

RFQ Reference: 22//12/ISA – STAR C	Date: 20 December 2022
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Subject: Supply, Installation, Testing & Commissioning (SITC) of equipment and instruments for setting up the STAR Centre in Ethiopia including one year Comprehensive Maintenance Contract (CMC).

SECTION 1: REQUEST FOR QUOTATION (RFQ)

ISA kindly requests your quotation for the provision of goods, works and/or services as detailed in Annex 1 of this RFQ.

This Request for Quotation comprises the following documents:

Section 1: This request letter

Section 2: RFQ Instructions and Data

Annex 1: Schedule of Requirements

Annex 2: Quotation Submission Form

Annex 3: Technical and Financial Offer

When preparing your quotation, please be guided by the RFQ Instructions and Data. Please note that quotations must be submitted using Annex 2: Quotation Submission Form and Annex 3 Technical and Financial Offer, by the method and by the date and time indicated in Section 2. It is your responsibility to ensure that your quotation is submitted on or before the deadline. Quotations received after the submission deadline, for whatever reason, will not be considered for evaluation.

The ISA recognizes the importance of valuing diversity and promoting inclusion in all our work programs and partnerships. The ISA highly values engaging with organizations and/or teams that reflect its geographical and diverse nature.

Thank you and we look forward to receiving your quotations.

Issued by:

Signature: _____

Name: Sudhakar Upadhyay

Title: Administrative Officer

Date: 20.12.2022

SECTION 2: RFQ INSTRUCTIONS AND DATA

Introduction	<p>Bidders shall adhere to all the requirements of this RFQ, including any amendments made in writing by ISA. This RFQ is conducted in accordance with the ISA Programme and Operations Policies and Procedures (POPP) on Contracts and Procurement</p> <p>Any Bid submitted will be regarded as an offer by the Bidder and does not constitute or imply the acceptance of the Bid by ISA. ISA is under no obligation to award a contract to any Bidder as a result of this RFQ.</p> <p>ISA reserves the right to cancel the procurement process at any stage without any liability of any kind for ISA, upon notice to the bidders or publication of cancellation notice on ISA website.</p>
Deadline for the Submission of Quotation	<p>09.01.2023 by 1900 HRS IST to procurement@isolaralliance.org If any doubt exists as to the time zone in which the quotation should be submitted, refer to http://www.timeanddate.com/worldclock/.</p> <p>For eTendering submission - as indicated in eTendering system. Note that system time zone is in EST/EDT (New York) time zone.</p>
Method of Submission	<p>Quotations must be submitted as follows:</p> <p><input type="checkbox"/> E-tendering <input checked="" type="checkbox"/> Dedicated Email Address <input type="checkbox"/> Courier / Hand delivery <input type="checkbox"/> Other Click or tap here to enter text.</p> <p>Bid submission address: Click or tap here to enter text.</p> <ul style="list-style-type: none"> ▪ File 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 transmission: 10 MB ▪ It is recommended that the entire Quotation be consolidated into as few attachments as possible. ▪ The bidder should receive an email acknowledging email receipt.
Cost of preparation of quotation	<p>ISA shall not be responsible for any costs associated with a Supplier’s preparation and submission of a quotation, regardless of the outcome or the manner of conducting the selection process.</p>
Supplier Code of Conduct, Fraud, Corruption,	<p>All prospective suppliers must read the United Nations Supplier Code of Conduct and acknowledge that it provides the minimum standards expected of suppliers to the UN. The Code of Conduct, which includes principles on labour, human rights, environment and ethical conduct may be found at: https://www.un.org/Depts/ptd/about-us/un-supplier-code-conduct</p> <p>Moreover, ISA strictly enforces a policy of zero tolerance on proscribed practices, including fraud, corruption, collusion, unethical or unprofessional practices, and obstruction of ISA vendors and requires all bidders/vendors to observe the highest standard of ethics during the procurement process and contract implementation.</p>
Gifts and Hospitality	<p>Bidders/vendors shall not offer gifts or hospitality of any kind to ISA staff members including recreational trips to sporting or cultural events, theme parks or offers of holidays, transportation, or invitations to extravagant lunches, dinners or similar. In pursuance of this policy, ISA: (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</p>

	<p>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 ISA contract.</p>
Conflict of Interest	<p>ISA requires every prospective Supplier to avoid and prevent conflicts of interest, by disclosing to ISA if you, or any of your affiliates or personnel, were involved in the preparation of the requirements, design, specifications, cost estimates, and other information used in this RFQ. Bidders shall 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.</p> <p>Bidders must disclose in their Bid their knowledge of the following: a) If the owners, part-owners, officers, directors, controlling shareholders, of the bidding entity or key personnel who are family members of ISA staff involved in the procurement functions and/or the Government of the country or any Implementing Partner receiving goods and/or services under this RFQ.</p> <p>The eligibility of Bidders that are wholly or partly owned by the Government shall be subject to ISA'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 RFQ, among others. Conditions that may lead to undue advantage against other Bidders may result in the eventual rejection of the Bid.</p>
General Conditions of Contract	<p>Any Purchase Order or contract that will be issued as a result of this RFQ shall be subject to the General Conditions of Contract</p> <p><input type="checkbox"/> General Terms and Conditions / Special Conditions for Contract.</p>
Special Conditions of Contract	<p><input type="checkbox"/> Cancellation of PO/Contract if the delivery/completion is delayed by [indicate number of days]</p> <p><input type="checkbox"/> Others [pls. specify]</p>
Eligibility	<p>A vendor who will be engaged by ISA may 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 ISA whether they are subject to any sanction or temporary suspension imposed by these organizations. Failure to do so may result in termination of any contract or PO subsequently issued to the vendor by ISA.</p> <p>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 ISA.</p> <p>Bidders must have the legal capacity to enter a binding contract with ISA and to deliver in the country, or through an authorized representative.</p>
Currency of Quotation	<p>Quotations shall be quoted in USD</p>
Joint Venture, Consortium or Association	<p>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 ISA and the designated lead entity, who shall be acting for and on behalf of all the member entities comprising the joint venture, Consortium or Association.</p> <p>Refer to Clauses 19 – 24 under Solicitation policy for details on the applicable provisions on Joint Ventures, Consortium or Association.</p>

