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INVITATION TO BID

Supply and Installation of Solar Home Systems for Funaota Project

ITB No.: ITB/FJI10/001/2020

Project: Solar Home Systems for Funaota Project

Country: Tuvalu

Issued on: 20 April 2020

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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: Schedule of Requirements and Technical 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

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 procurement.fj@undp.org, indicating whether you intend to submit a Bid or otherwise. You may also utilize the “Accept Invitation” function in eTendering system, by registering at <https://etendering.partneragencies.org>. The Bidder's Guide has been uploaded on the e-tender site for registration purposes. Once registered, login and find the following event:

BU Code: FJI10

Event ID: 0000005821

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.

Sincerely,

Procurement Unit
UNDP Pacific Office in Fiji

Section 2. Instruction to Bidders

GENERAL PROVISIONS	
1. Introduction	1.1 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
	1.2 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.
	1.3 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.
	1.4 As part of the bid, it is desired that the Bidder registers at the United Nations Global Marketplace (UNGM) website (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.
2. Fraud & Corruption, Gifts and Hospitality	2.1 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
	2.2 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.
	2.3 In pursuance of this policy, UNDP: <ul style="list-style-type: none"> (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.
	2.4 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
3. Eligibility	3.1 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.
	3.2 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.
4. Conflict of Interests	<p>4.1 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:</p> <ul style="list-style-type: none"> a) 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; b) Were involved in the preparation and/or design of the programme/project related to the goods and/or services requested under this ITB; or c) Are found to be in conflict for any other reason, as may be established by, or at the discretion of UNDP. <p>4.2 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.</p> <p>4.3 Similarly, the Bidders must disclose in their Bid their knowledge of the following:</p> <ul style="list-style-type: none"> a) 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 b) All other circumstances that could potentially lead to actual or perceived conflict of interest, collusion or unfair competition practices. <p>Failure to disclose such an information may result in the rejection of the Bid or Bids affected by the non-disclosure.</p> <p>4.4 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.</p>	
B. PREPARATION OF BIDS		
5. General Considerations	<p>5.1 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.</p> <p>5.2 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.</p>	
6. Cost of Preparation of Bid	6.1 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.	
7. Language	7.1 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.	

8. Documents Comprising the Bid	<p>8.1 The Bid shall comprise of the following documents and related forms which details are provided in the BDS:</p> <ul style="list-style-type: none"> a) Documents Establishing the Eligibility and Qualifications of the Bidder; b) Technical Bid; c) Price Schedule; d) Bid Security, if required by BDS; e) Any attachments and/or appendices to the Bid.
9. Documents Establishing the Eligibility and Qualifications of the Bidder	<p>9.1 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.</p>
10. Technical Bid Format and Content	<p>10.1 The Bidder is required to submit a Technical Bid using the Standard Forms and templates provided in Section 6 of the ITB.</p> <p>10.2 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.</p> <p>10.3 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.</p> <p>10.4 When applicable and required as per Section 5, the Bidder shall certify the availability of spare parts for a period of at least five (5) years from date of delivery, or as otherwise specified in this ITB.</p>
11. Price Schedule	<p>11.1 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.</p> <p>11.2 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.</p>
12. Bid Security	<p>12.1 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.</p> <p>12.2 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.</p> <p>12.3 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.</p> <p>12.4 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.</p> <p>12.5 The Bid Security may be forfeited by UNDP, and the Bid rejected, in the event of any, or combination, of the following conditions:</p> <ul style="list-style-type: none"> a) If the Bidder withdraws its offer during the period of the Bid Validity specified in the BDS, or;

	<ul style="list-style-type: none"> b) In the event the successful Bidder fails: <ul style="list-style-type: none"> i. to sign the Contract after UNDP has issued an award; or ii. 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.
13. Currencies	<p>13.1 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:</p> <ul style="list-style-type: none"> a) 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 b) 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.
14. Joint Venture, Consortium or Association	<p>14.1 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.</p> <p>14.2 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.</p> <p>14.3 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.</p> <p>14.4 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.</p> <p>14.5 A JV, Consortium or Association in presenting its track record and experience should clearly differentiate between:</p> <ul style="list-style-type: none"> a) Those that were undertaken together by the JV, Consortium or Association; and b) Those that were undertaken by the individual entities of the JV, Consortium or Association. <p>14.6 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</p> <p>14.7 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.</p>
15. Only One Bid	<p>15.1 The Bidder (including the individual members of any Joint Venture) shall submit only</p>

	<p>one Bid, either in its own name or as part of a Joint Venture.</p> <p>15.2 Bids submitted by two (2) or more Bidders shall all be rejected if they are found to have any of the following:</p> <ul style="list-style-type: none"> a) they have at least one controlling partner, director or shareholder in common; or b) any one of them receive or have received any direct or indirect subsidy from the other/s; or c) they have the same legal representative for purposes of this ITB; or d) 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; e) 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.
16. Bid Validity Period	<p>16.1 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.</p> <p>16.2 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.</p>
17. Extension of Bid Validity Period	<p>17.1 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.</p> <p>17.2 If the Bidder agrees to extend the validity of its Bid, it shall be done without any change to the original Bid.</p> <p>17.3 The Bidder has the right to refuse to extend the validity of its Bid, in which case, the Bid shall not be further evaluated.</p>
18. Clarification of Bid (from the Bidders)	<p>18.1 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.</p> <p>18.2 UNDP will provide the responses to clarifications through the method specified in the BDS.</p> <p>18.3 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.</p>
19. Amendment of Bids	<p>19.1 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.</p> <p>19.2 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.</p>
20. Alternative Bids	<p>20.1 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,</p>

	<p>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.</p> <p>20.2 If multiple/alternative bids are being submitted, they must be clearly marked as “Main Bid” and “Alternative Bid”</p>
21. Pre-Bid Conference	<p>21.1 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.</p>
C. SUBMISSION AND OPENING OF BIDS	
22. Submission	<p>22.1 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.</p> <p>22.2 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.</p> <p>22.3 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.</p>
Hard copy (manual) submission	<p>22.4 Hard copy (manual) submission by courier or hand delivery allowed or specified in the BDS shall be governed as follows:</p> <p>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.</p> <p>(b) The Technical Bid and Price Schedule must be sealed and submitted together in an envelope, which shall:</p> <ol style="list-style-type: none"> Bear the name of the Bidder; Be addressed to UNDP as specified in the BDS; and Bear a warning not to open before the time and date for Bid opening as specified in the BDS. <p>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.</p>
Email and eTendering submissions	<p>22.5 Electronic submission through email or eTendering, if allowed as specified in the BDS, shall be governed as follows:</p> <p>a) Electronic files that form part of the Bid must be in accordance with the format and requirements indicated in BDS;</p> <p>b) 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.</p>

	<p>22.6 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/</p>
23. Deadline for Submission of Bids and Late Bids	<p>23.1 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</p> <p>23.2 UNDP shall not consider any Bid that is received after the deadline for the submission of Bids.</p>
24. Withdrawal, Substitution, and Modification of Bids	<p>24.1 A Bidder may withdraw, substitute or modify its Bid after it has been submitted at any time prior to the deadline for submission.</p> <p>24.2 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"</p> <p>24.3 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.</p> <p>24.4 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.</p>
25. Bid Opening	<p>25.1 UNDP will open the Bid in the presence of an ad-hoc committee formed by UNDP of at least two (2) members.</p> <p>25.2 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.</p> <p>25.3 In the case of e-Tendering submission, bidders will receive an automatic notification once the Bid is opened.</p>
D. EVALUATION OF BIDS	
26. Confidentiality	<p>26.1 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.</p> <p>26.2 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.</p>

