarred, nor otherwise identified as ineligible by any UN Organization or the World Bank Group or any other international Organization in accordance with ITB clause 3. | Form A: Bid Submission Form |
| **Conflict of Interest** | No conflicts of interest in accordance with ITB clause 4. | Form A: Bid Submission Form |
| **Bankruptcy** | Has not declared bankruptcy, is not involved in bankruptcy or receivership proceedings, and there is no judgment or pending legal action against the vendor that could impair its operations in the foreseeable future. | Form A: Bid Submission Form |
| **Certificates and Licenses** | Duly authorized to act as Agent on behalf of the Manufacturer, or Power of Attorney, if bidder is not a manufacturer  Official appointment as local representative, if Bidder is submitting a Bid on behalf of an entity located outside the country. | Form B: Bidder Information Form |
| **QUALIFICATION** |  |  |
| **History of Non-Performing Contracts** | Non-performance of a contract did not occur as a result of contractor default for the last 3 years. | Form D: Qualification Form |
| **Litigation History** | No consistent history of court/arbitral award decisions against the Bidder for the last 3 years. | Form D: Qualification Form |
| **Previous Experience** | |  |  |  | | --- | --- | --- | | **S/N** | **Criteria** | **Compliance Requirement** | | 1 | The Minimum number of years of general experience in construction works | 3 Years | | 2 | The minimum number of years of general experience in supply, delivery, installation, commission, and testing Bio-gas equipment | 2 Similar Contracts (completed) in the past three years– the bidders must upload copies of the concluded contracts. | | 3 | Certificates of Completion for the completed project or employer/client progress reports for the ongoing ones shall be provided by the bidder | The bidders must upload two certificates of completion for similar Projects or provide valid reference for background check. | | Form D: Qualification Form |
| **Financial Standing** | Minimum annual turnover of USD 300,000.00 (**for two LOTs**) for the last three years (2019, 2020, 2021). **USD 200,000.00 Annual turnover per year**  Minimum annual turnover of USD 150,000.00 (**for One lot**) for the last three years (2019, 2020, 2021). **USD 200,000.00 Annual turnover per year**  *(For JV/Consortium/Association, all parties shall meet the requirements).* | Form D: Qualification Form |
| Bidder must demonstrate the current soundness of its financial standings and indicate its prospective long-term profitability with the latest financial statements (profit and loss statement, including income statement and balance sheet). Audit reports prepared in languages other than English should be translated into English. An audit report must be prepared and certified by an independent audit firm.  Quick ratios should not be lower than 1.0. If QR is less than 1, UNDP shall verify the financial capacity of the bidder and has the authority to seek references from concerned parties & banks on the bidder’s financial standing.  *(For JV/Consortium/Association, all Parties shall meet the requirement).* | Form D: Qualification Form |
| **Technical Evaluation** | ☒ Non-Discretionary “Pass/Fail” Criteria on the Technical Requirements; | Form E: Technical Bid Form |
| **Financial Evaluation** | ☒ Lowest price offer of technically qualified/responsive Bid | Form F: Price Schedule Form |
| **Detail of Projects And**  **Time Line** | ☒ The bidder shall detail method of statement for implementation within the requested timeframe and system specification and a detailed work plan that reflects a clear strategy for works implementation.   * Proposed Work-Plan/Activity Schedule (Gantt chart). A schedule based on the duration set in the work plan indicates the main activities duration, resources, with clear allocations of labor, material and equipment resources vs the quantities of works to be executed according to the programme of works. * A description of the organizational units(s) that will become responsible for the construction works, and the general management approach for a project of this kind. * Product Catalogue for the Bio-Gas plant must be submitted | Form E:  Technical Bid FORM |
| **Expertise** | The following Technical Staff is required for each LOT during the project execution of the contract. In addition, the bidders shall provide CVs of the following staff.   | Designation | Resp. | QTY | Qualification | Min Relevant Work  experience | | --- | --- | --- | --- | --- | | Team leader | Responsible for managing, overseeing, and delivering outputs of the assignment and key communication person with UNDP | 1 | Minimum Bachelor’s degree in Civil/Electrical/Mechanical engineering | * Specific experience relevant to the assignment – at least five years * Regional/Ethiopia experience * Experience in project manager position on similar reference overseas projects. | | Site manager | Responsible for managing implementation all the works at the location | 1 | Minimum Bachelor’s degree in Civil/Electrical/Mechanical engineering | * Specific experience relevant to the assignment – at least 3 years * Regional/Ethiopia experience | | Biogas process engineer | Responsible for designing, constructing, and commissioning of biogas plants and training (as needed) | 1 | Mechanical engineering, process engineering or related field  (Minimum BSc or equivalent) | * Experience: >5 years in biogas industry; engineering, constructing, and commissioning of medium to large scale biogas plants for electricity production (CSTR and lagoon type) * Experience with projects in a similar setting is an advantage | | Mechanical engineer | Responsible for designing a high-quality mechanical design, installation, and training (as needed) | 1 | Mechanical engineering (minimum BE or equivalent) | * Experience: >5 years in industry; plant engineering, installation of mechanical equipment, piping systems and generators; experience with gaseous fuel projects is an advantage * Good knowledge of Ethiopian construction regulations | | Electrical engineer | Responsible for designing a high-quality electrical design, installation, and training (as needed) | 1 | Minimum Bachelor’s degree in Electrical engineering | * Experience: >5 years in industry; design and implementation of electrical installations, small to medium scale electricity generation systems * Good knowledge of Ethiopian electrical installation regulations | | Civil engineer | Responsible for designing a high-quality civil design, civil work, and training (as needed) | 1 | Minimum Bachelor’s degree in Civil engineering | * Specific experience relevant to the assignment – at least 3 years | | Form E:  Technical Bid FORM |
| Local representatives (where applicable) | ☒ Confirmation that the Bidder has a local representative in the country that will be available during the duration of any works Contracted resulting from this Bid. Bidders provide details of your local representative.  ☒The bidder must provide the list of the construction for their Local representatives to assess the capacity of their local representative to undertake the construction works. | Form E:  Technical Bid FORM |
| **Financial Evaluation** | ☒ Lowest price offer of technically qualified/responsive Bid | Form F: Price Schedule Form |

# Section 5: Technical Requirements and Specifications including Scope of Works

**1.** **Survey, design, and planning**

The selected bidder(s) is required to provide survey, design, and planning works for the realization of biogas demonstration construction, including but not limited to:

1. Complete a report of project working plan specifying all the steps that will be carried out to perform the project including time schedule and Gantt chart for the execution of the total job, and who will be responsible for each step (vendor, local partner, or both).
2. Perform a site inspection/ on-site survey prior to the start of all further activities.
3. Provide the system design and civil construction drawings and other manufacturer’s technical documentation.
4. Site preparation (clearing, pruning, excavation, etc.)
5. All planning and permitting works required for the realization of the project.

Submission of:

* Report of project working plan with the time schedule and Gantt chart for the execution of the total works
* System design and civil construction drawings
* Bill of Quantities (BOQ) per site- note any changes to the BOQ enclosed in this ITB should be explained and a reasonable explanation must be provided
* Social-environmental assessment and risk management plan
* Post commissioning as-built drawings and other technical documentation

**2. Supply of two sets of biogas systems based on the technical specification.**

**3. Provide manual, telecalls, or video tutorials for installing, maintaining, and operating the biogas systems.**

**4. Provide the following aftersales/technical support services for the biogas systems.**

**4.1 Construction and installation services**

Upon delivery of the systems to the destination, the selected bidder(s) will be required to complete the installation and construction at the biogas demonstration sites. The detailed requirements and specifications of infrastructural services/ civil works needed to operate the proposed biogas systems are below.

The anaerobic reactor is the core device of the biogas plant. The success of the biogas plant depends on the construction of the reactor. To ensure the smooth operation of the biogas plant, the projects adopt enamel-assembled tanks.

The enamel assembled tank comprises enamel steel plates, self-locking bolts, and sealant. The enamel assembled steel plate is prefabricated in manufactured according to the size of the reactor and assembled after being transported to the site. The connection of the steel plate is completely bolted.