Only one Bid	<p>The Bidder (including the Lead Entity on behalf of the individual members of any Joint Venture, Consortium or Association) shall submit only one Bid, either in its own name or, if a joint venture, Consortium or Association, as the lead entity of such Joint Venture, Consortium or Association. Bids submitted by two (2) or more Bidders shall all be rejected if they are found to have any of the following:</p> <p>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</p> <p>b) they have the same legal representative for purposes of this RFQ; or</p> <p>c) 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 RFQ process;</p> <p>d) 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</p> <p>e) some key personnel proposed to be in the team of one Bidder participates in more than one Bid received for this RFQ process. This condition relating to the personnel, does not apply to subcontractors being included in more than one Bid.</p>
Duties and taxes	<p>Article II, Section 7, of the Convention on the Privileges and Immunities provides, inter alia, that the United Nations, including ISA as a subsidiary organ of the General Assembly of the United Nations, is exempt from all direct taxes, except charges for public utility services, and is exempt from customs restrictions, duties, and charges of a similar nature in respect of articles imported or exported for its official use. All quotations shall be submitted net of any direct taxes and any other taxes and duties, unless otherwise specified below:</p> <p>All prices must:</p> <p><input checked="" type="checkbox"/> be inclusive of VAT and other applicable indirect taxes</p> <p><input type="checkbox"/> be exclusive of VAT and other applicable indirect taxes</p> <p>[according to project and applicable country agreement]</p>
Language of quotation	<p>English</p> <p>Including documentation including catalogues, instructions and operating manuals.</p>
Documents to be submitted	<p>Bidders shall include the following documents in their quotation:</p> <p><input checked="" type="checkbox"/> Annex 2: Quotation Submission Form duly completed and signed</p> <p><input checked="" type="checkbox"/> Annex 3: Technical and Financial Offer duly completed and signed and in accordance with the Schedule of Requirements in Annex 1</p> <p><input checked="" type="checkbox"/> Company Profile.</p> <p><input checked="" type="checkbox"/> Registration certificate;</p> <p><input checked="" type="checkbox"/> Company Profile.</p> <p><input checked="" type="checkbox"/> Descriptive Literature: Bidders shall provide full technical details of products being offered, including technical sheets and pictures showing details and general views. Specific details of items offered should be clearly stated as standard catalogues may offer options;</p> <p><input checked="" type="checkbox"/> Documents showing that the bidder has minimum of five (5) years of relevant experience – proof of purchase orders/ contract is to be submitted.</p> <p><input checked="" type="checkbox"/> Documents showing that the bidder has an experience of design, supply, installation and commissioning of Grid connected/off grid Solar PV Power Plant and experience of rendering operation and maintenance services for Solar PV units.</p> <p><input checked="" type="checkbox"/> Statement of satisfactory Performance (Certificates) from the top two clients in terms of Contract value in similar field, plus client's contact details who may be contacted for further information on those contracts;</p>
Quotation validity period	<p>Quotations shall remain valid for 90 days from the deadline for the Submission of Quotation.</p>
Price variation	<p>No price variation due to escalation, inflation, fluctuation in exchange rates, or any other market factors shall be accepted at any time during the validity of the quotation after the quotation has been received.</p>
Partial Quotes	<p><input checked="" type="checkbox"/> Not permitted</p> <p><input type="checkbox"/> Permitted Insert conditions for partial quotes and ensure that the requirements are properly listed in lots to allow partial quotes</p>

