Request for Quotation For Conducting Training Program on SWPS for ISA

RFQ Reference: 31/06/PPIC/2023-ISA	Date: 12 June 2023

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

Annex 4: TOR for Training on Solar Water Pumping Systems- Programme-1

Annex 5: Training Agenda

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: _____

Procurement Unit, ISA

SECTION 2: RFQ INSTRUCTIONS AND DATA

Introduction	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 Financial Regulations and Procedures and ISA Procurement Manual
	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.
	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.
Deadline for the Submission of Quotation	26.06.2023 by 7 PM (IST) If any doubt exists as to the time zone in which the quotation should be submitted, refer to http://www.timeanddate.com/worldclock/.
	For eTendering submission - as indicated in eTendering system. Note that system time zone is in EST/EDT (New York) time zone.
Method of	Quotations must be submitted as follows:
Submission	
	Dedicated Email Address
	 Courier / Hand delivery Other Click or tap here to enter text.
	Bid submission address: procurement@isolaralliance.org
	 File Format: pdf, jpeg, zip
	 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: 60 MB
	 Mandatory subject of email: <u>RFQ for Conducting Training Program on SWPS for</u> <u>ISA.</u>
	 Multiple emails must be clearly identified by indicating in the subject line "email no. X of Y", and the final "email no. Y of Y.
	 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	ISA shall not be responsible for any costs associated with a Bidder's preparation and submission of a quotation, regardless of the outcome or the manner of conducting the selection process.
Supplier Code of Conduct, Fraud, Corruption,	All prospective suppliers must read the ISA Supplier Code of Conduct and acknowledge that it provides the minimum standards expected of suppliers to the ISA. The Code of Conduct, which includes principles on labour, human rights, environment and ethical conduct may be found at: <u>https://isolaralliance.org/images/ISA%20Supplier%20Code%20of%20Conduct</u> 14.4.2023.final%20versi <u>on.pdf</u>
	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.
Gifts and Hospitality	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 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.
Conflict of Interest	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 an undisclosed conflict of interest shall be disqualified.
	The ISA shall have the discretion to disqualify or proceed with a bidder who has disclosed a probable conflict of interest subject to further evaluation and review of various factors such as access to sensitive information which may confer unfair advantage as against other bidders. The decision on a probable conflict of interest shall be made in the best interest of the work of the ISA.
	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.
	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.
General Conditions of Contract	Any Purchase Order or contract that will be issued as a result of this RFQ shall be subject to the General Conditions of Contract
	□ <u>https://www.isolaralliance.org/images/ISA_GTB.pdf</u>
Special Conditions of Contract	□ Cancellation of PO/Contract if the delivery/completion is delayed by [indicate number of days] □ Others [pls. specify]
Eligibility	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.
	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. Bidders must have the legal capacity to enter a binding contract with ISA and to deliver in the
	country, or through an authorized representative. Bidders must have the legal capacity to enter a binding contract with ISA and to deliver in the country, or through an authorized representative

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•	The Training Institute should be affiliated to or recognized by the Ministry/relevant Government department/statutory body of the country. Please attach relevant documents.
-	Institute should have 1 Master trainer and a pool of expert trainers (Minimum 2), dedicated for the proposed training. Master Trainer and the expert trainers should have minimum qualification of engineering graduation or post-graduation in science with at least 4 years of experience in the Renewable Energy Sector and 2 years of experience in online solar training delivery in English/French/Spanish. Although the training programme will be in English language however at least one of the expert trainers must be capable of imparting the training in French and / or Spanish language will be preferable. Please attach relevant documents.
•	Training Institute should have in-house infrastructure for conducting on-line trainings with seamless internet facilities with audio video provision and uninterrupted power supply for at least 6 hours.
•	The bidder must have Annual Turnover of more than USD 1,25,000 - Please attach audited financial statements for past 3 financial years.
•	The bidder should have minimum staff strength of 50 persons in last 3 years- Please attach relevant documents.
For Key	Personnel Proposed:
Master	Trainer:
-	Qualification: Engineering graduation or post-graduation in science
•	Minimum years of relevant working experience: 4 years (2 years of experience in online solar training delivery)
	Specific experience/knowledge: Expert in respective field knowledge. Proficiency in conducting trainings in English and Knowledge of French and/or Spanish will be preferred
Expert ⁻	Trainer-1:
•	Qualification: Engineering graduation or post-graduation in science
•	Minimum years of relevant working experience: 4 years (2 years of experience in online solar training delivery)
-	Specific experience/knowledge: Expert in respective field knowledge. Proficiency in conducting trainings in English and Knowledge of French and/or Spanish will be preferred
Expert ⁻	Trainer-2:
•	Qualification: Engineering graduation or post-graduation in science
•	Minimum years of relevant working experience: 4 years (2 years of experience in online solar training delivery)
-	Specific experience/knowledge: Expert in respective field knowledge. Proficiency in conducting trainings in English and Knowledge of French and/or Spanish will be preferred
Expert ⁻	Trainer-3 (If applicable):
•	Qualification: Engineering graduation or post-graduation in science
•	Minimum years of relevant working experience: 4 years (2 years of experience in online solar training delivery)