27. Evaluation of Bids	<p>27.1 UNDP will conduct the evaluation solely on the basis of the Bids received.</p> <p>27.2 Evaluation of Bids shall be undertaken in the following steps:</p> <ul style="list-style-type: none"> a) Preliminary Examination including Eligibility b) Arithmetical check and ranking of bidders who passed preliminary examination by price. c) Qualification assessment (if pre-qualification was not done) a) Evaluation of Technical Bids b) Evaluation of prices <p>Detailed evaluation will be focussed on the 3 - 5 lowest priced bids. Further higher priced bids shall be added for evaluation if necessary</p>
28. Preliminary Examination	<p>28.1 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.</p>
29. Evaluation of Eligibility and Qualification	<p>29.1 Eligibility and Qualification of the Bidder will be evaluated against the Minimum Eligibility/Qualification requirements specified in the Section 4 (Evaluation Criteria).</p> <p>29.2 In general terms, vendors that meet the following criteria may be considered qualified:</p> <ul style="list-style-type: none"> a) 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; b) They have a good financial standing and have access to adequate financial resources to perform the contract and all existing commercial commitments, c) 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; d) They are able to comply fully with the UNDP General Terms and Conditions of Contract; e) They do not have a consistent history of court/arbitral award decisions against the Bidder; and f) They have a record of timely and satisfactory performance with their clients.
30. Evaluation of Technical Bid and prices	<p>30.1 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.</p>
31. Due diligence	<p>31.1 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:</p> <ul style="list-style-type: none"> a) Verification of accuracy, correctness and authenticity of information provided by the Bidder; b) Validation of extent of compliance to the ITB requirements and evaluation criteria based on what has so far been found by the evaluation team; c) 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; d) 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; e) Physical inspection of the Bidder's offices, branches or other places where

	<p>business transpires, with or without notice to the Bidder;</p> <p>f) Other means that UNDP may deem appropriate, at any stage within the selection process, prior to awarding the contract.</p>
32. Clarification of Bids	<p>32.1 To assist in the examination, evaluation and comparison of Bids, UNDP may, at its discretion, request any Bidder for a clarification of its Bid.</p> <p>32.2 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.</p> <p>32.3 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.</p>
33. Responsiveness of Bid	<p>33.1 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.</p> <p>33.2 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.</p>
34. Nonconformities, Reparable Errors and Omissions	<p>34.1 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.</p> <p>34.2 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.</p> <p>34.3 For the bids that have passed the preliminary examination, UNDP shall check and correct arithmetical errors as follows:</p> <p>a) 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;</p> <p>b) 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</p> <p>c) 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.</p> <p>34.4 If the Bidder does not accept the correction of errors made by UNDP, its Bid shall be rejected.</p>
E. AWARD OF CONTRACT	
35. Right to Accept, Reject, Any or All Bids	<p>35.1 UNDP reserves the right to accept or reject any bid, to render any or all of 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</p>

	UNDP's action. UNDP shall not be obliged to award the contract to the lowest priced offer.
36. Award Criteria	36.1 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.
37. Debriefing	37.1 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.
38. Right to Vary Requirements at the Time of Award	38.1 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.
39. Contract Signature	39.1 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.
40. Contract Type and General Terms and Conditions	40.1 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
41. Performance Security	41.1 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_POPP_DOCUMENT_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.
42. Bank Guarantee for Advanced Payment	42.1 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_POPP_DOCUMENT_LIBRARY/Public/PSU_Contract%20Management%20Payment%20and%20Taxes_Advanced%20Payment%20Guarantee%20Form.docx&action=default
43. Liquidated Damages	43.1 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.
44. Payment Provisions	44.1 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.
45. Vendor Protest	<p>45.1 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</p>
46. Other Provisions	<p>46.1 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.</p> <p>46.2 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.</p> <p>46.3 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</p>

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	7	Language of the Bid	English
2		Submitting Bids for Parts or sub-parts of the Schedule of Requirements (partial bids)	Not Allowed
3	20	Alternative Bids	Shall be considered subject to UNDP's prior Approval
4	21	Pre-Bid conference	Will not be concluded
5	16	Bid Validity Period	120 days
6	13	Bid Security	N/A
7	41	Advanced Payment upon signing of contract	Not Allowed For advance payment please refer to Clause 42.1 Bank Guarantee for Advanced Payment of Section 2. Instruction to Bidders
8	42	Liquidated Damages	Will be imposed as follows: Percentage of contract price per day of delay: 0.1% Max. number of days of delay 30, after which UNDP may terminate the contract.
9	40	Performance Security	Not Required

10	12	Currency of Bid	United States Dollar Reference date for determining UN Operational Exchange Rate: May, 2020
11	31	Deadline for submitting requests for clarifications/ questions	4 days before the submission deadline
12	31	Contact Details for submitting clarifications/questions	<p>Focal Person in UNDP: Vimal Pillay Address: Level 8, Kadavu House, 414 Victoria Parade, Suva, Fiji E-mail address: procurement.fj@undp.org</p> <p>Please use subject reference as ITB/FJI10/001/2020</p> <p>Response to clarification question will only be provided for written clarifications questions, not for verbal clarification question</p> <p>Any delay in UNDP's response shall be not used as a reason for extending the deadline for submission, unless UNDP determines that such an extension is necessary and communicates a new deadline to the Proposers</p>
13	18, 19 and 21	Manner of Disseminating Supplemental Information to the ITB and responses/clarifications to queries	Posted directly to etendering site , UNDP & UNGM Websites and direct communication to prospective proposers by email.
14	23	Deadline for Submission	<p>14th May 2020 as indicated in eTendering system. Note that system time zone is in EST/EDT (New York) time zone.</p> <p><u>Note:</u></p> <p>Date and time visible on the main screen of event (on eTendering portal) will be final and prevail over any other closing time indicated elsewhere, in case they are different.</p> <p>The correct bid closing time is as indicated in the eTendering portal and system will not accept any bid 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 in the system.</p> <p>Try to submit your bid a day prior or well before the closing time. Do not wait until last minute. If you face any issue submitting your bid at the last minute, UNDP may not be able to assist in a timely manner.</p>

14	22	Allowable Manner of Submitting Bids	<input checked="" type="checkbox"/> e-Tendering
15	22	Bid Submission Address	https://etendering.partneragencies.org BU Code: FJI10 Event ID: 0000005821 If you have not registered in the system before, you can register now by logging in using: Username: event.guest Password: why2change
16	22	Electronic submission (email or eTendering) requirements	<ul style="list-style-type: none"> ▪ Format: PDF files only ▪ File names must be maximum 60 characters long and must not contain any letter or special character other than from Latin alphabet/keyboard. ▪ All files must be free of viruses and not corrupted. Max. File Size per document: 20MB
17	25	Date, time and venue for the opening of bid	15 th May 2020 @ 10am Fiji time Bidders will receive an automatic notification once their Bids are opened through e-tendering.
18	27, 36	Evaluation Method for the Award of Contract	Lowest priced technically responsive, eligible and qualified bid. Award Criteria: Non-discretionary “Pass” or “Fail” rating on the detailed contents of the Schedule of Requirements and Technical Specifications Compliance to the eligibility, qualification and Technical requirements Evaluation Criteria: It will consist of 3 stages, namely stag of eligibility & Preliminary Evaluation; Technical Evaluation and Financial Evaluation.