**Reactor construction:**

1. Base construction: The base of the AD reactor should be placed on flat and compacted ground, poured by reinforced concrete. The flatness error of the base layer surface should be less than 1cm, and the concrete surface should be solid and fully dry.
2. Reactor wall construction: workers install the top layer of the tank by using special installation tools, connect and fasten the plates with bolts, and pour sealant between the plate seams. The first circle of plates is lifted after the installation is completed. Install the second layer of plates, connect the layers together, and repeat the operation until the whole wall is installed.
3. Sealing: Silicone sealant is used to seal the structural joints. The construction should be carried out in a clean environment with a temperature of 5-40℃ and relative humidity of 40-80%. Sealants should be applied to all the internal and external parts of all board junctions.
4. After the entire reactor is assembled, fix the tank body to the base with expansion bolts, and then use round steel to make a ring of beams for secondary concrete pouring.
5. Sealing and pressure test: feed water into the reactor fifteen days after the termination of the secondary seal, carefully check the water level and pressure, and once the leakage is found, it should be repaired in time.
6. Final tightening of bolts: After the pressure test, all bolts on the tank should be checked with a torque wrench, and the bolts should be tightened to 35KN-40KN.

**Gas storage construction**

1. The gas storage is a hemispherical structure placed on the ground base, composed of a double membrane body, an air blower and a pressure protector.
2. The ground base is made of reinforced concrete, and the mechanical properties should reach the design index. The gas pipeline and connecting flange are embedded under the base, the membrane connecting plate and bolts are embedded at the edge of the base.
3. The double membrane should be spread evenly and laid flat on the base, with the membrane boundary overlapping the pre-embedded connecting plate.
4. Fill the space between the membrane and the embedded plate with rubber sealing strips, and finally fix the double membrane on the foundation with bolts.
5. Connect the blower duct to blow air between the two membranes to expand the outer membrane and maintain a fixed spherical shape.
6. The construction must be carried out according to the design drawings.

**Mixer construction:**

* 1. The mixer must be installed after the completion of reactor installation and pressure test.
  2. For vertical mixer, a steel structure frame must be set on the top of the AD reactor to fix the mixer motor.
  3. The blade at the highest position of the mixer should be below the liquid level during operation.
  4. The construction of mixer must be carried out according to the design drawings

**Insulation construction:**

1. The insulation material adopts 100mm thick extruded plate.
2. Stick the extruded plates on the outer wall of the reactor and fasten them with stirrups. It must be ensured that the whole surface of the reactor is covered by the insulation plates.

**Pipeline and valve construction:**

1. HDPE pipes should be used for slurry transportation, and stainless-steel pipes should be used for gas transportation.
2. The reliability of pipeline welding and connection must be ensured.
3. The pipeline should be purged with air after the installation is completed, it is also necessary to carry out a pressure test in accordance with relevant regulations.
4. The type and model of the valve should be selected according to the purpose, substrate characteristics, working pressure, etc.
5. The installation position of the valve shall not hinder the disassembly, maintenance and operation of equipment, pipelines, and the valve itself.
6. For directional valves, the installation direction should be determined according to the flow direction of the conveying medium.
7. Main gas valve should be placed right after the main gas pipe.
8. There should not be any unnecessary fittings between main gas pipe and gas valve.
9. Main gas valve should be closed when gas is not using.
10. The construction of pipelines and valve must be carried in strict accordance with the design drawings.

**Feeding tank and digestate storage tank construction**

1. The feeding tank and digestate storage tank are of brick-concrete structure and must be constructed accordance with the drawings.
2. Qualified materials must be used in civil construction, the specific requirement of materials is as follow.

* Cement: high quality Portland cement, should not be used if moist or with lumps.
* Sand: should not use poor quality sand. If it has more than 3% impurities, it should be washed with clean water and use. Coarse sand is better for casting and fine sand for plastering.
* Water: should not use dirty water, and better to use drinkable water.
* Aggregate: should be of the right size (0.5 – 2.5 cm.) and be cleaned.
* Bricks/sand: First class brick, with proper shape, stone should not be too soft.

**Quality Biogas Plant**

1. Daily feeding with the right quality of dung and water.
2. The biogas plant must be constructed in accordance with the approved drawing submitted by selected bidder(s).
3. There should not be any leakage through pipeline.
4. Adequate gas production and the end user satisfied with the plan.

**3.2 Testing/commissioning services**

The selected bidder(s) will be required to test the function of the key equipment, instruments, and materials of the biogas project, including an on-site acceptance test and an on-site handover test. All tests should be conducted in accordance with the descriptions below.

1. On-site acceptance test: Before the key equipment is packaged and shipped out of the manufactory, all individual components and the whole assembly of the product will be subjected to the relevant national standards, industry standards, and enterprise standards for performance and quality test. The bidder(s) shall submit all the test records, certificates, photos, and video clips. In addition, UNDP (may also invite an external expert) will require a video meeting with the selected bidder and manufacturer for pre-shipment inspection.
2. On-site handover test: The bidder(s) and the relevant government authorities/ end users shall jointly complete the on-site handover test. After the installation is completed, the bidder(s) shall conduct preliminary test according to the specified requirements, check the functions and safety of the devices and accessories, and test the overall performance of the equipment. The bidder(s) shall provide a component inspection list and test records of each piece of equipment. If UNDP and the relevant government authorities/ end users organize and implement the on-site handover test, the bidder(s) will send personnel to participate in the test to provide technical support and on-site cooperation; the tests needed to be carried out by the engineers deployed by the selected bidder (s) with consultation with relevant government authorities/ end users in Ethiopia. If UNDP and the relevant government authorities/ end-users have special requirements, they can negotiate with the bidder(s).
3. Special test: In addition, some special tests (such as reactor and pipeline pressure tests) that cannot be carried out at the manufacture’s site should be carried out on site. The bidder(s) must complete the field test report and submit it to the end user.

The inspection and testing of the equipment on-site serve the purpose of demonstrating that particular equipment is capable of conforming to the relevant general requirements and the purpose of providing there is no deviation from the operating instructions.

After all the construction, installation, on-site inspection, and test work are completed, the bidder(s) shall be responsible for the start-up and commissioning of the whole biogas system.

Commissioning includes sub-system operation (trial operation of a single device and trial operation of a single system). Start-up, operation, and final performance testing of the whole system.

1. Except for the performance testing, which should be completed by a third party designated by the end-user, other commissioning work shall be conducted by the selected bidder(s) in accordance with the descriptions below. A detailed plan and commissioning manual should be submitted before the formal start-up.
2. All instruments and tools necessary for the commissioning process shall be prepared by the selected bidder(s).
3. The selected bidder(s) shall send a professional engineer to manage the commissioning process and guide the operators to correctly handle and run the system.
4. If defects or incorrect functions are found in the system during the commissioning process, the selected bidder(s) shall immediately eliminate the malfunction.
5. When the entire biogas plant achieves 168 hours of continuous production under the design conditions, the commissioning is over, and the bidder(s) shall submit a final commissioning report to the end-user.

Note: The end-user/the focal point in the receiving unit will facilitate the testing and commissioning step and provide the testing and commissioning result as one of the supporting documents for releasing payment.

**3.3 Training services**

To provide training material (manual and video clips in English, etc.) and in-person/on-site training for the targeted group (no less than two persons in each demonstration site) on operating the system and doing regular checks or maintenance.

Number of trainers in each demonstrate site: no more than two persons

Duration of training: One 6-hour training per site.

The bidder (s) shall provide technical, operational and maintenance staff training in each site as indicated.

The training shall be carried out in English by experienced engineers/trainers with not less than 5 years of working experience and two years of working experience with the delivered equipment. The engineer /trainer will be assigned by the team leader of the selected bidder in consultation with UNDP and relevant partners. Suppose the engineer/trainer cannot communicate and carry out the required training sessions in English. In that case, the selected bidder (s) must deploy a translator to be able to deliver the training in English. Any cost related must be covered by the bidder(s).