	Specific experience/knowledge: Expert in respective field knowledge. Proficiency in conducting				
	trainings in English and Knowledge of French and/or Spanish will be preferred				
Currency of	Quotations shall be quoted in Click or tap here to enter text.				
Quotation					
Joint Venture,	If the Bidder is a group of legal entities that will form or have formed a Joint Venture (JV),				
Consortium or	Consortium or Association for the Bid, they shall confirm in their Bid that : (i) they have designated				
Association	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.				
	Refer to Clauses 22 – 27 under Solicitation Process in the Procurement Manual for details on the				
	applicable provisions on Joint Ventures, Consortium or Association.				
Only one Bid	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:				
	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				
	b) they have the same legal representative for purposes of this RFQ; or				
	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;				
	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				
	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.				
Duties and	The United Nations (privileges and immunities) Act, 1947 is applicable to ISA pursuant to a				
taxes	notification by the host country. Therefore, ISA 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 in India. All quotations shall				
	be submitted net of any direct taxes and any other taxes and duties, unless otherwise specified				
	below:				
	All prices must:				
	□ be inclusive of VAT and other applicable indirect taxes				
	□ be exclusive of VAT and other applicable indirect taxes				
	[according to project and applicable country agreement]				
Language of	English				
quotation	Including documentation including catalogues, instructions and operating manuals.				
Documents to	Bidders shall include the following documents in their quotation:				
be submitted	Annex 2: Quotation Submission Form duly completed and signed				
	Annex 3: Technical and Financial Offer duly completed and signed and in				
	accordance with the Schedule of Requirements in Annex 1				
	Company Profile.				
	Registration certificate;				
	List and value of projects performed for the last 3 years plus client's contact details who may be				
	contacted for further information on those contracts;				
	☑ List and value of ongoing Projects with ISA and other national/multi-national organization with				
	contact details of clients and current completion ratio of each ongoing project;				
	Statement of satisfactory Performance (Certificates) from the top 3 clients in terms of Contract				
	value in similar field;				
	⊠ Completed and signed CVs for the proposed key Personnel;				

Quotation	Quotations shall remain valid for Click or tap here to enter text. days from the deadline for the					
validity period	Submission of Quotation.					
Price variation	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.					
Partial Quotes	□ Not permitted					
	Permitted Insert conditions for partial quotes and ensure that the requirements are properly					
	listed in lots to allow partial quotes					
Alternative	□ Not permitted					
Quotes	Permitted					
	If permitted, an alternative quote may be submitted only if a conforming quote to the RFQ					
	requirements is submitted. Where the conditions for its acceptance are met, or justifications are					
	clearly established, Click or tap here to enter text. reserves the right to award a contract based on					
	an alternative quote. If multiple/alternative quotes are being submitted, they must be clearly					
	marked as "Main Quote" and "Alternative Quote"					
Payment Terms	\Box 100% within 30 days after receipt of goods, works and/or services and submission of payment					
	documentation.					
	Other Click or tap here to enter text.					
Conditions for	Passing Inspection [specify method, if possible] Complete Installation					
Release of	Passing all Testing [specify standard, if possible]					
Payment	Completion of Training on Operation and Maintenance [specify no. of trainees, and location of					
	training, if possible					
	UWritten Acceptance of Goods, Services and Works, based on full compliance with RFQ					
	requirements					
	□ Others [pls. specify]					
Contact Person	E-mail address: Mr. P.C. Sharma email: pcsharma@isolaralliance.org					
for	Attention: Quotations shall not be submitted to this address but to the address for quotation					
correspondenc	submission above. Otherwise, offer shall be disqualified.					
e, notifications	Any delay in ISA's response shall be not used as a reason for extending the deadline for					
and	submission, unless ISA determines that such an extension is necessary and communicates a new					
clarifications	deadline to the Proposers.					
Clarifications	Requests for clarification from bidders will not be accepted any later than 4 days before the					
	submission deadline. Responses to request for clarification will be communicated					
Evaluation	\Box The Contract or Purchase Order will be awarded to the lowest price substantially compliant					
method	offer					
Evaluation	\Box Full compliance with all requirements as specified in Annex 1					
criteria	⊠Full acceptance of the General Conditions of Contract					
	□Comprehensiveness of after-sales services					
	Earliest Delivery /shortest lead time					
	□ Others Click or tap here to enter text.					
Right not to	ISA is not bound to accept any quotation, nor award a contract or Purchase Order					
accept any						
quotation						
Right to vary	At the time of award of Contract or Purchase Order, Click or tap here to enter text. ISA reserves					
requirement at	the right to vary (increase or decrease) the quantity of services and/or goods, by up to a					
time of award	maximum twenty-five per cent (25%) of the total offer, without any change in the unit price or					
	other terms and conditions.					
Type of	Purchase Order					
Contract to be	Contract for Works					
awarded	Other Type/s of Contract [pls. specify]					
Expected date	15 July 2023					
for contract	, -					
award.						