			<p>Stage 1: Eligibility, Qualification and Preliminary evaluation: At this stage, received Bids will be examined for their eligibility, Qualification and submission of all the mandatory document.</p> <p>Stage 2: Bid Evaluation Criteria: Minimum number of years of experience in supplying and commissioning Solar Home Panel systems: 7 years;</p> <p>Two similar Contract signed with clients for the supply and installation of Solar Home Panel systems sets (provide a copy of the contract OR contact details of the focal point for reference check) ;</p> <p>Ability to supply and install as per specific requirements as per the Terms of Reference</p> <p>Delivery Due Date: 12 months from the date of contract Issuance;</p> <p>The company should have qualified experts: Team Leader /Project Coordinator with 4 years' experience with qualification in the relevant field like engineering /Mechanical etc. -Technicians (each technician must have 2 years' experience and trade qualification).</p> <p>Submitted catalogs and features with offer meet the technical specification;</p> <p>Ability to produce Quality certificate from the manufacturer for proposed brand of Solar panel system</p> <p>Capacity to provide warranty period from the manufacturer for proposed brand of solar panel system and equipment's - 3 years.</p> <p>Providing the necessary technical training to the locals</p> <p>Stage 3: Financial Evaluation: Assessment of financial proposals of all the technically qualified bidders</p>
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19		Expected date for commencement of Contract	<i>June 5, 2020</i>
20		Maximum expected duration of contract	12 months
21	35	UNDP will award the contract to:	One Proposer Only
22	39	Type of Contract	Contract for Goods and/or Services to UNDP http://www.undp.org/content/undp/en/home/procurement/business/how-we-buy.html
23	39	UNDP Contract Terms and Conditions that will apply	UNDP General Terms and Conditions for Contracts http://www.undp.org/content/undp/en/home/procurement/business/how-we-buy.html
24		Other Information Related to the ITB	<i>[All other instructions and information not yet mentioned so far in this Data Sheet but are relevant to the ITB must be cited here, and any further entries that may be added below this table row]</i>

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
- Power of Attorney
- Minimum Bid documents provided
- Bid Validity

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.	Form B: Bidder Information Form
Eligibility	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	<ul style="list-style-type: none"> ▪ 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 ▪ Patent Registration Certificates, if any of technologies submitted in the Bid is patented by the Bidder ▪ Export/Import Licenses, if applicable 	Form B: Bidder Information Form
	<ul style="list-style-type: none"> ▪ Certificate of Registration of the business, including Articles of Incorporation, or equivalent document if Bidder is not a corporation ▪ Certificates of quality (e.g., ISO, etc.), origin for the offered goods, and/or other similar certificates, accreditations, awards, and citations received by the Bidder, if any. 	

	<p>▪Certificates and other documents outlined in Section 5a: Schedule of Requirements and Technical Specifications/Bill of Quantities</p> <p>Environmental Compliance Certificates, Accreditations, Markings/Labels, and other evidences of the Bidder's practices which contributes to the ecological sustainability and reduction of adverse environmental impact (e.g., use of non-toxic substances, recycled raw materials, energy efficient equipment, reduced carbon emission, etc.), either in its business practices or in the goods it manufactures</p> <p>Details of the Bidder's after-sales service capacity and appropriateness of service network in areas of delivery</p> <p>▪List and value of major contracts of similar nature and size successfully completed in the past three years, including contact details of clients, who could be contacted for reference purposes</p>	
QUALIFICATION		
History of Non-Performing Contracts¹	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	Minimum 7 years of relevant experience.	Form D: Qualification Form
	<p>Minimum 3 contracts of similar value, nature and complexity implemented over the last 5 years.</p> <p><i>(For JV/Consortium/Association, all Parties cumulatively should meet requirement).</i></p>	Form D: Qualification Form
Financial Standing	<p>Minimum average annual turnover of USD200,000 for the last 3 years.</p> <p><i>(For JV/Consortium/Association, all Parties cumulatively should meet requirement).</i></p>	Form D: Qualification Form
	<p>Bidder must demonstrate the current soundness of its financial standing and indicate its prospective long-term profitability.</p> <p><i>(For JV/Consortium/Association, all Parties cumulatively should meet requirement).</i></p>	Form D: Qualification Form
Technical Evaluation	The technical bids shall be evaluated on a pass/fail basis for compliance or non-compliance with the technical specifications identified in the bid document.	Form E: Technical Bid Form
	Minimum number of years of experience in supplying and commissioning Solar Home Panel systems: 7 years;	

¹ Non-performance, as decided by UNDP, shall include all contracts where (a) non-performance was not challenged by the contractor, including through referral to the dispute resolution mechanism under the respective contract, and (b) contracts that were so challenged but fully settled against the contractor. Non-performance shall not include contracts where Employers decision was overruled by the dispute resolution mechanism. Non-performance must be based on all information on fully settled disputes or litigation, i.e. dispute or litigation that has been resolved in accordance with the dispute resolution mechanism under the respective contract and where all appeal instances available to the Bidder have been exhausted.

	<p>Two similar Contract signed with clients for the supply and installation of Solar Home Panel systems sets (provide a copy of the contract OR contact details of the focal point for reference check) ;</p> <p>Ability to supply and install as per specific requirements as per the Terms of Reference</p> <p>Delivery Due Date: 12 months from the date of contract Issuance;</p> <p>The company should have qualified experts: Team Leader /Project Coordinator with 4 years' experience with qualification in the relevant field like engineering /Mechanical etc.</p> <p>-Technicians (each technician must have 2 years' experience and trade qualification).</p> <p>Submitted catalogs and features with offer meet the technical specification;</p> <p>Ability to produce Quality certificate from the manufacturer for proposed brand of Solar panel system</p> <p>Capacity to provide warranty period from the manufacturer for proposed brand of solar panel system and equipment's = 3 years.</p> <p>Providing the necessary technical training to the locals</p>	
Financial Evaluation	<p>Detailed analysis of the price schedule based on requirements listed in Section 5 and quoted for by the bidders in Form F.</p> <p>Price comparison shall be based on the landed price, including transportation, insurance and the total cost of ownership (including spare parts, consumption, installation, commissioning, training, special packaging, etc., where applicable)</p> <p>Comparison with budget/internal estimates.</p>	Form F: Price Schedule Form
	Any additional criteria if required	

Section 5a: Schedule of Requirements and Technical Specifications/Bill of Quantities

**Please refer to the Terms of Reference -attached as Annex 1
Financial costing to include a detailed table inclusive of all materials
/components and break down costs.**

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 fulfillment of the requirements: *[check the condition that applies to this ITB, delete the entire row if condition is not applicable to the goods being procured]*

Delivery Term [INCOTERMS 2010] <i>(Pls. link this to price schedule)</i>	DAP
Exact Address of Delivery/Installation Location	Click here to enter text.
Mode of Transport Preferred	Sea
UNDP Preferred Freight Forwarder, if any ²	N/A
Distribution of shipping documents <i>(if using freight forwarder)</i>	Submission of Bill of Landing, packing list ,commercial invoice
Customs, if required, clearing shall be done by:	Supplier
Ex-factory / Pre-shipment inspection	N/A
Inspection upon delivery	Required
Installation Requirements	Required
Testing Requirements	Required
Scope of Training on Operation and Maintenance	Required
Commissioning	Required
Warranty Period	Click here to enter text.