Alternative Quotes	<input checked="" type="checkbox"/> Not permitted
Payment Terms	<input checked="" type="checkbox"/> Within 30 days upon ISA's acceptance and receipt of invoice.
Conditions for Release of Payment	<input checked="" type="checkbox"/> Written Acceptance of Goods & Services, based on full compliance with RFQ requirements. <input checked="" type="checkbox"/> 100% of <u>goods value</u> after successful delivery and acceptance of goods. <input checked="" type="checkbox"/> 100% of <u>services value</u> after successful installation, commissioning and completion of Training on Operation and Maintenance. (Refer Annex-4)
Contact Person for correspondence, notifications and clarifications	E-mail address: procurement@isolaralliance.org Attention: Quotations shall not be submitted to this address but to the address for quotation submission above. Otherwise, offer shall be disqualified. Any delay in ISA's response shall be not used as a reason for extending the deadline for submission, unless ISA determines that such an extension is necessary and communicates a new deadline to the Proposers.
Clarifications	Requests for clarification from bidders will not be accepted any later than 2 days before the submission deadline. Responses to request for clarification will be communicated thru email.
Evaluation method	<input checked="" type="checkbox"/> The Contract or Purchase Order will be awarded to the lowest price substantially compliant offer
Evaluation criteria	<input checked="" type="checkbox"/> Full compliance with all requirements as specified in Annex 1 <input checked="" type="checkbox"/> Full acceptance of the General Conditions of Contract <input checked="" type="checkbox"/> Comprehensiveness of after-sales services <input type="checkbox"/> Earliest Delivery /shortest lead time <input type="checkbox"/> Others Click or tap here to enter text.
Right not to accept any quotation	ISA is not bound to accept any quotation, nor award a contract or Purchase Order
Right to vary requirement at time of award	At the time of award of Contract or Purchase Order, ISA reserves the right to vary (increase or decrease) the quantity of services and/or goods, 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.
Type of Contract to be awarded	<input type="checkbox"/> Purchase Order <input checked="" type="checkbox"/> Contract for Works <input type="checkbox"/> Other Type/s of Contract [pls. specify]
Expected date for contract award.	16 January 2023
Publication of Contract Award	ISA will publish the contract awards valued at USD 100,000 and more on the websites of the CO and the corporate ISA Web site.
Policies and procedures	This RFQ is conducted in accordance with ISA Programme and Operations Policies and Procedures
UNGM registration	Any Contract resulting from this RFQ exercise will be subject to the supplier being registered at the appropriate level on the United Nations Global Marketplace (UNGM) website at www.ungm.org . The Bidder may still submit a quotation 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.

ANNEX 1: SCHEDULE OF REQUIREMENTS

Recognizing the urgent need to support the developing country (ISA members) with high potential for solar technology deployment, the ISA Assembly agreed to establish an international network of STAR C (Solar technology Application Resource Centre). The overarching objective of the STAR C initiative is to provide solar technology and application resourcing services to Member Countries so that these countries can achieve the ISA's vision of scaled up and accelerated large scale deployment of solar energy to meet the respective countries' priority energy access, energy transformation and energy security needs.

ISA aims to have a number of STAR centres across the globe acting as a shared facility that provides capacity for deployment of solar energy applications and research, business modelling, incubation, training, standardization and testing engaging faculty members from different disciplines/institutes of excellence and provide/use shared facilities, labs, testing centres etc.

The STAR Centres are expected to undertake one or more functions as listed below. Based on the prominence of function it plays, a STAR Centre can be known as STAR Training Centre, STAR Testing Centre etc.

1. **Trainings:** The STAR Centre will adopt training resources of standard quality. It will establish selection criteria for trainees, develop training modules and competency training schemes on solar product, applications and services. The centre will deliver training to government officials, technicians, engineers and industry associations.
2. **Testing:** The STAR Centre will undertake test and/or certify components (solar components, technologies) based on international standards. Developing technical requirements, guidelines and adopting international standards related to all solar PV, solar thermal and end-use applications.
3. **Knowledge or Expertise Centre:** Centre providing renewable energy data, case studies, guidelines, analytical tools, policies and technical assistance to developers, policymakers, and decision makers.
4. **Innovation/ Incubation:** Creating innovative products and services serving local context and leading breakthroughs in scaling up deployment. Identifying and incubating start-ups or enterprises. This would enable development of innovative ideas to address country specific bottlenecks.

In order to equip these STAR Centres, ISA aims to procure equipment and instruments that help the centers to offer hands on training; act as a testing facility and setup a knowledge management centre. The first such centre is being created at Addis Ababa University in Ethiopia. This RFQ is for Supply, Installation, Testing & Commissioning (SITC) of equipment and instruments for setting up the STAR Centre in Ethiopia (Addis Ababa University) including one year Comprehensive Maintenance Contract (CMC).

A needs assessment and situation analysis were undertaken in Ethiopia, to identify the high growth sectors within solar energy technology, and the attendant training needs. Solar Home Systems (SHS) and minigrids are two high growth sectors in Ethiopia. These sectors will drive solar training needs in the medium to long term and require trained technicians and engineers to size, install, operate and maintain solar systems for socio-economic development, especially in rural and peri-urban areas. The current solar training and testing facilities as well as the solar curriculum was evaluated for gaps through secondary research and primary stakeholder interviews with the private sector companies, industry bodies, government, and academia.

The major findings were the need for understanding of the various solar components, design, sizing, installation, operations, and maintenance. According to the evaluation of the needs and gaps, a list of solar equipment has been suggested for the STAR C to prioritize in its implementation. They have been categorized from A to D, along with the rationale for their selection.