**3.4 Maintenance services and repair services**

The selected bidder(s) must provide maintenance and repair support services which include:

1. The quality warranty period starts from the project's actual completion date. The quality warranty period shall be calculated separately for the project completed and accepted by individual items according to the individual projects. The main structure of the project should meet the reasonable service life (20 years) specified in the design. The minimum quality warranty period of the project is as follows:

* Equipment: Standard Manufacturer’s warranty for at least two years
* Sprats Parts: Supplier is responsible for replacing faulty parts after installation without any cost to UNDP for at least two years
* Construction works: After completing the contract and delivering the project to UNDP, the supplier shall remedy any defect arising to the construction works until two years. UNDP shall not be financially liable for any maintenance services provided by the contractor to remedy the defects for one year. UNDP shall be ONLY responsible if the damage is of UNDP or its beneficiary’s negligence

1. The bidder(s) must provide remote and on-site support on identifying different types of errors and how to solve said errors or malfunctions for a minimum period of one year.
2. The remote or on-site support must provide solutions to effectively resolve the issue, share preventive advice to avoid the similar problems in the future, and promote sustainable operation and maintenance of the system. After the warranty period, any cost related to the technical support will be separately discussed with the selected bidder(s) once there is a need.

Note: The said on-site services or additional maintenance and repair services could be provided by the bidder (s) who needs to deploy personnel to travel to the selected demonstration sites in Ethiopia or by their sub-office or authorized service agent/ engineer to provide aforementioned on-site or remote services, such as installation, commissioning and repair services.

#### **B. Details and Specifications of the Biogas Systems**

**1. Biogas System for Shewangzaw Dairy and Fatting Farm Enterprise in Harari region**

1. Shewangzaw dairy and fatting farm enterprise is located in Hara, the capital of the East Hararghe Zone and the capital of the Harari Region of Ethiopia. Its geographical location (GPS) is longitude 42.11891994, and its latitude is 9.30127200. The mean annual temperature is between 18-26℃. Shewangzaw started the business in 1980. The organization’s main objective is to fatten cattle and produce milk for the local markets and maximize profit. The firm's core business is getting access to service and input that could help promote dairy production and productivity and fattening of livestock, which serve as a supply for meat and breeding services. In addition, they need the biogas plant for cooking, lighting for households, and electrical appliance equipment. There is a suitable space for demonstration construction. The plan of the site can be seen below in Figure 1.

*Figure 1 – Plan for the demonstration site*

Diagram, engineering drawing

Description automatically generated

1. Shewangzaw dairy and fatting farm enterprise have 80 head of breed cow and 11 head of the local cow. And 3000L wastewater would produce daily. The raw material supply is shown below. Around 4.7t cow, manure and wastewater could be used for the biogas system. They transport the manure using a cart by the workforce. Local economic conditions determine the way manure collection is more reliant on human beings.

|  |  |  |  |
| --- | --- | --- | --- |
| Items | Quantity | Excretion rate kg/d | Weight kg/d |
| Cows (Breed) | 80 | 23 | 1840 |
| Cows (Local) | 11 | 13 | 143 |
| Wastewater |  |  | 3000 |
| Sum |  |  | 4983 |

1. The enterprise is located in the city, so the infrastructure is well suited. It has a grid system, a water supply pipeline, a good vehicle access road.
2. Description of biogas power generation process: Feed the collected manure into the settling tank through a hopper and adjust the concentration (normally adjust TS% into 8%). The mixed well material will be pumped into the reactor for anaerobic fermentation to produce biogas. The purified biogas will be used for power generation after desulfurization dehydration. Produced biogas slurry could be recycled or be used as organic fertilizer for the surrounding agricultural farmland.
3. The designed biogas system in Shewangzaw Dairy and Fatting Farm Enterprise will be a medium-scale biogas plant, including the pretreatment unit, digestion unit, biogas purification, biogas storage unit, biogas utilization unit, digestate utilization unit, and supplementary unit. In addition, civil works are required during the installation and construction phase.
4. Regarding the system design, the feedstock will be fed into the 10m3 pretreatment tank, and around 8% of TS is controlled. The soil and sand will be removed from the raw material. The 150m3 CSTR digester will be applied with a hydraulic retention time of 30 days. Around 77m3 biogas/d will be produced for cooking and generate electricity with a 20kW generator. 4790kg digestate will be produced daily and be stored in the digestate tank with a volume of 100m3.

The details of the technical specification are described below as follows.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Items/Equipment** | **Technical Specification** | **Unit** | **Quantity** | **Remarks** |
| Civil works | Site Excavation | / | m3 | 300 | Estimated as 300 m3 |
| Backfill | / | m3 | 80 | Estimated as 80 m3 |
| AD Reactor Base | Reinforced Concrete | m3 | 12 |  |
| Gas Storage Tank Base | Reinforced Concrete | m3 | 5 |  |
| Fence | Iron art | m | 80 | Estimated as 80m |
| Gate | Hot-dip galvanized steel tube | Set | 1 |  |
| Biogas Purification Room | Light steel structure | m2 | 18 |  |
| Generator Room | Light steel structure | m2 | 24 |  |
| Power Distribution Room | Brick Concrete | m2 | 9.5 | Brick Wall+ light steal roof |
| Drainage Ditch | Brick Concrete | m | 30 | Estimated as 30m |
| Equipment Base | Concrete | m3 | 3 | Estimated as 3m3 |
| Ground Hardening | Concrete | m2 | 60 | Estimated as 60m2 |
| Feeding Tank | Brick Concrete | m3 | 10 |  |
| Solid-Liquid Separation Lagoon | Brick Concrete | m3 | 10 |  |
| Liquid Digestate Storage Lagoon | Brick Concrete | m3 | 100 | Minimum |
| Unit Equipment | Electric Mixer | Minimum motor capacity 3KW, 380V | No. | 1 | Pretreatment Unit |
| Feeding Pump | Minimum flow rate 40 m3/hour; Power capacity  3kW, 380V; Pump head 15 m | No. | 1 |
| Artificial Grille | 900\*600 mm | No. | 1 |
| Vertical Mixer | Minimum motor capacity 5.5KW, 380V; Anti-corrosion coating is necessary for the part above liquid level | No. | 1 | Digestion Unit |
| AD Reactor Enamel Assembly (installed on site) | Minimum working volume of reactor 150m3  (with Enamel lid) | m3 | 1 |
| Insulation Material | 100mm  flame retardant extruded board; 0.5mm color coated steel sheet | m2 | 140 |
| Gas Storage | Minimum volume  40m3 dry gas storage | m3 | 1 | Biogas Purification & Storage Unit |
| Pressure Protection Device | Positive pressure 4000pa; Negative pressure 500pa; Material SS304 | Set | 1 |
| Desulphurization Tank | Minimum working volume 100L; Iron oxide is used as desulfurizer; The inner wall of the tank should be treated with anti-corrosion protection | Set | 2 |
| Dehydration Tank | Minimum working volume 100L; The inner wall of the tank should be treated with anti-corrosion protection | Set | 2 |
| Fire Arrestor | Adapt to the diameter of pipeline; Material SS304 | No. | 1 | Biogas Utilization Unit |
| Gas flow Meter | Measuring range 0-100m3/h, -25℃-80℃, biogas use | No. | 1 |
| Boost fan | 0.43m3/min, 9.8kP, 0.55kw, Explosion-proof | No. | 2 |
| Biogas Power Generator | 20KW | No. | 1 |
| Slurry Solid-Liquid Separator | Minimum separation capacity 5-15m³/h, 5.5kw, 380V | Set | 1 | Digestate Utilization Unit |
| Lifting Pump | Minimum flow rate 40 m3/hour, 3kW, Pump head 15 m | No. | 1 |
| Supplementary Unit | Power Distribution | Electrical engineering wire, cable used according to 《Electrical Control Assemblies》(GB/T3797-2016) or equivalent standards in other countries; Embedded wall inner threading pipe adopts PVC flame-retardant material;  Exposed threading pipe and bridge are made of galvanized material;  The distribution box is waterproof | Set | 1 | Supplementary Unit |
| Biogas Process Pipelines | DN40-100, consist of substrate pipes, biogas pipes, slurry pipes and other pipelines involved in the production process of biogas projects. All pipes’ size and material should follow design documents. | Set | 1 |
| Lightning Protection System | Galvanized material;  The lightning protection system designed according to 《Code for Design Protection of Structures Against Lightning》(GB50057-2010) or equivalent standards in other countries | Set | 1 |
| Fire Extinguishing System | Ammonium phosphate dry powder fire extinguisher or sodium bicarbonate dry powder fire extinguisher;  Fire extinguisher quantity complies with 《Code for Design of Extinguisher Distribution Configuration》 (GB 50140), or equivalent standards in other countries | Set | 1 |