²A factor of the Incoterms stipulated in the ITB. The use of a UNDP preferred freight forwarder may be considered for purposes of ensuring forwarder's familiarity with procedures and processing of documentary requirements applicable to UNDP when clearing with customs authority of the country of destination.

Local Service Support	Details of after-sales capacity in the points of destination will be required
Technical Support Requirements	All technical supporting services and replacement of faulty parts must be provided at vendor's expense during the warranty period. Vendor should indicate nearest to the country of use designated place for shipping the equipment vehicle in case of warranty event.
After-sale services Requirements	<input checked="" type="checkbox"/> Warranty on Parts and Labor for minimum period of 3 years <input checked="" type="checkbox"/> Technical Support <input checked="" type="checkbox"/> Provision of Service Unit when pulled out for maintenance /repair <input type="checkbox"/> Others <i>[pls. specify]</i>
Payment Terms <i>(max. advanced payment is 20% as per UNDP policy)</i>	100% within 30 days upon UNDP's acceptance of the goods delivered as specified and receipt of invoice
Conditions for Release of Payment	<input type="checkbox"/> Pre-shipment inspection <input checked="" type="checkbox"/> Inspection upon arrival at destination <input checked="" type="checkbox"/> Installation <input checked="" type="checkbox"/> Testing <input checked="" type="checkbox"/> Training on Operation and Maintenance <input type="checkbox"/> Others <i>[pls. specify]</i> <input checked="" type="checkbox"/> Written Acceptance of Goods based on full compliance with ITB requirements
All documentations, including catalogues, instructions and operating manuals, shall be in this language	English

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	<input type="checkbox"/>
▪ Form B: Bidder Information Form	<input type="checkbox"/>
▪ Form C: Joint Venture/Consortium/ Association Information Form	<input type="checkbox"/>
▪ Form D: Qualification Form	<input type="checkbox"/>
▪ Form E: Format of Technical Bid/Bill of Quantities	<input type="checkbox"/>
▪ Form G: Form of Bid Security	
▪ [Add other forms as necessary]	<input type="checkbox"/>
Have you provided the required documents to establish compliance with the evaluation criteria in Section 4?	<input type="checkbox"/>

Price Schedule:

▪ Form F: Price Schedule Form	<input type="checkbox"/>
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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 [Insert Title of goods and services] 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:

- a) 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;
- b) 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;
- c) have no conflict of interest in accordance with Instruction to Bidders Clause 4;
- d) 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);
- e) 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 the foreseeable future;
- f) 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 we embrace 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?	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, [insert UGNM vendor number]
Are you a UNDP vendor?	<input type="checkbox"/> Yes <input type="checkbox"/> 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:

- Company Profile, which should not exceed fifteen (15) pages, including printed brochures and product catalogues relevant to the goods and/or services being procured
- Certificate of Incorporation/ Business Registration
- Tax Registration/Payment Certificate issued by the Internal Revenue Authority evidencing that the Bidder is updated with its tax payment obligations, or Certificate of Tax exemption, if any such privilege is enjoyed by the Bidder
- Trade name registration papers, if applicable
- Quality Certificate (e.g., ISO, etc.) and/or other similar certificates, accreditations, awards and citations received by the Bidder, if any
- Environmental Compliance Certificates, Accreditations, Markings/Labels, and other evidences of the Bidder's practices which contributes to the ecological sustainability and reduction of adverse environmental impact (e.g., use of non-toxic substances, recycled raw materials, energy-efficient equipment, reduced carbon emission, etc.), either in its business practices or in the goods it manufactures
- Patent Registration Certificates, if any of technologies submitted in the Bid is patented by the Bidder
- Certification or authorization to act as Agent on behalf of the Manufacturer, or Power of Attorney.
- Export Licenses, if applicable
- Official Letter of Appointment as local representative, if Bidder is submitting a Bid on behalf of an entity located outside the country

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 <i>(address, telephone numbers, fax numbers, e-mail address)</i>	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]
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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:

Signature: _____

Date: _____

Name of partner:

Signature: _____

Date: _____

Name of partner:

Signature: _____

Date: _____

Name of partner:

Signature: _____

Date: _____

Form D: Eligibility and Qualification Form

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

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

History of Non- Performing Contracts

<input type="checkbox"/> Non-performing contracts did not occur during the last 3 years			
<input type="checkbox"/> 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)

<input type="checkbox"/> No litigation history for the last 3 years			
<input type="checkbox"/> 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 in the last 3 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	Client & Reference Contact Details	Contract Value	Period of activity and status	Types of activities undertaken
---------------------------	------------------------------------	----------------	-------------------------------	--------------------------------

Assignment				

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
	<i>Information from Balance Sheet</i>		
Total Assets (TA)			
Total Liabilities (TL)			
Current Assets (CA)			
Current Liabilities (CL)			
	<i>Information from Income Statement</i>		
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:

- Must reflect the financial situation of the Bidder or party to a JV, and not sister or parent companies;
- Historic financial statements must be audited by a certified public accountant;
- 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.

SECTION 1: Bidder's qualification, capacity and expertise

- 1.1 General organizational capability which is likely to affect implementation: management structure, financial stability and project financing capacity, project management controls, extent to which any work would be subcontracted (if so, provide details).
- 1.2 Relevance of specialized knowledge and experience on similar engagements done in the region/country.
- 1.3 Quality assurance procedures and risk mitigation measures.
- 1.4 Organization's commitment to sustainability.

SECTION 2: Scope of Supply, Technical Specifications, and Related Services

This section should demonstrate the Bidder's responsiveness to the specification by identifying the specific components proposed, addressing the requirements, as specified, point by point; providing a detailed description of the essential performance characteristics proposed; and demonstrating how the proposed bid meets or exceeds the requirements/specifications. All important aspects should be addressed in sufficient detail.

- 2.1 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.
- 2.2 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.
- 2.3 The bid shall also include details of the Bidder's internal technical and quality assurance review mechanisms.
- 2.4 Implementation plan including a Gantt Chart or Project Schedule indicating the detailed sequence of activities that will be undertaken and their corresponding timing.
- 2.5 Demonstrate how you plan to integrate sustainability measures in the execution of the contract.

Note to UNDP: Under the Column “a”, please list items from Section 5a. Related services and requirements such as installation, training and after-sales should also be listed as required.