S. No.	Category	Recommended Equipment	Rationale
A	Training	<ol style="list-style-type: none"> 1. 2 kW solar PV module (x2) 2. Mounting support structure 3. Weather resistant HDPE junction box 4. Inverter (hybrid) 	Two solar modules of 2 kW capacity (total 4 kw) are recommended to enable the training of 25-30 students in two groups of 12-15 simultaneously. 25-30 is the ideal class size as recommended by the

		<ol style="list-style-type: none"> 5. Batteries 6. Battery main switch 7. Battery cable with fuse 8. Battery rack 9. PV Standard 4 connector 10. Ground fault circuit breaker 11. Earthing kit 12. PV Solar Energy Advanced Trainer 13. Solar Energy Demonstrator 	<p>authorities at University of Addis Ababa, as well as other private sector stakeholders.</p> <p>A 4kW system is recommended as many appliances with higher load cannot be tested with a 1 kw system. This system size and subsequent list covers all major solar components required for training of students, technicians, and engineers.</p>
B	Measurement	<ol style="list-style-type: none"> 1. Solar instrumentation box (tool kit) 2. Vernier caliper 3. Digital multimeter 4. Clamp meter 5. Pyrometer 6. Wind meter and sensor 7. Measuring tape 8. Water level 9. Compass 10. Pathfinder 11. Cable cutter 	<p>This list covers all basic solar training measurement tools for solar module design, sizing, forecasting and installation.</p> <p>These tools will enable students to measure the solar components, fabricate and size them for the required assignment.</p> <p>This list was reviewed with solar trainers in Ethiopia and found to be sufficient for a solar training lab for basic and advanced measurement requirements.</p>
C	Quality and Testing	<ol style="list-style-type: none"> 1. Insulation test 2. IV Curve Tracer 3. IR Camera 	<p>The standard test condition for a photovoltaic solar panel or module is defined as being 1000 W/m² (1 kW/m²) of full solar noon sunshine (irradiance) when the panel and cells are at a standard ambient temperature of 25 degrees C with a sea level air mass (AM) of 1.5 (1 sun).</p> <p>Insulation test is an electrical safety test and shows whether a solar module offers adequate insulation.</p> <p>IV Curve Tracer is a specialist type of test equipment that sweeps an electrical load connected to the solar PV module or string and measure both the current and voltage at multiple points during the sweep.</p> <p>An IR Camera helps detect faults in new and existing solar panels, determining the efficiency with which electricity can be generated.</p> <p>These are the basic quality tests recommended for a solar training lab.</p>
D	Consumables	<ol style="list-style-type: none"> 1. Cables 2. Soldering iron and plugs 3. PPE kit 	<p>These are items that must be ordered in bulk as they will be used in large volumes for training and testing assignments.</p>

A detailed list of the technical specifications and notes is provided below (requirements can be varied subject to consultant guidelines and latest solar technology):

Recommended Technical Specifications for Goods:

S. No.	Item Name	Minimum technical requirements	Unit	Quantity
1	Solar PV Module (2 KW)	PN6M72-350E Monocrystalline Solar module with 72 cells for a 2 KW system (specs can be updated as per available brands). <ul style="list-style-type: none"> • 24 VDC • Dimensions: 1956 x 992 x 40 mm (LxWxH) 	pcs	6-8*

		<ul style="list-style-type: none"> • Weight: 24 Kg • Short-circuit current: 9.56A • IEC 61215 and 61730 • ISO9001 and ISO14001 • Warranty: 25 years 		
2	Mounting support structure	<p>Aluminium solar ground mount with single slot U beam.</p> <ul style="list-style-type: none"> • Foundation type: Pile driven, ground screw, concrete pad • Surface treatment: 10um thick. Anodized aluminium 6005-T5, stainless steel 304 bolts and nuts • Wind load: Max 60m/s • Warranty: 20 years 	pcs	1
3	Connection box	<p>Waterproof IP65 connection box with diode.</p> <p>IP65 seal rating indicates device can withstand up to a pressure of 1.5 meters of water for 30 minutes. Seal is designed to protect from water jets, sprays, and splashes.</p>	pcs	10
4	Inverter (hybrid)	<p>PSW-H-5KW-230/48V Inverter.</p> <ul style="list-style-type: none"> • System voltage: 48 Vdc • Max usable PV power: 4.8 kW • Max PV array power: 6 kWp • AC Frequency: 50/60 Hz (auto) • AC Output range: 230V • Warranty: 2 years 	pcs	1
5	Battery	<p>12V 1200AH (2,400WH) sealed AGM deep cycle battery.</p> <ul style="list-style-type: none"> • Weight: 59.1 kgs • Electrical Capacity at 20-Hour Rate: 1200Ah • Electrical Capacity at 5-Hour Rate: 892Ah • RC Minutes: 800 / 75A • Dimensions: 295*178*404mm (l*w*h) • Standards: IEC 61683/ IS 61683 for efficiency measurement, and IEC 60068-2 (1,2,14,30) or equivalent BIS standard, Ingress Protections should be IP20/ IP 21 or above. 	pcs	~4*
6	Battery main switch	<p>10A 20A amp Solar USB Charge Controller Regulator 12V/24V Auto Switch</p> <ul style="list-style-type: none"> • Weight: 120 gm • Dimensions: 13.6 x 8.1 x 4.1 cm (l*w*h) 	pcs	1
7	Battery cable with 20A Fuse	<p>MC4 In-Line Fuse Connector & 20A DC Fuse</p> <ul style="list-style-type: none"> • Weight: 120 gm • Dimensions: 13 x 2 x 2 cm (l*w*h) • Rated Voltage 1000V DC, Rated Current 20A & tested voltage 6KV (50Hz, 1min) • Temperature range: -40°C to +85°C • Insulation diameter wires: 2.5mm to 6mm • IP67 Water & Dustproof 	pcs	1
8	Battery rack	<p>Heavy duty battery rack for 12V 1200AH battery.</p> <ul style="list-style-type: none"> • Easy assembly and dismantling • Shelf adjustment 	pcs	1