**2. Biogas System for Wolaita Sodo University in Wolaita Sodo town, SNNPR region**

1. Wolaita Sodo University (WSU) is located in Wolaita Sodo town of Southern Ethiopia, 329 km away from Addis Ababa via Butajira-Alaba to Wolaita Sodo. Its geographical location (GPS) is longitude 37.75, and its latitude is 6.82. The mean annual temperature is between 16-26℃. WSU is one of the emerging second-generation public higher institutions in Ethiopia. The university plans to expand its campus number to seven shortly. The university has more than 5,000 engineering students on different campuses. It could be a good ground for technology transfer purposes. The university is interested in connecting with generators and hybrid with electricity from cow manure fermentation. Now, they are using firewood for energy and using diesel generators at power-off time. The plan of the site demonstration and site images can be seen below in Figure 1 and Figure 2.

*Figure 1 – plan for the demonstration site*

Diagram

Description automatically generated

*Figure 2 – Northern, eastern, southern, western part of demonstration sites images*

A picture containing grass, outdoor, building, house

Description automatically generated A picture containing grass, outdoor, sky, field

Description automatically generated

A picture containing grass, outdoor, sky, field

Description automatically generated A picture containing grass, outdoor, sky, ground

Description automatically generated

1. WSU has 40 heads of breed cows and 112 heads of local cows. And food waste from the student dining hall is 2190kg/d. The raw material supply is shown below. Around 4.7t cow, manure and wastewater could be used for the biogas system. They transport the manure using a cart by the workforce. Local economic conditions determine the way manure collection is more reliant on human beings.

|  |  |  |  |
| --- | --- | --- | --- |
| **Items** | **Quantity** | **Excretion rate kg/d** | **Weight kg/d** |
| Cows (Breed) | 40 | 23 | 920 |
| Cows (Local) | 112 | 13 | 1456 |
| Food waste |  |  | 2190 |
| Sum |  |  | 4566 |

1. The university is located in Wolaita Sodo town, so the infrastructure is well suited. It has a grid system, a water supply pipeline, a good vehicle access road.
2. Description of biogas power generation process: Feed the collected manure into the settling tank through a hopper and adjust the concentration (normally adjust TS% into 8%). The mixed well material will be pumped into the reactor for anaerobic fermentation to produce biogas. The purified biogas will be used for power generation after desulfurization, dehydration. Produced biogas slurry could be recycled or be used as organic fertilizer for the surrounding agricultural farmland.
3. The designed biogas system in the university will be a medium-scale biogas plant, including the pretreatment unit, digestion unit, biogas purification, biogas storage unit, biogas utilization unit, and digestate utilization and supplementary unit. In addition, the civil works are required during the installation and construction phase.
4. Regarding the system design, the feedstock will be fed into the 15m3 pretreatment tank, and 8% of TS is controlled. The soil and sand will be removed from the raw material. The 300m3 CSTR digester will be applied with a hydraulic retention time of 30 days. Around 177m3 biogas/d will be produced for cooking and generate electricity with a 20kW generator. 8970kg digestate will be produced daily and be stored in the digestate tank with a volume of 150m3.

The details of the specification are described below as follows.

|  | **Items/Equipment** | **Specification** | **Unit** | **Quantity** | **Remarks** |
| --- | --- | --- | --- | --- | --- |
| Civil works | Site Excavation | / | m3 | 400 | Estimated as 400 m3 |
| Backfill | / | m3 | 100 | Estimated as 100 m3 |
| AD Reactor Base | Reinforced Concrete | m3 | 18 |  |
| Gas Storage Tank Base | Reinforced Concrete | m3 | 12 |  |
| Fence | Iron art | m | 120 | Estimated as 120m |
| Gate | Hot-dip galvanized steel tube | Set | 1 |  |
| Biogas Purification Room | Light steel structure | m2 | 20 |  |
| Generator Room | Light steel structure | m2 | 24 |  |
| Power Distribution Room | Brick Concrete | m2 | 9.5 | Brick Wall+ light steal roof |
| Drainage Ditch | Brick Concrete | m | 40 | Estimated as 40m |
| Equipment Base | Concrete | m3 | 3 | Estimated as 3m3 |
| Ground Hardening | Concrete | m2 | 80 | Estimated as 80m2 |
| Feeding Tank | Brick Concrete | m3 | 15 | Minimum volume |
| Solid-Liquid Separation Tank | Brick Concrete | m3 | 15 |  |
| Liquid Digestate Storage Tank | Brick Concrete | m3 | 150 | Minimum |
| Unit Equipment | Food Waste Pulverize | Minimum processing capacity 300kg/h, 5.5kw, 380V | No. | 1 | Pretreatment Unit |
| Electric Mixer | Minimum capacity  3kW, 380V | No. | 1 |
| Feeding Pump | Minimum flow rate 40 m3/hour,  4kW, 380V, Pump head 15 m | No. | 1 |
| Artificial grille | 1100\*600mm | No. | 1 |
| Vertical Mixer | Minimum motor capacity 7.5KW,380V; Anti-corrosion coating is necessary for the part above liquid level | No. | 1 | Digestion Unit |
| AD Reactor Enamel Assembly (installed on site | Minimum working volume of reactor 300m3  (with Enamel lid) | m3 | 1 |
| Insulation Material | 100mm  flame retardant extruded board; 0.5mm color coated steel sheet | m2 | 220 |
| Gas Storage | Minimum volume  100m3 dry gas storage | m3 | 1 | Biogas Purification & Storage Unit |
| Pressure Protection Device | Positive pressure 4000pa; Negative pressure 500pa; Material SS304 | Set | 1 |
| Desulphurization Tank | Minimum working volume 180L; Iron oxide is used as desulfurizer; The inner wall of the tank should be treated with anti-corrosion protection | Set | 2 |
| Dehydration Tank | Minimum working volume 100L; The inner wall of the tank should be treated with anti-corrosion protection | Set | 2 |
| Fire Arrestor | Adapt to the diameter of pipeline; Material SS304 | No. | 1 | Biogas Utilization Unit |
| Gas Flow Meter | Measuring range 0-100m3/h,-25℃-80℃, biogas use | No. | 1 |
| Boost Fan | 1m3/min 9.8kP, 1360rpm, 0.75kw, Explosion-proof | No. | 2 |
| Biogas Power Generator | 20KW | No. | 1 |
| Solid-Liquid Separator | Minimum separation capacity 10m³/h, 5.5kW, 380V | Set | 1 | Digestate Utilization Unit |
| Lifting Pump | Minimum flow rate 40 m3/hour, 3kW, Pump head 15 m | No. | 1 |
| Supplementary Unit | Power distribution | Electrical engineering wire, cable used according to 《Electrical Control Assemblies》(GB/T3797-2016) or equivalent standards in other countries; Embedded wall inner threading pipe adopts PVC flame retardant material; Exposed threading pipe and bridge are made of galvanized material; The distribution box is waterproof | Set | 1 | Supplementary Unit |
| Biogas Process Pipelines | DN40-100, consist of substrate pipes, biogas pipes, slurry pipes and other pipelines involved in the production process of biogas projects. All pipes’ size and material should follow design documents. | Set | 1 |
| Lightning Protection System | Galvanized material;  The lightning protection system designed according to 《Code for Design Protection of Structures Against Lightning》(GB50057-2010) or equivalent standards in other countries | Set | 1 |
| Fire Extinguishing System | Ammonium phosphate dry powder fire extinguisher or sodium bicarbonate dry powder fire extinguisher;  Fire extinguisher quantity complies with 《Code for Design of Extinguisher Distribution Configuration》(GB 50140), or equivalent standards in other countries | Set | 1 |

**Implementation Schedule:**

The bidder shall detail the method of statement for implementation within the requested timeframe and system specification and a detailed work plan that reflects a clear strategy for works implementation.