Goods and services to be Supplied and Technical Specifications	Your response				
	Compliance with technical specifications		Delivery Date <i>(confirm that you comply or indicate your delivery date)</i>	Quality Certificate/Export Licenses, etc. <i>(indicate all that apply and attach)</i>	Comments
	Yes, we comply	No, we cannot comply <i>(indicate discrepancies)</i>			
Supply and install Solar Panels					

Other Related services and requirements <i>(based on the information provided in Section 5b)</i>	Compliance with requirements		Details or comments on the related requirements
	Yes, we comply	No, we cannot comply <i>(indicate discrepancies)</i>	
Delivery Term			
Warranty			
Local Service Support			
Training			
Proposal Validity			

SECTION 3: Management Structure and Key Personnel

- 3.1 Describe the overall management approach toward planning and implementing the project. Include an organization chart for the management of the project describing the relationship of key positions and designations. Provide a spreadsheet to show the activities of each personnel and the time allocated for his/her involvement.
- 3.2 Provide CVs for key personnel that will be provided to support the implementation of this project using the format below. CVs should demonstrate qualifications in areas relevant to the scope of goods and/or services.

Format for CV of Proposed Key Personnel

Name of Personnel	[Insert]
Position for this assignment	[Insert]
Nationality	[Insert]
Language proficiency	[Insert]
Education/ Qualifications	<i>[Summarize college/university and other specialized education of personnel member, giving names of schools, dates attended, and degrees/qualifications obtained.]</i>
	[Insert]
	<i>[Provide details of professional certifications relevant to the scope of goods and/or services]</i>

Professional certifications	<ul style="list-style-type: none"> ▪ Name of institution: [Insert] ▪ Date of certification: [Insert]
Employment Record/ Experience	<p><i>[List all positions held by personnel (starting with present position, list in reverse order), giving dates, names of employing organization, title of position held and location of employment. For experience in 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.]</i></p> <p>[Insert]</p>
References	<p><i>[Provide names, addresses, phone and email contact information for two (2) references]</i></p> <p>Reference 1: [Insert]</p> <p>Reference 2: [Insert]</p>

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: Price Schedule Form

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

The Bidder is required to prepare the Price Schedule following the below format. The Price Schedule must include a detailed cost breakdown of all goods and related services to be provided. Separate figures must be provided for each functional grouping or category, if any.

Any estimates for cost-reimbursable items, such as travel of experts and out-of-pocket expenses, should be listed separately.

Currency of the Bid: [Insert Currency]

Price Schedule

Item #	Description	UOM	Quantity	Unit Price	Total Price
	Solar Home Panels Set (Please provide Break down cost of all components)				
FCA charges, if any					
Bid Subtotal FCA (Incoterms 2010) (please state FCA International Airport):					
Transportation/Delivery Cost					
Bid Total DDP / DAT / DAP, off-loaded/cleared, Place, Country (Incoterms 2010)					
Installation					
Training					
Warranty					
After Sales					
GRAND TOTAL					

Name of Bidder: _____

Authorised signature: _____

Name of authorised signatory: _____

Functional Title: _____

FORM G: Form of Bid Security

**Bid Security must be issued using the official letterhead of the Issuing Bank.
Except for indicated fields, no changes may be made on this template.**

To: UNDP
[Insert contact information as provided in Data Sheet]

WHEREAS [Name and address of Bidder] (hereinafter called "the Bidder") has submitted a Bid to UNDP dated [Click here to enter a date.](#) to execute goods and/or services [Insert Title of Goods and/or Services] (hereinafter called "the Bid"):

AND WHEREAS it has been stipulated by you that the Bidder shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security if the Bidder:

- a) Fails to sign the Contract after UNDP has awarded it;
- b) Withdraws its Bid after the date of the opening of the Bids;
- c) Fails to comply with UNDP's variation of requirement, as per ITB instructions; or
- d) Fails to furnish Performance Security, insurances, or other documents that UNDP may require as a condition to rendering the contract effective.

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

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Bidder, 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 Price Bid 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 up to 30 days after the final date of validity of bids.

SIGNATURE AND SEAL OF THE GUARANTOR BANK

Signature: _____

Name: _____

Title: _____

Date: _____

Name of Bank _____

Address _____

[Stamp with official stamp of the Bank]

Annex 1

SOLAR HOME SYSTEMS FOR FUNAOTA PROJECT

1. BACKGROUND

The standalone *Solar Home Systems for Funaota* project (SASH project) is implemented by the Tuvalu Electricity Corporation (TEC) with support from the United Nations Development Programme (UNDP) and funded by the India-UN Development Fund. The objective of the Tuvalu SASH project is to 'provide reliable, high quality and environmentally friendly 24-hours power supply on Funaota islet and establish local capacity to operate and maintain photovoltaic (PV) solar home systems'.

In this context, a contractor is needed for the detailed design, supply, transport, installation, testing and preliminary commissioning of three (3) independent power supply systems based on solar photovoltaic (PV) generation, including spare parts, and a small standby generator. Also required is training in basic operation of the systems by the farm operators, as well as in maintenance by local TEC staff on Nukufetau.

The operation of the power systems must be fully automatic, as simple as possible, resilient to any damage or equipment failure and easily understood regarding demand-side management. The equipment is to benefit the community of Nukufetau, which is operating an agro-forestry business on Funaota islet, called the Farming Development Authority of Nukufetau (FAN). These standalone PV solar home systems (SHS) will initially be sufficient for the small-scale farming operation that is done by a group of people (up to 10) from the village working in a roster for continuously looking after the operation. Depending on the success of the operation and its growth of productivity, other farming or fishing activities may be included later and the supply of electricity may be expanded in the future. Thus, the provided systems must be compatible for expansion or modification.

2. SCOPE OF WORKS

The scope of works are as follows:

- I. Three (3) stand-alone PV arrays mounted near the switch boards and batteries at 3-meter height above ground on H6-treated timber or aluminum posts with concrete footings founded in coral rock. Specifically:
 - a. A maximum of 3.8 kWp for a main unit for the dormitory (that includes a kitchen and bedrooms). The actual capacity required may be smaller than what was previously determined during the feasibility study (the bidder is expected to review the findings of the feasibility study and discuss this with TEC and the design consultant);
 - b. 1.3 kWp for a coconut processing factory building; and,
 - c. 1.3 kWp for a pig house.

The arrays shall be arranged for optimum irradiation of sunlight and be usable for partial shading of vegetable beds or work areas near the respective buildings.

- II. Three (3) packaged cabinets including prewired switchboard, the dormitory to be 12VDC/240VAC and coconut processing factory building and pig house to be 24 VDC/230VAC VAC inverters,

battery controllers, demand monitoring and management instruments, switches and safety components suitable for marine environment, designed for sufficient ventilation, housing made for corrosive, marine environments and located indoors or under shelter with natural ventilation with inverter ratings of 4 kW, 2 kW, and, 2 kW respectively.