9	PV Standard 4 connector	<p>MC4 connector pair – plug and socket 4-6 mm².</p> <ul style="list-style-type: none"> • touchproof, unplugged IP2X • protection, plugged IP67 • temperature range from -40° to 90°C • isolation material: PA • cable strain relief according to IEC 61984 (06.2001) • contact system: MC-contact lamellas • contact material: tinned copper • flame class:UL94-V0 • protection class: II • system voltage up to 1000V • rated amperage up to 30A 	pcs	~100
10	Ground fault circuit breaker	<p>Provides protection to people and installations against fault current to earth.</p> <ul style="list-style-type: none"> • Standards: IEC/EN 61008, UL 1053 • Rated voltage: 230V • Rated frequency: 50/60 Hz • Electrical Endurance: 10000 cycle • Weight: 235 gm • Dimensions: 3.5cm*8.5cm*6.9 cm (w*h*l) 	pcs	1
11	Earthing kit	<p>Lightning arrestor made with galvanized iron with anti-corrosion properties.</p> <ul style="list-style-type: none"> • Length: 1 m • 25 mm diameter • Weight: 1.1 kg • Base plate dimensions: 9*9 • Provides protection in 2m radius 	pcs	1
12	Solar instrumentation box (tool kit)	<p>Bosch GSB 500W 500 RE Tool Set (Blue)</p> <ul style="list-style-type: none"> • Drilling Diameter: 10 millimetres; • Drill spindle connecting thread: 43 • Chuck capacity, min./max.: 1.5 – 10 mm • Operating power: 500 watts • Package Contents: Impact drill, claw hammer, pliers and knife, spirit level, wrench, drill bit for wood, steel and concrete, screws, wall plugs, screw driving bits and nut bits 	pcs	1
13	Vernier Caliper	<p>Stainless steel digital calliper 150mm / 6 inches.</p> <ul style="list-style-type: none"> • Weight: ~260 gm • Dimensions: 25 x 9.4 x 2.5 cm 	pcs	1
14	Digital multimeter	<p>Digital multimeter for AC/DC voltage, resistance, capacitance, frequency measurement.</p> <ul style="list-style-type: none"> • Weight: 300 gms • Voltage: DC: 600 volts; AC: 600 volts; DC Accuracy: ± 0.5% + 3 digit; AC Accuracy: ± 1% + 3 digit • Resistance: 40 M ohm; Resistance Accuracy: ± 1.5% + 3 digit • Capacitance: 100 µF • 1 year warranty 	pcs	2
15	Clamp meter	<p>200A AC/DC Clamp Meter (4345498)</p> <ul style="list-style-type: none"> • Weight: 400 gms • 200 A ac and dc current 	pcs	2

		<ul style="list-style-type: none"> • 600 V ac and dc voltage measurement range • Measurement accuracy: +/- .5% • 18mm triangular jaw • 3000 Ω resistance range • continuity detection • CAT III 600 V safety rating 		
16	Pyrometer	<p>Infrared battery powered Pyrometer</p> <ul style="list-style-type: none"> • Weight: 280 gms • Dimensions: 152 x 102 x 38mm (h*l*w) • Ambient operating range : 0°C - 50°C • Storage temperature : -20°C - 65°C • Standards: EN 61326-1 Electromagnetic Emissions and Susceptibility EN 61010-1 General Safety EN 60825-1 Laser Safety Certification CE, CMC • Warranty: 1 year 	pcs	2
17	Wind meter and sensor	<p>Rugged, corrosion-resistant high performance wind sensor.</p> <ul style="list-style-type: none"> • Range: 0 to 50 m/s, Gust Survival 60 m/s • Sensor: 12 cm cup wheel assembly • 40 mm hemispherical cups • Turning Factor: 75 cm (2.46 ft) • Distance Constant: 2.3 m (7.5 ft.) for 63% recovery • Threshold Sensitivity: 1.1 m/s (2.5 mph) • Transducer: Stationary coil 1300 Ohm nominal DC resistance • Output Signal 4-20 mA = 0-50 m/s • Power Requirement: 8 – 30 VDC • Operating Temperature: -50 to 50°C (-58 to 122°F) 	pcs	1
18	Measuring tape	<p>3In1 Laser Tape Measure Laser</p> <ul style="list-style-type: none"> • ABS+ manganese steel ruler belt • Product model 1: 40 meters laser ranging +5 meters tape measure + laser cross marking line + 60m laser ranging + 5m tape measure + laser cross marking line • Battery type: Two AAA batteries • Size: 85 * 82 * 56 mm • Temperature range: 0-40 degrees Celsius • Measurement accuracy: 2mm • Accuracy: 2mm • Dust and splash proof: IP54 • Maximum storage: 20 groups • Maximum/Minimum value: Minimum value 0.005, maximum value 60 m 	pcs	1
19	Water level	<p>Spirit Level (0.5mm accuracy, without magnet)</p> <ul style="list-style-type: none"> • Weight: 190 gms • Size: 60 cm 	pcs	1
20	Compass	<p>Waterproof outdoor compass</p> <ul style="list-style-type: none"> • Dial Diameter: 65 mm • Weight: 106 gm • Size: 80*70mm • Accuracy: +/- .5° 	pcs	1