Delivery of biogas systems and appliances and installation needs to be completed within five months. The following presents the list of required deliverables for each demonstration site.

**1. Biogas System for Shewangzaw Dairy and Fatting Farm Enterprise in Harari region**

|  |  |  |
| --- | --- | --- |
| Deliverables | Activities | Payment |
| Deliverable 1 | System design, technical report, and drawings of one biogas systems in target locations; Report of project working plan with time schedule and Gantt chart for the execution of the total works; Social-environmental assessment and risk management plan; As-built drawings and technical documentation in English. | 20% of the contract value |
| Deliverable 2 | On-site supply and delivery of one complete biogas plant with all components needed for its operation as well as the connections needed for the supply of biogas input that ensures full plant operation. | 30% of the contract value |
| Deliverable 3 | Timely construction and installation, startup, and testing/commissioning of the complete Biogas plant with all components needed for its interconnection to the existing installation, operation, and related performance testing. | 20% of the contract value |
| Deliverable 4 | Provision of manual, telecalls, or video tutorials for installing, maintaining, and operating the biogas systems and in person/on-site training on operation and maintenance of the installed equipment. | 30 % of the contract value |

**2. Biogas System for Wolaita Sodo University in Wolaita Sodo town, SNNPR region**

|  |  |  |
| --- | --- | --- |
| Deliverables | Activities | Payment |
| Deliverable 1 | System design, technical report, and drawings of one biogas systems in target locations; Report of project working plan with time schedule and Gantt chart for the execution of the total works; Social-environmental assessment and risk management plan; As-built drawings and technical documentation in English. | 20% of the contract value |
| Deliverable 2 | On-site supply and delivery of one complete biogas plant with all components needed for its operation as well as the connections needed for the supply of biogas input that ensures full plant operation. | 30% of the contract value |
| Deliverable 3 | Timely construction and installation, startup, and testing/commissioning of the complete Biogas plant with all components needed for its interconnection to the existing installation, operation, and related performance testing. | 20% of the contract value |
| Deliverable 4 | Provision of manual, telecalls, or video tutorials for installing, maintaining, and operating the biogas systems and in person/on-site training on operation and maintenance of the installed equipment. | 30 % of the contract value |

# Section 5b: Other Related Requirements

Further to the Schedule of Requirements in the preceding Table, Bidders are requested to take note of the following additional requirements, conditions, and related services pertaining to the fulfilment of the requirements:

|  |  |
| --- | --- |
| Delivery Term [INCOTERMS 2010]  *(Pls. link this to price schedule)* | Supply of Goods: CIP to final destinations as explained in the scope of works. |
| Exact Address of Delivery/Installation Location | Will be provided to recommended contractor(s). Nevertheless, as stated in the ITB, two biogas plants shall be constructed in two regions of Ethiopia, namely Harari and SNNPR. |
| Mode of Transport Preferred | Supply of Goods: CIP (Carriage & Insurance Paid)  Sea freight & inland transport via Port De Djibouti to Addis – Onwards delivery of the consignment to two sites. **UNDP’s responsibility is to provide custom clearance services only.** Upon clearance of goods from the customs office in Addis, the bidder must transport the goods to the construction sites. The bidders must have insurance for the consignment/shipment until the Final destination. UNDP shall not cover any damage to the goods during transportation of goods to the final destinations. |
| UNDP Preferred Freight Forwarder, if any | N/A |
| Distribution of shipping documents  *(if using freight forwarder)* | N/A |
| Customs, if required, clearing shall be done by: | N/A |
| Ex-factory / Pre-shipment inspection | All Goods are subject to pre-inspection before installation. Details shall be outlined in the contract between UNDP and the recommended bidder. |
| Inspection upon delivery | Shall be performed by the Engineer representing UNDP |
| Installation Requirements | Shall be as per international standard (as listed in the Detailed Design Report and technical specifications) and supplied 100% design. UNDP Engineer representative will supervise quality and schedule of installation |
| Testing Requirements | As per specified testing requirements in line with international standards and manufacturer recommendations |
| Scope of Training on Operation and Maintenance | As outlined in section 5 A |
| Commissioning | Shall be completed under the supervision of UNDP Engineer Representative and in line with relevant international standards and manufacturer requirements. |
| Warranty Period  Defect Liability | * + - * 1. Equipment: Standard Manufacturer’s warranty for at least two years         2. Spare Parts: Supplier is responsible for replacing faulty parts after installation without any cost to UNDP for at least two years.         3. Warranty for construction works: After completing the contract and delivering the project to UNDP, the supplier shall remedy any defect arising to the construction works until one year. UNDP shall not be financially liable for any maintenance services provided by the contractor to rectify the defects for two years. UNDP shall be ONLY responsible if the damage is of UNDP or its beneficiary’s negligence         4. Technical Support on-call bases if required for at least one year |
| Local Service Support | N/A |
| Technical Support Requirements | As per project design documents and technical specifications attached to the ITB. |
| After-sale services Requirements | Please refer to Section 5 A for details. |
| Payment Terms *(no advance payment)* | As outlined int the scope of work |
| Conditions for Release of Payment | ☒ Acceptance of Goods & Services by UNDP and Implementing partner. |
| All documentations, including catalogues, instructions and manuals, shall be in this language | All documents in English |
| Scope of Work | Please refer to Section 5A |

# Section 6: Returnable Bidding Forms/Checklist

This form serves as a checklist for preparation of your Bid. Please complete the Returnable Bidding Forms in accordance with the instructions in the forms and return them as part of your Bid submission. No alteration to format of forms shall be permitted and no substitution shall be accepted.

Before submitting your Bid, please ensure compliance with the Bid Submission instructions of the BDS 22.

**Technical Bid:**

|  |  |
| --- | --- |
| **Have you duly completed all the Returnable Bidding Forms?** |  |
| * Form A: Bid Submission Form | ☒ |
| * Form B: Bidder Information Form | ☒ |
| * Form C: Joint Venture/Consortium/ Association Information Form | ☒ |
| * Form D: Qualification Form | ☒ |
| * Form E: Format of Technical Bid/Bill of Quantities | ☒ |
| * From G: Form of Bid Security | ☒ |
| * [Add other forms as necessary] | ☒ |
| **Have you provided the required documents to establish compliance with the evaluation criteria in Section 4?** | ☐ |

**Price Schedule:**

|  |  |
| --- | --- |
| * Form F: Bill of Quantities | ☒ |

**FORM A:** Bid Submission Form

|  |  |  |  |
| --- | --- | --- | --- |
| Name of Bidder: | [Insert Name of Bidder] | Date: | Select date |
| ITB reference: | [Insert ITB Reference Number] | | |

We, the undersigned, offer to supply the goods and related services required for Biogas plant at UNDP CO in Ethiopia in accordance with your Invitation to Bid No. [Insert ITB Reference Number] and our Bid. We hereby submit our Bid, which includes this Technical Bid and Price Schedule.

Our attached Price Schedule is for the sum of [Insert amount in words and figures and indicate currency].

We hereby declare that our firm, its affiliates or subsidiaries or employees, including any JV/Consortium /Association members or subcontractors or suppliers for any part of the contract:

1. is not under procurement prohibition by the United Nations, including but not limited to prohibitions derived from the Compendium of United Nations Security Council Sanctions Lists;
2. have not been suspended, debarred, sanctioned or otherwise identified as ineligible by any UN Organization or the World Bank Group or any other international Organization;
3. have no conflict of interest in accordance with Instruction to Bidders Clause 4;
4. do not employ, or anticipate employing, any person(s) who is, or has been a UN staff member within the last year, if said UN staff member has or had prior professional dealings with our firm in his/her capacity as UN staff member within the last three years of service with the UN (in accordance with UN post-employment restrictions published in ST/SGB/2006/15);
5. have not declared bankruptcy, are not involved in bankruptcy or receivership proceedings, and there is no judgment or pending legal action against them that could impair their operations in foreseeable future;
6. undertake not to engage in proscribed practices, including but not limited to corruption, fraud, coercion, collusion, obstruction, or any other unethical practice, with the UN or any other party, and to conduct business in a manner that averts any financial, operational, reputational or other undue risk to the UN and weembrace the principles of the United Nations Supplier Code of Conduct and adhere to the principles of the United Nations Global Compact.