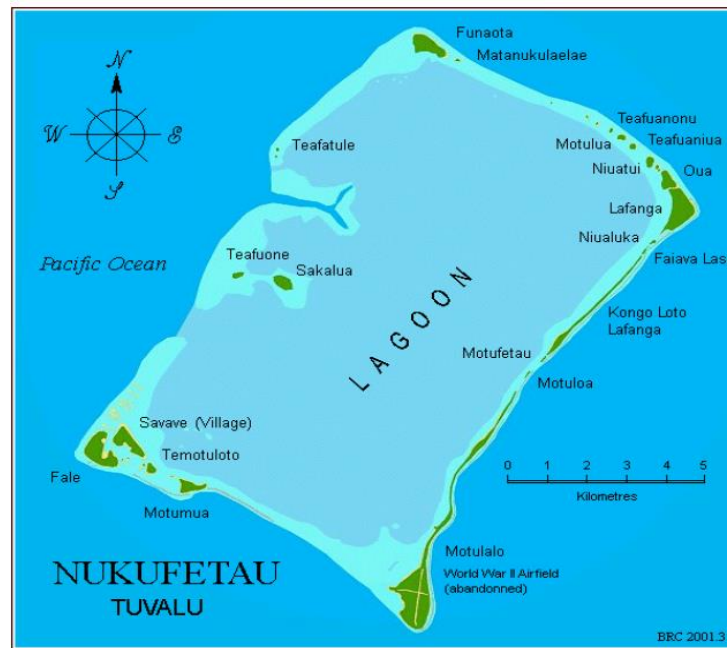
- III. Three (3) 12/24 VDC battery packages for minimum design lives of 10-years considering the environmental conditions (temperatures) and operational cycles with sufficient capacity for two (2) cloudy days of full demand from being fully charged to 50% depth of discharge (DOD).
- IV. A diesel or petrol based, mobile 7 kVA standby generator for emergency operations.
- V. All wiring and ducting between the PV arrays, switchboard and batteries.
- VI. All wiring and electric fittings for 230 VAC outlets and lighting, except for the dormitory. The lights in the dormitory should be wired with 12 VDC to suit 2 feet 9W tubular LED lamps, and power-points with 230 VDC with 2amps (A) AC circuit breaker. The power system in the dormitory should only cater for small electrical items such as laptop, mobile phones, small TV, etc.
- VII. 10% of spares or a minimum of one unit (whatever is greater) of all items that may break down during transport or a 10-year operating period, including PV panels, batteries, inverters (a 2 kW unit), materials, wiring, fittings and fastenings. All spare parts should be kept at the TEC power-station at Savave.
- VIII. All materials that are to be shipped to include 'Cost, Insurance, Freight (CIF) to Funaota'.
- IX. Installation of the solar PV systems. Any trade tools used for installation that also are required for on-going maintenance of the systems are to remain at the project site, one set for each.
- X. Training in basic operation of the solar PV systems by farm operators, training in maintenance by the local TEC staff on Nukufetau, and, associated training documentation.
- XI. Testing and preliminary commissioning of the solar PV systems, in close collaboration with the TEC.

3. PROJECT SITE

47. 3.1 Location and Overview of Infrastructure

Nukufetau atoll is located about 120 km north-west of the Funafuti, the capital of Tuvalu. Nukufetau atoll has a population of 655 (as of 2012), most of which are residing in the main islet of Savave. Funaota is the northern-most islet of Nukufetau atoll, located 13 km north of the village on the islet of Savave in the south-western corner of the atoll.

Figure 1: Map of Nukufetau



Source: tuvaluislands.com/islands/nukufetau.html

The only form of transportation between Nukufetau and other atolls, as well as within the atoll, is by ship or boat. An aluminum boat with an outboard motor is used for weekly replacement of workers on Funaota and for the transport of crops and produce for shipping to and from Savave. Funaota has a dense coverage with coconut trees as well as other species, like bread fruit. There are no roads, but some buildings on the 12 hectares islet, the oldest one being a dormitory. In addition, there are three new buildings, a coconut processing plant (furthest east), a generator building next to the dormitory and a pig house in the west, which is the largest building. In addition, there is several small sheds, e.g. one of which belongs to the vegetable garden. Concerning the power house, it includes one 60 kVA diesel generator, but it is not used (there is no distribution grid on Funaota. It is possible the generator will be relocated). There are also four 10,000-liter water tanks, plus two in-ground water cisterns, and a vegetable garden with composting facilities.

Figure 2: Aerial Photo of Funaota Islet



Source: Land and Survey, Government of Tuvalu

48. 3.2 Electricity Demand and Future Supply Configuration

The total estimated daily electricity demand on Funaota is estimated to be 14.2 kWh. Refer to Table 1 below for details.

Table 1: Estimated daily electricity demand on Funaota

Power Demand Funaota Farming											
Equipment / Demand	Brand	System	Location	Weight kg	Spec	Rating, W	No	Combined weight kg	Combined Rating W	Running %	Daily Demand in Wh
Chest Freezer, (3 Star Rating)	Ecold 51XLE	C1	Freezer / Power House		400 l	300	1		300	60.0%	4,320
Fridge (3 Star)		C1	Kitchen		180 l	250	1		250	50%	3,000
Ice box for boat			Boat		500 l		2				
Coconut Shredders		C2	Factory			300	2		600	15%	2,160
Water Pump and Fittings	mobile, electric	C3	Pig House, mobile unit		1000 W	1000	1		1000		
Power Tools			optional		50	50	10		500	10%	1,200
Hoses and electric cables for Water Pump, manual switching			Vegetable Gardens, Dorms, Kitchen, Factory		1000 W	1000	1		1000	10%	2,400
LED lights and fittings, indoors			2 per room			5	40		200	5%	240
LED lights and fittings, outdoors			as required		10	10	5		50	25%	300
other Electronics			optional		30	30	5		150	10%	360
Torches			optional		50	50	1		50	10%	120
personal devices					4	4	2		8	10%	19
VHF Radio, stationery	marine product		Office, Village, Spare			1	2	3	6	30%	43
VHF Radio, mobile	marine product		Boat, Field, Spare			1	2	2	4	30%	29
Instruments											
Battery Voltage			per battery bank				4				
Energy Demand			plug-in			2 kW	5				
Total daily Demand (no wind, mostly sunny) in Wh, Sub-Total									4,118		14,191

The farming business on Funaota has been operating with a team of five young men, with three men being present on the island at any given time. It is assumed that the operation will steadily grow as production and productivity are going to increase. It was further assumed that more people will be working and living on the islet as soon as electricity is available, and a regular production and distribution routine is established. It has been proposed that in the future a second dormitory would be built for a group of women. The electricity demand calculation was therefore estimated to be suitable for accommodation for, and work by, a rostered group of 10 people, occupying six bedrooms, a shared kitchen, office and work facilities at any time.

Where feasible, the existing electrical wiring system should be used but where necessary wirings that are to be replaced (either because of physical conditions or change in the electrical loads) for the following three locations on Funaota:

- The existing dormitory that includes a kitchen and bedrooms;

- b) The coconut processing factory building, where people work during early morning and evening hours; and,
- c) The pig house with a pump for cleaning the pig pens and providing drinking water to the pigs, as well as for the water pump in the vegetable garden.

The new or revised single line diagrams should be provided by the bidder.

Power supply to these three main buildings is to be achieved with three stand-alone PV solar SHSs. The three systems for Funaota must supply two different output ratings, one for 4 kW peak demand and two for 2 kW peak demand. Daily energy demand is at a similar proportion of estimated 8 kWh for the central unit and 4 kWh by each of the smaller units. The daily charge capacity of the PV panels during daytime must be about twice as high as the daily demand, with sufficient capacity to quickly recharge the batteries after one or two cloudy days.

In prolonged times of little solar irradiation, a mobile petrol/diesel generator can charge the batteries of the central unit (dormitory) as well as the other units, either through extension cables or moving it to the buildings and for charging through a 24 VDC battery charger. The mobile generator must provide up to 7 kW of 230 VAC power and would be available for one-off power supply at any place for any load up to that limit.