21	Pathfinder	Non-electronic solar pathfinder working on reflective principle.	pcs	2
22	Cable Cutter	Multi-functional automatic wire stripper <ul style="list-style-type: none"> • Stripping range: 0.2-6.0mm² • Crimping range: 0.5-6.0mm² • AWG : 10-22AWG • Length: 205mm • Weight: 350g 	pcs	1
23	Insulation test	Insulation Tester <ul style="list-style-type: none"> • Weight: 550 gms • Measurement Range: 10g Ohm • Test Voltage: 50v, 100v, 250v, 500v, 1000 V • Test Current: 1 Ma Nominal • Auto Discharge: Discharge Time 0.5 Second for C= 1 F or Less • Live Circuit Indicator: Inhibit Test if Terminal Voltage > 30 Volts Prior to Initializations of Test 	pcs	1
24	IV Curve Tracer	PVPM device allows the measurement of the IV characteristic of photovoltaic modules as well as strings and arrays up to 1500V and 20ADC. <ul style="list-style-type: none"> • Voltage: 25V / 100V / 500V / 1500V • Current: 2A / 5A / 10A / 20A • Temperature: -40°C - +100°C with Pt1000 • Irradiance: 0 - 1300W/m² (Standard sensor) • Accuracy: Sampling rate max. 100kHz • Resolution 0.01V - 0.25V, 0.005A – 0.01A (depending on sel. range) • Accuracy of the a/d converter 0.08% of FSR ± 1 LSB • Accuracy Peak power measurement: ±5% • Reproducement: ±2-3% 	pcs	1
25	PV Solar Energy Advanced Trainer	Modular trainer for the theoretical and practical study of the electric energy generation from photovoltaic panels. Intro to solar thermal (hot water) and solar PV systems. <ul style="list-style-type: none"> • Electronic charge regulation module, with LCD display, MPPT tracking and energy monitor. • Load management module with three independent single-phase outputs for the dynamic study of different load types. • Active DC load used in the renewable energies laboratories configurable as constant resistance or constant current. • Network monitor module used to measure electrical parameters in a single phase circuit • Circuit breaker module. • Fixed single phase power source rated at mains voltage with auxiliary 12 Vdc fixed regulated voltage output to power measurement modules • DC load module. It includes a 20W dichroic lamp and a 3W LED lamp, with independent switches. 	pcs	1

		<ul style="list-style-type: none"> • Inclinable photovoltaic panel, approx. 90W, 12V, complete with a cell for measuring the solar irradiation and a temperature sensor. • Battery and battery protection module. • A Grid-tie inverter output at mains voltage, 12V, 300W. • Multifunction measurement module: solar irradiation (up to 1000 W/m²), solar panel temperature (up to 400°C), 2 DC power meters (65Vdc, 20Adc, 1000W) and 1 AC power meter (512Vac, 20Aac, 1000W). • Off-grid inverter module, with sinusoidal output at mains voltage. Average power: 300 W. • Sun simulator consisting of halogen lamps to provide energy to the photovoltaic module for indoor use. • Three level frame. 		
26	Solar Energy Demonstrator	<p>Intro to generation of electric power from sun via solar PV</p> <ul style="list-style-type: none"> • How solar cells work • Battery storage techniques • Conversion from AC to DC power • Model No.: LB 	pcs	1
27	Cables	Solar Flex-X 1x4 black	m	100
28	Soldering iron and plugs	<p>Electric Soldering Iron Adjustable Temperature 220V110V Kit Welding Repair Tools</p> <ul style="list-style-type: none"> • Voltage: AC220-240V ORAC100-130V • Power: 80W • Frequency: 50Hz/60HZ • Temperature Range: 180~500°C/356~932°F • Temperature Stability: ±5 C • Heating Type: Wmore Ceramics Element • Soldering Iron Tips: 900M-B1.2 • Wire Length: 1.4m / 55.12inch • Soldering Iron Size:242*25*25mm/9.6*0.98*0.98inch • Soldering Iron Weight: Approx. 96g/3.40z • Package Size: Approx. 254*55*35mm/10*2.2*1.4inch • Package Weight: Approx. 139g / 4.90z 	pcs	1
29	PPE kit	<p>Disposable protective clothing with non-toxic, tear-resistant, waterproof, oil-proof, breathable, anti-static, dust-proof, anti-liquid splashing and other functions.</p> <ul style="list-style-type: none"> • Size: • L:Bust: 130cm; Suitable height: 173cm • XL:Bust: 135cm; Suitable height: 178cm • 2XL:Bust: 140cm; Suitable height: 181cm 	pcs	30

*Depending on final capacity of solar panel used. At least six 350 watt solar panels required for a 2 kw system (2000/350=5.7).

The company selected for installation and commissioning should ensure proper synchronization and integration of the solar system and associated components to enable productive loads and smooth operation.

Notes:

1. The offered PV Modules should comply with the relevant IEC standards, including but not limited to IEC 61215, IEC 61730, UL 61730, IEC 62716 as well as local Ethiopian standards.
2. All solar components imported to Ethiopia must comply with the HS codes for Ethiopia as listed and updated on Bureau Veritas ([link](#)).

The company needs to submit relevant documents towards compliance of the above standard.

B. Objective

The objective of the assignment is to set up a model solar training and application resource centre (STAR C) lab at the University of Addis Ababa, Ethiopia.