We declare that all the information and statements made in this Bid are true and we accept that any misinterpretation or misrepresentation contained in this Bid may lead to our disqualification and/or sanctioning by the UNDP.

We offer to supply the goods and related services in conformity with the Bidding documents, including the UNDP General Conditions of Contract and in accordance with the Schedule of Requirements and Technical Specifications.

Our Bid shall be valid and remain binding upon us for the period specified in the Bid Data Sheet.

We understand and recognize that you are not bound to accept any Bid you receive.

I, the undersigned, certify that I am duly authorized by [Insert Name of Bidder] to sign this Bid and bind it should UNDP accept this Bid.

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[*Stamp with official stamp of the Bidder*

**FORM B:** Bidder Information Form

|  |  |
| --- | --- |
| **Legal name of Bidder** | [Complete] |
| **Legal address** | [Complete] |
| **Year of registration** | [Complete] |
| **Bidder’s Authorized Representative Information** | Name and Title: [Complete]  Telephone numbers: [Complete]  Email: [Complete] |
| **Are you a UNGM registered vendor?** | ☐ Yes ☐ No If yes, [insert UGNM vendor number] |
| **Are you a UNDP vendor?** | ☐ Yes ☐ No If yes, [insert UNDP vendor number] |
| **Countries of operation** | [Complete] |
| **No. of full-time employees** | [Complete] |
| **Quality Assurance Certification (e.g. ISO 9000 or Equivalent)** *(If yes, provide a Copy of the valid Certificate):* | [Complete] |
| **Does your Company hold any accreditation such as ISO 14001 or ISO 14064 or equivalent related to the environment?** *(If yes, provide a Copy of the valid Certificate):* | [Complete] |
| **Does your Company have a written Statement of its Environmental Policy?** *(If yes, provide a Copy)* | [Complete] |
| **Does your organization demonstrates significant commitment to sustainability through some other means, for example internal company policy documents on women empowerment, renewable energies or membership of trade institutions promoting such issues** | [Complete] |
| **Is your company a member of the UN Global Compact** | [Complete] |
| **Contact person that UNDP may contact for requests for clarifications during Bid evaluation** | Name and Title: [Complete]  Telephone numbers: [Complete]  Email: [Complete] |
| **Please attach the following documents:** | As requested under Section 4: Evaluation Criteria |

**FORM C:** Joint Venture/Consortium/Association Information Form

|  |  |  |  |
| --- | --- | --- | --- |
| Name of Bidder: | [Insert Name of Bidder] | Date: | Select date |
| ITB reference: | [Insert ITB Reference Number] | | |

To be completed and returned with your Bid if the Bid is submitted as a Joint Venture/Consortium/Association.

|  |  |  |
| --- | --- | --- |
| **No** | **Name of Partner and contact information** *(address, telephone numbers, fax numbers, e-mail address)* | **Proposed proportion of responsibilities (in %) and type of goods and/or services to be performed** |
| 1 | [Complete] | [Complete] |
| 2 | [Complete] | [Complete] |
| 3 | [Complete] | [Complete] |

|  |  |
| --- | --- |
| **Name of leading partner**  (with authority to bind the JV, Consortium, Association during the ITB process and, in the event a Contract is awarded, during contract execution) | [Complete] |

We have attached a copy of the below referenced document signed by every partner, which details the likely legal structure of and the confirmation of joint and severable liability of the members of the said joint venture:

☐ Letter of intent to form a joint venture ***OR*** ☐ JV/Consortium/Association agreement

We hereby confirm that if the contract is awarded, all parties of the Joint Venture/Consortium/Association shall be jointly and severally liable to UNDP for the fulfillment of the provisions of the Contract.

|  |  |
| --- | --- |
| Name of partner: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Name of partner: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  |  |
| Name of partner: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Name of partner: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**FORM D:** Eligibility and Qualification Form

|  |  |  |  |
| --- | --- | --- | --- |
| Name of Bidder: | [Insert Name of Bidder] | Date: | Select date |
| ITB reference: | [Insert ITB Reference Number] | | |

**Annual Construction Turnover**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Criteria** | **Compliance Requirements** | | | | **Documents** |
| Requirement | Single Entity | Joint Venture | | | Submission Requirements |
| All Partners Combined | Each Partner | One Partner |
|  |  |  |  |  |  |

If JV/Consortium/Association, to be completed by each partner.

**History of Non- Performing Contracts**

|  |  |  |  |
| --- | --- | --- | --- |
| ☐ Non-performing contracts did not occur during the last 3 years | | | |
| ☐ Contract(s) not performed in the last 3 years | | | |
| **Year** | **Non- performed portion of contract** | **Contract Identification** | **Total Contract Amount** (current value in US$) |
|  |  | Name of Client:  Address of Client:  Reason(s) for non-performance: |  |

**Litigation History** (including pending litigation)

|  |  |  |  |
| --- | --- | --- | --- |
| ☐ No litigation history for the last 3 years | | | |
| ☐ Litigation History as indicated below | | | |
| **Year of dispute** | **Amount in dispute** (in US$) | **Contract Identification** | **Total Contract Amount** (current value in US$) |
|  |  | Name of Client:  Address of Client:  Matter in dispute:  Party who initiated the dispute:  Status of dispute:  Party awarded if resolved: |  |

**Previous Relevant Experience**

Please list only previous similar assignments successfully completed:

Detail of similar nature Projects/contracts (biogas & related services) completed or in progress (80% or above completed) with value of USD 120,000.00 (per contract or at least one contract with value equal or above USD 120 K) in last three (03) years.

List only those assignments for which the Bidder was legally contracted or sub-contracted by the Client as a company or was one of the Consortium/JV partners. Assignments completed by the Bidder’s individual experts working privately or through other firms cannot be claimed as the relevant experience of the Bidder, or that of the Bidder’s partners or sub-consultants, but can be claimed by the Experts themselves in their CVs. The Bidder should be prepared to substantiate the claimed experience by presenting copies of relevant documents and references if so requested by UNDP.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Project name & Country of Assignment** | **Client & Reference Contact Details** | **Contract Value** | **Period of activity and status** | **Types of activities undertaken** |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

*Bidders may also attach their own Project Data Sheets with more details for assignments above.*

☐ Attached are the Statements of Satisfactory Performance from the Top 3 (three) Clients or more.

**Financial Standing**

|  |  |
| --- | --- |
| **Annual Turnover for the last 3 years** | Year       USD  Year       USD  Year       USD |
| **Latest Credit Rating (if any), indicate the source** |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Financial information**  (in US$ equivalent) | **Historic information for the last 3 years** | | |
|  | Year 1 | Year 2 | Year 3 |
|  | *Information from Balance Sheet* | | |
| Total Assets (TA) |  |  |  |
| Total Liabilities (TL) |  |  |  |
| Current Assets (CA) |  |  |  |
| Current Liabilities (CL) |  |  |  |
|  | *Information from Income Statement* | | |
| Total / Gross Revenue (TR) |  |  |  |
| Profits Before Taxes (PBT) |  |  |  |
| Net Profit |  |  |  |
| Current Ratio |  |  |  |

☒  Attached are copies of the audited financial statements (balance sheets, including all related notes, and income statements) for the years required above complying with the following condition:

* 1. Must reflect the financial situation of the Bidder or party to a JV, and not sister or parent companies;
  2. Historic financial statements must be audited by a certified public accountant;
  3. Historic financial statements must correspond to accounting periods already completed and audited. No statements for partial periods shall be accepted.