In accordance with the estimated demand in Table 1 above, certain loads can be shifting between the three PV SHSs (e.g. by using certain appliances with extension cords or fixed cables, such as the water pumps of the vegetable garden either from the pig house or the new dormitory). Also, equipment may be shifted between the three systems in cases of system failures.

All wiring and electric fittings for 230 VAC outlets and lighting, except for the dormitory. The lights in the dormitory should be wired with 12VDC to suit 2feet 9Watts LED lights, and power-points with 230 volts DC with 2amps AC circuit breaker. The power system in the dormitory should only cater for small electrical items such as laptop, mobile phones, small TV, etc.

4. OVERALL SYSTEM DESIGN AND COMPONENT SPECIFICATIONS

Bidders are to propose the detailed designs and component specifications. In general, these must reflect:

- Typical daily energy demand profiles as identified.
- Modular expansion of capacity.
- Variation of solar insolation during the days, seasons and weather conditions in accordance with PV panel orientation.
- Technical feasibility analysis of the system to be installed.
- System and equipment sizing and specifications.
- Material take off list (bill of materials).
- Modular and standardized equipment units, such as inverters.
- Maximum battery charging capacity.
- The difficulty in accessing Funaota islet.
- The very small number of persons in Nukufetau atoll in general and Funaota islet specifically with basic skills in power system operation, maintenance and repair.

- Tropical and highly corrosive marine environment conditions, i.e. mixture of high temperature, humidity and salt level in the air.
- High future cost, in both time and money, for repairs and for the replacement of components in the context of Tuvalu in general and in particular, Funaota islet.

In addition, the detailed design are to adhere to the latest version of [the Off Grid PV Power System Design Guidelines](#) prepared by the Pacific Power Association (PPA) and the Sustainable Energy Industry Association of the Pacific Islands (SEIAPI).

49. 4.1 Solar Photovoltaic Panels

The proposed panels shall be made from mono-crystalline cells and have output ratios of greater than 180 Wp/m² at standard test conditions. The panels shall meet the following criteria:

- Designed for tropical offshore conditions.
- Designed for mechanical durability at short-term wind loads of 60 m/s.
- Long-term reliability with output guarantees for 25-years.
- Durable, anodized aluminum frame.
- Impact-resistant glass.

The net capacity factor for solar PV power systems in Tuvalu has been 16.6% on average, equivalent to 4-hours per day at nominal capacity. To take into consideration the additional capacity for storage, long-term deterioration and electrical losses, the required rating of the PV panels would be twice the daily demand. Specifically:

- Dormitory (that includes a kitchen and bedrooms): 13 x 310 Wp, avg **4 kWp** x 4 h/d = 16 kWh per day peak for a secure demand of 8.5 kWh/d.
- Coconut processing factory building: 6 x 310 Wp = avg **1.5 kWp** x 4 h/d = 6 kWh/ d peak for a secure demand of 3 kWh/d
- Pig house: 6 x 310 Wp = **1.5 kWp** x 4 h/d = 6 kWh/d peak for a secure demand of 3 kWh/d.

Bidders are given the flexibility to propose other sizes (maybe more or less the same as specified above) that they deem more appropriate to meet the required electricity demand.

The DC voltage of the solar panels must match the 12VDC/24VDC nominal voltage of the batteries, which is the declared standard voltage for SHS batteries in Tuvalu.

PV Panel Array Locations

Bidders will propose locations and TEC will consult with the Island Council about suitability of the proposed locations.

PV Panel Structure

Design considerations for panel array supports include:

- Provision of a stable platform for panels, sub-frames and periodic maintenance access.
- Supports and fixings capable of resisting cyclonic wind pressures.
- Durability considerations so that new structures provide a service life comparable to the 20-year panel life in a tropical marine environment with minimal maintenance.

Design for Wind Loading

A 60m/s basic wind speed is adopted for all panel fixing and attachment design, which is the maximum value in the NBCT.

Design for Durability

Appropriate attention to galvanic corrosion and separation of protective coatings to timber treatments is required in the detailed design. For any new structures exposed to exterior salt spray or over water conditions, special treatments will be required for timber and metallic elements. Stainless steel fixings are to be used in areas where maintenance access is difficult, and H6 treatment for all new exposed timber. Durability detailing requirements include:

- H6 treated timber framing and trusses.
- Stainless steel (grade 316) bolted truss connections.
- Stainless steel (grade 316) screw fixings for panel rails.

Materials of Construction**General**

The environment in Tuvalu is tropical marine and consequently aggressive to many materials of construction. Materials shall be suitable for exposure in tropical marine environment. Detailing of connections and fasteners shall ensure that bi-metallic (galvanic) corrosion is avoided by either avoiding connections between dissimilar metals or providing electrical isolation at these locations through the use of isolating washers and sleeves.

Stainless Steel

Where stainless steel is proposed, the absolute minimum grade acceptable shall be 316L grade stainless steel. Stainless steel fasteners shall be supplied in Bumax 88 or similar grade stainless steel.

Aluminum

Where aluminum is required for framing, this shall be Alloy 5083 with the temper selected to provide the required mechanical properties.

Wood

All wooden poles shall be treated to grade H6 and have a manufacturer applied coating that is mechanically resistant to seawater and prevents borers from getting into the timber, and therefore withstand the island weather conditions.

Protective coatings for steel

Galvanized steel shall not be used in external areas, or internal area where exposure to sea spray is likely.

Liquid applied protective coatings (where applied) shall include a polyurethane or acrylic-based top coat for UV protection and have a service life to first maintenance of not less than 10-years in a tropical marine environment.

50. 3.2 Batteries

Batteries must have a minimum of 4,000 cycles at 35°C at an average depth of discharge of 50%, and to survive accidental, deep discharges. The 24 VDC battery packages must have a minimum design lives of 10-years considering the environmental conditions (temperatures) and operational cycles with sufficient capacity for two (2) cloudy days of full demand from being fully charged to 50% depth of discharge (DOD). The batteries' state of charge shall be monitored by the battery management system. The capacity of the batteries is to meet the expected cycle lifetime requirement for the batteries. Tenderers shall specify the annual energy in kWh to be supplemented by the petrol/diesel generator.

Batteries need to be housed in a well-ventilated, non-corrosive and lockable storage facility. Concerning the larger PV system for the dormitory, one option is to place the batteries in the nearby power house (but this likely would require that the unused 60 kVA diesel generator be relocated).

It would be ideal, if batteries would have a design life of 20-years to minimize maintenance and replacement cost. During the past 8-years, mainly lead-acid batteries have been used in Tuvalu, also with design lives between 10 and 20 years. These have generally performed well, at least the large, industrial ones made by well-reputed manufacturers. The design has changed from initially wet acid to AGM or "dry" batteries.

51.

52. 3.3 Inverters

The inverters are key components for the controls and supervision of the entire system. They must be multifunctional, specially designed for off-grid applications and of high technical standards for design lives of more than 10-years. They must have a high efficiency to minimize heat generation and cooling requirements. They are to be suitably protected from the marine environment. Bidders shall describe the ventilation system and how salty air access into the electronic components.

The inverters need to be pure sine wave inverters and to provide the maximum load at any of the three systems with ratings of 2,000 W, 2,000 W and 4,000 W respectively and a total demand of 8,000 W. The electrical switchgear must safeguard any electrical equipment being used including the batteries and inverters. The pre-wired switch boxes need to have monitoring facilities, like Volt- and Watt- meters, for the people to understand the state of charge of the batteries.