C. Scope of Work

1. Component A: Supply, installation and Commissioning of the equipment given in the above table.
2. Component B: Training of the Addis Ababa University staff on Operation and Maintenance practice of the equipment and instruments.
3. Component C: Comprehensive Operation and Maintenance for 1 years post commissioning.

The roles and responsibilities of the bidder and ISA are outlined below:

Bidder's Terms of reference:

- Design concepts
- Submittals for materials and products
- Construction materials, equipment, and labor
- Design and construction supervision / contract management
- Quality control plan (QCP) Safety plan
- Inspections and tests (per QCP)
- Develop an implementation plan
- Commissioning of project
- Mentoring and training, building operating staff for operation and maintenance
- Operation and Maintenance for first year and optional service plan after the first year

ISA and University of Addis Ababa responsibilities:

- Provide location to install solar panels as per the contract.
- Review for approval design submittals
- Witness inspections and test witnesses to verify attainment of performance requirements
- Make progress payments for any service agreed
- Allow consultants access to University for site visit/energy audit exercise.
- Approve any contracts agreed with the consultant.

Delivery Requirements

Delivery Requirements	
Delivery date and time	Bidder shall complete the delivery and installation within 90 days from the issuance of Contract.
Delivery Terms (INCOTERMS 2020)	Delivered at Place

Customs clearance (must be linked to INCOTERM)	<input type="checkbox"/> Not applicable Shall be done by: <input type="checkbox"/> Name of organisation (where applicable) <input checked="" type="checkbox"/> Supplier/bidder <input type="checkbox"/> Freight Forwarder
Exact Address(es) of Delivery Location(s)	Addis Ababa University, NBH1, 4killo King George VI St, Addis Ababa, Ethiopia
Distribution of shipping documents (if using freight forwarder)	Bidder responsibility
Packing Requirements	Safe delivery of supplies, handling will be bidders responsibility
Training on Operations and Maintenance	Required
Warranty Period	At least one year
After-sales service and local service support requirements	One year
Preferred Mode of Transport	Air

NOTES:

- 1.The products/goods/parts of machineries must be recalled by the manufacturer/ bidder/ supplier at the manufacturers/ bidder/ suppliers cost if rejected by ISA/ purchaser or end user because of the problems with quality. The supplier/ bidder/ manufacturer will be obliged to replace the products/goods/parts of machineries in question at its own cost with a new one of acceptable quality.
- 2.The supplier will be responsible for protection of materials, property and equipment before successful delivery and handover to ISA.
3. Prices quoted must be inclusive of all costs necessary to supply these items, including delivery, warranty, transport cost, insurance, materials, installation, training and commissioning etc.

ANNEX 2: QUOTATION SUBMISSION FORM

Bidders are requested to complete this form, including the Company Profile and Bidder's Declaration, sign it and return it as part of their quotation along with Annex 3: Technical and Financial Offer. The Bidder shall fill in this form in accordance with the instructions indicated. No alterations to its format shall be permitted and no substitutions shall be accepted.

Name of Bidder:	Click or tap here to enter text.	
RFQ reference:	Click or tap here to enter text.	Date: Click or tap to enter a date.

Company Profile

Item Description	Detail
Legal name of bidder or Lead entity for JVs	Click or tap here to enter text.
Legal Address, City, Country	Click or tap here to enter text.
Website	Click or tap here to enter text.
Year of Registration	Click or tap here to enter text.
Legal structure	Choose an item.
Are you a UNGM registered vendor?	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, insert UNGM Vendor Number
Quality Assurance Certification (e.g. ISO 9000 or Equivalent) (If yes, provide a Copy of the valid Certificate):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Does your Company have a written Statement of its Environmental Policy? (If yes, provide a Copy)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Does your organization demonstrate 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 (If yes, provide a Copy)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Is your company a member of the UN Global Compact	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Bank Information	Bank Name: Click or tap here to enter text. Bank Address: Click or tap here to enter text. IBAN: Click or tap here to enter text. SWIFT/BIC: Click or tap here to enter text. Account Currency: Click or tap here to enter text. Bank Account Number: Click or tap here to enter text.			
Previous relevant experience: 3 contracts				
Name of previous contracts	Client & Reference Contact Details including e-mail	Contract Value	Period of activity	Types of activities undertaken

Bidder's Declaration

Yes	No	
<input type="checkbox"/>	<input type="checkbox"/>	Requirements and Terms and Conditions: I/We have read and fully understand the RFQ, including the RFQ Information and Data, Schedule of Requirements, the General Conditions of Contract, and any Special Conditions of Contract. I/we confirm that the Bidder agrees to be bound by them.
<input type="checkbox"/>	<input type="checkbox"/>	I/We confirm that the Bidder has the necessary capacity, capability, and necessary licenses to fully meet or exceed the Requirements and will be available to deliver throughout the relevant Contract period.
<input type="checkbox"/>	<input type="checkbox"/>	Ethics: In submitting this Quote I/we warrant that the bidder: has not entered into any improper, illegal, collusive or anti-competitive arrangements with any Competitor; has not directly or indirectly approached any representative of the Buyer (other than the Point of Contact) to lobby or solicit information in relation to the RFQ ;has not attempted to influence, or provide any form of personal inducement, reward or benefit to any representative of the Buyer.
<input type="checkbox"/>	<input type="checkbox"/>	I/We confirm to undertake not to engage in proscribed practices, , 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 have read the United Nations Supplier Code of Conduct : https://www.un.org/Depts/ptd/about-us/un-supplier-code-conduct and acknowledge that it provides the minimum standards expected of suppliers to the UN.
<input type="checkbox"/>	<input type="checkbox"/>	Conflict of interest: I/We warrant that the bidder has no actual, potential, or perceived Conflict of Interest in submitting this Quote or entering a Contract to deliver the Requirements. Where a Conflict of Interest arises during the RFQ process the bidder will report it immediately to the Procuring Organisation's Point of Contact.
<input type="checkbox"/>	<input type="checkbox"/>	Prohibitions, Sanctions: I/We hereby declare that our firm, its affiliates or subsidiaries or employees, including any JV/Consortium members or subcontractors or suppliers for any part of the contract 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 and 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.
<input type="checkbox"/>	<input type="checkbox"/>	Bankruptcy: I/We 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.