**FORM E:** Format of Technical Bid

|  |  |  |  |
| --- | --- | --- | --- |
| Name of Bidder: | [Insert Name of Bidder] | Date: | Select date |
| ITB reference: | [Insert ITB Reference Number] | | |

The Bidder’s Bid should be organized to follow this format of the Technical Bid. Where the bidder is presented with a requirement or asked to use a specific approach, the bidder must not only state its acceptance but also describe how it intends to comply with the requirements. Where a descriptive response is requested, failure to provide the same will be viewed as non-responsive

The bidder shall provide the following which will the technical bid requirement of this ITB:

1. Bid Technical Approach (Methodology):
   1. A detailed description of how the Bidder will deliver the required goods and services, keeping in mind the appropriateness to local conditions and project environment. Details how the different service elements shall be organized, controlled and delivered.
   2. Explain whether any work would be subcontracted, to whom, how much percentage of the requirements, the rationale for such, and the roles of the proposed sub-contractors and how everyone will function as a team.
   3. The bid shall also include details of the Bidder’s internal technical and quality assurance review mechanisms.
2. Implementation plan:

Implementation plan including a Gantt Chart or Project Schedule indicating the detailed sequence of activities that will be undertaken and their corresponding timing.

1. The bidder’s project team and organizational structure:

The bidder shall demonstrate the capacity of the bidder’s core team to execute the works to the satisfaction of UNDP. Bidder shall ensure that all essential roles are filled with people of the required experience. CVs shall be submitted to verify the expertise and experience of the bidder’s personnel;

1. Key assets/equipment list.

The Bidder shall be required to provide copies of ownership documents proving the belonging of the equipment to the Bidder or a copy of a valid undertaking from the owner(s) of the equipment confirming that their equipment shall be made available for the implementation of these works if the contract is awarded to the Bidder;

**SECTION 3: Management Structure and Key Personnel**

Qualification requirement of Contractor Key personnel:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Position** | **Name** | **Nationality** | **Age** | **Education** | **Years of experience (with bidder in similar works)** | **Major works for which responsible (project/value)** |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

**Format for CV of Proposed Key Personnel**

|  |  |
| --- | --- |
| **Name of Personnel** | [Insert] |
| **Position for this assignment** | [Insert] |
| **Nationality** | [Insert] |
| **Language proficiency** | [Insert] |
| **Education/ Qualifications** | *[Summarize college/university and other specialized education of personnel member, giving names of schools, dates attended, and degrees/qualifications obtained.]* |
| [Insert] |
| **Professional certifications** | *[Provide details of professional certifications relevant to the scope of goods and/or services]* |
| 1. Name of institution: [Insert] 2. Date of certification: [Insert] |
| **Employment Record/ Experience** | *[List all positions held by personnel (starting with present position, list in reverse order), giving dates, names of employing organization, the title of position held and location of employment. For experience in the last five years, detail the type of activities performed, degree of responsibilities, location of assignments and any other information or professional experience considered pertinent for this assignment.]* |
| [Insert] |
| **References** | *[Provide names, addresses, phone and email contact information for two (2) references]* |
| Reference 1:  [Insert]  Reference 2:  [Insert] |

I, the undersigned, certify that to the best of my knowledge and belief, the data provided above correctly describes my qualifications, my experiences, and other relevant information about myself.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature of Personnel Date (Day/Month/Year)

**FORM F:** Bill of Quantities

|  |  |  |  |
| --- | --- | --- | --- |
| Name of Bidder: | [Insert Name of Bidder] | Date: | Select date |
| ITB reference: | [Insert ITB Reference Number] | | |

|  |
| --- |
| **Biogas System for Shewangzaw Dairy and Fatting Farm Enterprise in Harari region** |

| **Items**  **#** | **Items/Equipment** | | **Specification**  **(**Minimum requirements**)** | **UOM** | **QTY** | **Unit Cost (USD)** | **Total Price (USD)** |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Pretreatment Unit | Electric Mixer | Motor capacity 3KW,380V | No. | 1 |  |  |
|  | Feeding Pump | Power capacity 3kW, 380V; Flow rate 40 m3/hour; Pump head 15 m | No. | 1 |  |  |
|  | Artificial Grille | 900\*600 mm | No. | 1 |  |  |
|  | Digestion Unit | Vertical Mixer | Motor capacity 5.5KW,380V; Anti-corrosion coating is necessary for the part above liquid level | No. | 1 |  |  |
|  | AD Reactor Enamel Assembly (installed on site) | Working volume of reactor 150m3 (with Enamel lid) | m3 | 1 |  |  |
|  | Insulation Material | 100mm flame retardant extruded board; 0.5mm color coated steel sheet | m2 | 140 |  |  |
|  | Biogas Purification & Storage Unit | Gas Storage | 40m3 dry gas storage | m3 | 1 |  |  |
|  | Pressure Protection Device | Positive pressure 4000pa; Negative pressure 500pa; Material SS304 | Set | 1 |  |  |
|  | Desulphurization Tank | Working volume 100L; Iron oxide is used as desulfurizer; The inner wall of the tank should be treated with anti-corrosion protection | Set | 2 |  |  |
|  | Dehydration Tank | Working volume 100L; The inner wall of the tank should be treated with anti-corrosion protection | Set | 2 |  |  |
|  | Biogas Utilization Unit | Fire Arrestor | Adapt to the diameter of pipeline; Material SS304 | No. | 1 |  |  |
|  | Gas Flow Meter | Measuring range 0-100m3/h, -25℃-80℃, biogas use | No. | 1 |  |  |
|  | Boost Fan | 0.43m3/min 9.8kP, 0.55kw, Explosion-proof | No. | 2 |  |  |
|  | Biogas Power Generator | 20KW | No. | 1 |  |  |
|  | Digestate Utilization Unit | Slurry Solid-liquid Separator | Separation capacity 5-15m³/h, 5.5kw, 380V | Set | 1 |  |  |
|  | Lifting Pump | Flow rate 40 m3/hour, 3kW, Pump head 15 m | No. | 1 |  |  |
|  | Supplementary Unit | Power Distribution | Electrical engineering wire, cable used according to 《Electrical Control Assemblies》(GB/T3797-2016) or equivalent standards in other countries; Embedded wall inner threading pipe adopts PVC flame-retardant material;  Exposed threading pipe and bridge are made of galvanized material;  The distribution box is waterproof | Set | 1 |  |  |
|  | Biogas Process Pipelines | DN40-100, consist of substrate pipes, biogas pipes, slurry pipes and other pipelines involved in the production process of biogas projects. All pipes’ size and material should follow design documents. | Set | 1 |  |  |
|  | Lightning Protection System | Galvanized material;  The lightning protection system designed according to 《Code for Design Protection of Structures Against Lightning》(GB50057-2010) or equivalent standards in other countries | Set | 1 |  |  |
|  | Fire Extinguishing System | Ammonium phosphate dry powder fire extinguisher or sodium bicarbonate dry powder fire extinguisher;  Fire extinguisher quantity complies with 《Code for Design of Extinguisher Distribution Configuration》(GB 50140), or equivalent standards in other countries | Set | 1 |  |  |
|  | System design | | In line with Scope of Services | 1 Time |  |  |  |
|  | Installation, commissioning & testing as outlined under section 5 | |  | 1 Time |  |  |  |
|  | Training services as outlined under section 5 | |  | 1 LOT |  |  |  |
|  | Maintenance services and repair services as outlined in the under section under section 5 | |  | 1 LOT |  |  |  |
|  | Freight/Transport Cost CIP final Destination | |  | 1 LOT |  |  |  |
| **Total (USD) supply, delivery, installation, commissioning, testing, training, and maintenance for Biogas plant in Harari** | | | | | |  |  |

|  |
| --- |
| **BOQ for Civil Works - Biogas System for Shewangzaw Dairy and Fatting Farm Enterprise in Harari region** |