Type:

DC/AC Off-Grid Solar Inverter.

Design:

12VDC/24 VDC to 230/240 VAC, multi-function inverter combining functions of inverter and solar charger controller, solar charger and battery charger to offer uninterrupted power supply. Comprehensive LCD display for user-configuration and button operation, such as battery charging current, load control, battery monitoring, compatible with generators, etc. Efficiency at nominal rating >95%. Bidders to specify features.

53. 3.4 System Controls

The systems are to be simple, fully automated and to require little maintenance. Bidders are to detail the various controllers, including the charge controllers, inverter/load controls, and electrical protection for each stand-alone SHS. In order to enable the operators to manage demand versus state of charge of the batteries, the systems shall have monitoring instruments that allow the operators to modify demand.

54. 3.5 Electrical Wiring Components

Bidders are to specify and list:

- i. DC wiring type and size.
- ii. Acceptable voltage losses.
- iii. AC wiring type and size.
- iv. Wiring terminations and connection type.
- v. Over-current and over-temperature protection.
- vi. Disconnect locations and hardware.
- vii. Grounding of conductors and grounding of metal components not part of an electrical circuit.
- viii. Surge and lightning protection.
- ix. Instrumentation.
- x. Junction box locations and ratings.

4. TRANSPORT OF EQUIPMENT TO SITE

A key factor for the delivery of the project is the transport of the equipment to the project site. Bidders should consider the most economic and least time-consuming routes as well as about the availability and schedules of domestic ships. Funafuti is Tuvalu's main port. International traffic into and out of Funafuti is predominantly containerized cargo, with some amounts of break-bulk items (principally building materials). The typical cargo-run into and out of Funafuti originates in either Australia or New Zealand, with calls in Noumea (New Caledonia) and Suva (Fiji Islands). Funafuti is also the base of operations for the inter-island passenger and cargo service operated by the Tuvalu government. TEC can assist with information on the schedules of the two local ships, the *Manu Folau* and *Nivaga III*, the latter being the larger one (1,000 tons combined passenger ferry/cargo-carrier). For ship-to-shore transport at Savave and transport from Savave to Funaota, the Nukufetau island council should be engaged as they have the experience, including in handling of imported goods and construction materials.

Bidders shall explain the packaging, quantities and weights of the packages assumed.

Funafuti to outer islands (Nivaga II):



Ship-to-shore transport:



5. INSTALLATION, TRAINING, PROJECT MANAGEMENT, EXTERNAL SUPERVISION AND COMMISSIONING

55. 5.1 Installation

Bidders must explain how the installations will be accomplished. It is proposed that, to the extent possible, the PV systems are preassembled at the successful contractor's home base to minimize the required installation time on site. Installation work should adhere to the latest version of the [Off Grid PV Power System Installation Guidelines](#) prepared by the Pacific Power Association (PPA) and the Sustainable Energy Industry Association of the Pacific Islands (SEIAPI).

Personnel

Bidders must propose all the personnel required for the installation work. Bidders should consider the employment of local personnel, including electricians. It is up to the bidders to quantify the type and number of local personnel needed and the time that these workers will be employed. TEC can assist with recruitment of local personnel, including identifying potential workers and estimated daily rates.

Tools

The successful contractor must supply and transport all trade tools required for the job. Trade tools that also are required for on-going maintenance of the PV systems must remain at the project site, one set for each. All other tools may be taken back to their place of origin. Bidders shall specify all tools, those that stay on the project site with a lockable tool box, and those that are taken back. Bidders may place a lump sum value on the tools that must stay on the project site.

Accommodation

During installation work, if requested, the Nukufetau island council can provide paid accommodation and food for the successful contractor's personnel (lodging will likely be in Savave). Alternatively, the contractor can bring their own bedding and food.

56. 5.2 Training

Bidders shall prepare a draft training plan, covering training in basic operation of the systems by farm operators and training in maintenance by the local TEC staff on Nukufetau, as well as associated training documentation. The construction time will be one of the main training opportunities for FAN and TEC. One option, at no costs for the successful contractor, is that the workers of the FAN assist with transport of equipment from Savave to Funaota as well as installation. Furthermore, TEC have two staff based in Nukufetau (in Savave). In addition, one option, also at no cost for the successful contractor, is that these local TEC staff assist with the installation, including wiring. If this option is chosen, during the installation period, the FAN workers and local TEC staff, under the supervision of the successful contractor, will familiarize themselves with all equipment, spares, tools, and testing instruments and methods. Related, bidders shall provide an example of their standard operations and maintenance manual of a similar system. The successful contractor will customize operations manuals for each system and provide three (3) hard copies and one electronic copy to the Contracting Authority (UNDP).

57. 5.3 Project Management

Bidders must explain how they will manage the project and provide a draft project plan in their Technical Bid. This plan must include key activities, milestones, time line, and, resources employed. The successful contractor shall review and update this plan for approval by the Contracting Authority (UNDP in consultation with TEC) no later than 14-days after the signing of the contract.

Safety

Bidders shall prepare a draft safety plan for the installation and operation of the systems. This plan shall include reference to the applied standards and safety training provided to local workers and operators. The construction safety plan shall be approved by the Contracting Authority (UNDP in consultation with TEC) before the commencement of installation work.

Quality Assurance

Bidders shall prepare a brief Quality Assurance Plan for all phases and components of the project including design, procurement, transport, installation, testing, and, preliminary commissioning. The quality assurance plan shall include a list of all documents that will be provided, collected, signed off and filed by the Contracting Authority (UNDP). The successful tenderer will review this plan for approval by the Contracting Authority (UNDP in consultation with TEC) no later than within 14-days from the signing of the contract.

Social and Environmental Compliance

The following are initial minimum social and environmental compliance requirements: i) minimum use of, or impact on, land; ii) minimum felling of trees, replanting and maintaining the growth of new trees at levels that do not shade the PV arrays; and, iii) no unacceptable visual impacts. Bidders shall describe in their Technical Offer, how the design, installation, operation, maintenance and decommissioning may impact on the society and environment and how the impacts can be mitigated. TEC will seek the consent of the Island Council and the Department of Environment for the design, described impacts and proposed mitigation measures. Bidders should take onboard the findings of the Social and Environmental Screening that was conducted during the development of the Tuvalu SASH project. As outlined in the Tuvalu SASH project document, the overall significance of the potential social and environmental risks is rated as 'moderate'. This requires that a Social and Environmental Management Plan be developed prior to installation.

58. 5.4 External Supervision

All installation work will be supervised by TEC, specifically a senior staff member from Funafuti.

59. 5.5 Commissioning

Bidders shall prepare a draft commissioning plan in their technical offer. The draft plan should reflect that preliminary commissioning will be taking place immediately after the completion of all installation work and appropriate and successful testing of the complete PV systems. Furthermore, the draft plan should reflect that final commissioning will be taking place subsequently to an independent verification study, including favorable findings and recommendations (tentatively the study is planned to take place 4-weeks after the date of preliminary commissioning). The successful tenderer will review this plan for approval by the Contracting Authority (UNDP in consultation with TEC) one month (1) before the expected date of preliminary commissioning.