Yes	No	
<input type="checkbox"/>	<input type="checkbox"/>	Offer Validity Period: I/We confirm that this Quote, including the price, remains open for acceptance for the Offer Validity.
<input type="checkbox"/>	<input type="checkbox"/>	I/We understand and recognize that you are not bound to accept any Quotation you receive, and we certify that the goods offered in our Quotation are new and unused.
<input type="checkbox"/>	<input type="checkbox"/>	By signing this declaration, the signatory below represents, warrants and agrees that he/she has been authorised by the Organization/s to make this declaration on its/their behalf.

Signature: _____

Name: Click or tap here to enter text.

Title: Click or tap here to enter text.

Date: Click or tap to enter a date.

ANNEX 3: TECHNICAL AND FINANCIAL OFFER - GOODS

Bidders are requested to complete this form, sign it and return it as part of their quotation along with Annex 2 Quotation Submission Form. The Bidder shall fill in this form in accordance with the instructions indicated. No alterations to its format shall be permitted and no substitutions shall be accepted.

Name of Bidder:	Click or tap here to enter text.	
RFQ reference:	RFQ/XXXX/IND 2022	Date: Click or tap to enter a date.

Technical Offer

Provide the following:

- a brief description of your qualification and capacity that is relevant to the Scope of Works;
- a brief method statement and implementation plan;

Technical offer should encompass detailed specifications, including make, complying standards, relevant test certificate as applicable for each of the component proposed to be supplied by the bidder under the RFQ in line with the table below.

Sr.	Particulars	Quantity	Detailed Specification	Make/ Model	Complying standard	Period of Warranty
1	Solar PV Module (2 KW)					
2	Mounting support structure					
3	Weather resistant HDPE junction box					
4	Inverter (hybrid)					
5	Battery					
6	Battery main switch					
7	Battery cable with 20A Fuse					
8	Battery rack					
9	PV Standard 4 connector					
10	Ground fault circuit breaker					
11	Earthing kit					
12	Solar instrumentation box (tool kit)					
13	Vernier Caliper					
14	Digital multimeter					
15	Clamp meter					
16	Pyrometer					

Sr.	Particulars	Quantity	Detailed Specification	Make/ Model	Complying standard	Period of Warranty
17	Wind meter and sensor					
18	Measuring tape					
19	Water level					
20	Compass					
21	Pathfinder					
22	Cable Cutter					
23	Insulation test					
24	IV Curve Tracer					
25	PV Solar Energy Advanced Trainer					
26	Solar Energy Demonstrator					
27	Cables					
28	Soldering iron and plugs					
29	PPE kit					

Financial Offer

SL NO.	BRIEF DESCRIPTION OF GOODS	CURRENCY	UNIT PRICE DAP (Incoterm 2010) FINAL DESTINATION (all inclusive)
1	Supply of required solar equipment		
2	Installation & Commissioning Charges		
3	Training Charges		
4	Comprehensive maintenance of the system for the period of one year from the date of commissioning.		
Click or tap here to enter text.			
Total Price			
Transportation Price			
Insurance Price			
Duty/ Tax (Nature and amount of each tax / duty component should be clearly specified)			
Other Charges (specify)			

SL NO.	BRIEF DESCRIPTION OF GOODS	CURRENCY	UNIT PRICE DAP (Incoterm 2010) FINAL DESTINATION (all inclusive)
Total Final and All-inclusive Price			

Compliance with Requirements

	You Responses		
	Yes, we will comply	No, we cannot comply	If you cannot comply, pls. indicate counter - offer
Minimum Technical Specifications	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
Delivery Term (INCOTERMS)	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
Delivery Lead Time	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
Warranty and After-Sales Requirements	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
Validity of Quotation	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
Payment terms	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
Other requirements <i>[pls. specify]</i>	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.

Other Information:

Estimated weight/volume/dimension of the Consignment:	Click or tap here to enter text.
Country/ies of Origin: <i>(if export licence required this must be submitted if awarded the contract)</i>	Click or tap here to enter text.

I, the undersigned, certify that I am duly authorized to sign this quotation and bind the company below in event that the quotation is accepted.	
<i>Exact name and address of company</i> Company Name: Click or tap here to enter text. Address: Click or tap here to enter text. Click or tap here to enter text. Phone No.: Click or tap here to enter text. Email Address: Click or tap here to enter text.	Authorized Signature: Date: Click or tap here to enter text. Name: Click or tap here to enter text. Functional Title of Authorised Signatory: Click or tap here to enter text. Email Address: Click or tap here to enter text.