| **Items/Equipment** | **Specification** | **MOU** | **Quantity** | **Remarks** | **Unit Cost (USD)** | **Total Cost (USD)** |
| --- | --- | --- | --- | --- | --- | --- |
| Site Excavation | / | m3 | 300 | Estimated as 300 m3 |  |  |
| Backfill | / | m3 | 80 | Estimated as 80 m3 |  |  |
| AD Reactor Base | Reinforced concrete | m3 | 12 |  |  |  |
| Gas Storage Tank Base | Reinforced concrete | m3 | 5 |  |  |  |
| Fence | Iron art | m | 80 | Estimated as 80m |  |  |
| Gate | Hot-dip galvanized steel tube | Set | 1 |  |  |  |
| Biogas Purification Room | Light steel structure | m2 | 18 |  |  |  |
| Generator Room | Light steel structure | m2 | 24 |  |  |  |
| Power Distribution Room | Brick concrete | m2 | 9.5 | Brick Wall+ light steal roof |  |  |
| Drainage Ditch | Brick concrete | m | 30 | Estimated as 30m |  |  |
| Equipment Base | Concrete | m3 | 3 | Estimated as 3m3 |  |  |
| Ground Hardening | Concrete | m2 | 60 | Estimated as 60m2 |  |  |
| Feeding Tank | Brick concrete | m3 | 10 |  |  |  |
| Solid-liquid Separation Lagoon | Brick concrete | m3 | 10 |  |  |  |
| Liquid Digestate Storage Lagoon | Brick concrete | m3 | 100 | Minimum |  |  |
| **Total Cost for Civil Works for Biogas System in Harari** | | | | | |  |

|  |
| --- |
| **Biogas System for Wolaita Sodo University in Wolaita Sodo town, SNNPR region** |

| **Items**  **#** | **Items/Equipment** | | **Specification**  **(**Minimum requirements**)** | **UOM** | **QTY** | **Unit Cost (USD)** | **Total Price (USD)** |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Pretreatment Unit | Food Waste Pulverizer | Processing capacity 300kg/h, 5.5kw, 380V | No. | 1 |  |  |
|  | Electric Mixer | Capacity 3KW,380V | No. | 1 |  |  |
|  | Feeding Pump | Flow rate 40 m3/hour, 3kW, 380V, Pump head 15 m | No. | 1 |  |  |
|  | Artificial grille | 1100\*600mm | No. | 1 |  |  |
|  | Digestion Unit | Vertical Mixer | Motor capacity 7.5KW,380V; Anti-corrosion coating is necessary for the part above liquid level | No. | 1 |  |  |
|  | AD Reactor Enamel Assembly (installed on site | Working volume of reactor 300m3 (with Enamel lid) | m3 | 1 |  |  |
|  | Insulation Material | 100mm flame retardant extruded board; 0.5mm color coated steel sheet | m2 | 220 |  |  |
|  | Biogas Purification & Storage Unit | Gas Storage | Volume 100m3 dry gas storage | m3 | 1 |  |  |
|  | Pressure Protection Device | Positive pressure 4000pa; Negative pressure 500pa; Material SS304 | Set | 1 |  |  |
|  | Desulphurization Tank | Working volume 180L; Iron oxide is used as desulfurizer; The inner wall of the tank should be treated with anti-corrosion protection | Set | 2 |  |  |
|  | Dehydration Tank | Working volume 100L; The inner wall of the tank should be treated with anti-corrosion protection | Set | 2 |  |  |
|  | Biogas Utilization Unit | Fire Arrestor | Adapt to the diameter of pipeline; Material SS304 | No. | 1 |  |  |
|  | Gas Flow Meter | Measuring range 0-100m3/h, -25℃-80℃, biogas use | No. | 1 |  |  |
|  | Boost Fan | 1m3/min, 9.8kP, 0.75kw, Explosion-proof | No. | 2 |  |  |
|  | Biogas Power Generator | 20KW | No. | 1 |  |  |
|  | Digestate Utilization Unit | Solid-liquid separator | Separation capacity 10m³/h, 5.5kW, 380V | Set | 1 |  |  |
|  | Lifting Pump | Flow rate 40 m3/hour, 3kW, Pump head 15 m | No. | 1 |  |  |
|  | Supplementary Unit | Power Distribution | Electrical engineering wire, cable used according to 《Electrical Control Assemblies》(GB/T3797-2016) or equivalent standards in other countries; Embedded wall inner threading pipe adopts PVC flame retardant material; Exposed threading pipe and bridge are made of galvanized material; The distribution box is waterproof | Set | 1 |  |  |
|  | Biogas Process Pipelines | DN40-100, consist of substrate pipes, biogas pipes, slurry pipes and other pipelines involved in the production process of biogas projects. All pipes’ size and material should follow design documents. | Set | 1 |  |  |
|  | Lightning Protection System | Galvanized material;  The lightning protection system designed according to 《Code for Design Protection of Structures Against Lightning》(GB50057-2010) or equivalent standards in other countries | Set | 1 |  |  |
|  | Fire Extinguishing System | Ammonium phosphate dry powder fire extinguisher or sodium bicarbonate dry powder fire extinguisher;  Fire extinguisher quantity complies with 《Code for Design of Extinguisher Distribution Configuration》 (GB 50140), or equivalent standards in other countries | Set | 1 |  |  |
|  | System design | | In line with Scope of Services | 1 Time |  |  |  |
|  | Installation, commissioning & testing as outlined under section 5 | |  | 1 Time |  |  |  |
|  | Training services as outlined under section 5 | |  | 1 LOT |  |  |  |
|  | Maintenance services and repair services as outlined in the under section 5 | |  | 1 LOT |  |  |  |
|  | Freight/Transport Cost CIP final Destination | |  | 1 LOT |  |  |  |
| **Total (USD) supply, delivery, installation, commissioning, testing, training, and maintenance for Biogas plant in SNNPR region** | | | | | |  |  |

|  |
| --- |
| **BOQ for Civil Works - Biogas System for Wolaita Sodo University in Wolaita Sodo town, SNNPR region** |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Items/Equipment** | **Specification** | **MOU** | **Quantity** | **Remarks** | **Unit Cost (USD)** | **Total Cost (USD)** |
| Site Excavation | / | m3 | 400 | Estimated as 400 m3 |  |  |
| Backfill | / | m3 | 100 | Estimated as 100 m3 |  |  |
| AD Reactor Base | Reinforced concrete | m3 | 18 |  |  |  |
| Gas Storage Tank Base | Reinforced concrete | m3 | 12 |  |  |  |
| Fence | Iron art | m | 120 | Estimated as 120m |  |  |
| Gate | Hot-dip galvanized steel tube | Set | 1 |  |  |  |
| Biogas Purification Room | Light steel structure | m2 | 20 |  |  |  |
| Generator Room | Light steel structure | m2 | 24 |  |  |  |
| Power Distribution Room | Brick concrete | m2 | 9.5 | Brick Wall+ light steal roof |  |  |
| Drainage Ditch | Brick concrete | m | 40 | Estimated as 40m |  |  |
| Equipment Base | Concrete | m3 | 3 | Estimated as 3m3 |  |  |
| Ground Hardening | Concrete | m2 | 80 | Estimated as 80m2 |  |  |
| Feeding Tank | Brick concrete | m3 | 15 | Minimum volume |  |  |
| Solid-liquid Separation Lagoon | Brick concrete | m3 | 15 |  |  |  |
| Liquid Digestate Storage Lagoon | Brick concrete | m3 | 150 | Minimum |  |  |
| **Total Cost for Civil Works for Biogas System in SNNPR region** | | | | | |  |

Name of Bidder: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Authorised signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name of authorised signatory: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Functional Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**FORM H:** Form for Performance Security

***(This must be finalized using the official letterhead of the Issuing Bank. Except for indicated fields, no changes may be made in this template.)***

To: UNDP

*[Insert contact information as provided in Data Sheet]*

WHEREAS [*name and address of Contractor*] (hereinafter called “the Contractor”) has undertaken, in pursuance of Contract No. Click to enter dated Click to enter , to deliver the goods and execute related services Click here to enter text. (hereinafter called “the Contract”):

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract:

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee:

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of [*amount of guarantee*] [*in words and numbers*], such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of *[amount of guarantee as aforesaid*] without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

This guarantee shall be valid until a date 30 days from the date of issue by UNDP of a certificate of satisfactory performance and full completion of services by the Contractor.

**SIGNATURE AND SEAL OF THE GUARANTOR BANK**

Date .......................................................................................................................

Name of Bank .........................................................................................................

Address .................................................................................................................

# Section 7: General Terms of Conditions for Civil Works

<https://intranet.undp.org/unit/oolts/oso/psu/_layouts/15/WopiFrame.aspx?sourcedoc=/unit/oolts/oso/psu/Procurement%20Forms%20and%20Contracts/UNDP%20General%20Conditions%20of%20Contract%20for%20Civil%20Works.doc&action=default>