Publication ofISA will publish the contract awards valued at USD 100,000 and more on the ISA website.	
Contract Award	
Policies and	This RFQ is conducted in accordance with ISA Financial Regulation and Procedures and ISA
procedures	procurement manual

ANNEX 1: SCHEDULE OF REQUIREMENTS

Provided in Annexure 4 and 5 in the TORs

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 (if applicable)	Click or tap here to enter text.		
Legal structure	Choose an item.		
Are you a UNGM registered vendor?	□ Yes □ 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):	⊠ Yes □ 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):	⊠ Yes □ No		
Does your Company have a written Statement of its Environmental Policy? (<i>If yes,</i> <i>provide a Copy</i>)	⊠ Yes □ No		
Does your organization demonstrate significant commitment to sustainability through some other means, for	⊠ Yes □ No		

example internal company policy documents on women empowerment, renewable energies or membership of trade institutions promoting such issues (<i>If yes, provide a Copy</i>)					
Is your company a member of the UN Global Compact		🛛 Yes 🗆 No			
Bank Information		Bank Address: IBAN: Click or 1 SWIFT/BIC: Cliu Account Curre		e to enter text. r text.	
		Previous rele	vant experience	e: 3 contracts	
contracts Cont		& Reference act Details ding e-mail	Contract Value	Period of activity	Types of activities undertaken

Bidder's Declaration

Yes	No	
		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.
		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.
		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.
		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 : <u>https://www.un.org/Depts/ptd/about-us/un-supplier-code-conduct</u> and acknowledge that it provides the minimum standards expected of suppliers to the UN.
		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.

Yes	No	
		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.
		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.
		Offer Validity Period: I/We confirm that this Quote, including the price, remains open for acceptance for the Offer Validity.
		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.
		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 bid 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:	Click or tap here to enter text.	Date: Click or tap to enter a date.	

Technical Offer

Provide the following:

- a brief description of your qualification, capacity and expertise that is relevant to the Terms of Reference.
- a brief methodology, approach and implementation plan.
- team composition and CVs of key personnel

Financial Offer

Provide a lump sum for the provision of the services stated in the Terms of Reference your technical offer. The lump sum should include all costs of preparing and delivering the Services. All daily rates shall be based on an eight-hour working day.

Currency of Quotation: Click or tap here to enter text.

Ref	Description of Deliverables	Price
1.		
2.		
3.		
4.		
5.		
	Total Price	

Breakdown of Fees

Personnel / other elements	UOM	Qty	Unit Price	Total Price
Personnel				
e.g.Master Trainer	day			
Other expenses				
Other Costs: (please specify)				

Total		
Iotai		

Compliance with Requirements

	You Responses		
	Yes, we will comply	No, we cannot comply	If you cannot comply, pls. indicate counter - offer
Delivery Lead Time			Click or tap here to enter text.
Validity of Quotation			Click or tap here to enter text.
Payment terms			Click or tap here to enter text.
Other requirements [pls. specify]			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.

Exact name and address of company	Authorized Signature:	
Company NameClick or tap here to enter text.	Date:Click or tap here to enter text.	
Address: Click or tap here to enter text.	Name: Click or tap here to enter text.	
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.	
Phone No.:Click or tap here to enter text.		
Email Address:Click or tap here to enter text.		

ANNEX 3: TECHNICAL AND FINANCIAL OFFER - SERVICES

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: Click or tap here to enter text.		Date: Click or tap to enter a date.	

Technical Offer

Provide the following:

- a brief description of your qualification, capacity and expertise that is relevant to the Terms of Reference.
- a brief methodology, approach and implementation plan;
- team composition and CVs of key personnel

Financial Offer

Provide a lump sum for the provision of the services stated in the Terms of Reference your technical offer. The lump sum should include all costs of preparing and delivering the Services. All daily rates shall be based on an eight-hour working day.

Currency of Quotation: Click or tap here to enter text.

Ref	Description of Deliverables	Price
1.		
2.		
3.		
4.		
5.		
	Total Price	

Breakdown of Fees

Personnel / other elements	UOM	Qty	Unit Price	Total Price
Personnel				
e.g. Project Manager/Team Leader	day			
Other expenses				
International flights				
Subsistence allowance				
Local Transportation				
Communication				
Other Costs: (please specify)				
Total				

Compliance with Requirements

		You Responses		
	Yes, we will comply	No, we cannot comply	If you cannot comply, pls. indicate counter - offer	
Delivery Lead Time			Click or tap here to enter text.	
Validity of Quotation			Click or tap here to enter text.	
Payment terms			Click or tap here to enter text.	
Other requirements [pls. specify]			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.

Exact name and address of company	Authorized Signature:	
Company NameClick or tap here to enter text.	Date:Click or tap here to enter text.	
Address: Click or tap here to enter text.	Name:Click or tap here to enter text.	
Click or tap here to enter text.	Functional Title of Authorised	
Phone No.:Click or tap here to enter text.	Signatory:Click or tap here to enter text.	
Email Address:Click or tap here to enter text.	Email Address: Click or tap here to enter text.	

Annexure 4

TOR for Training on Solar Water Pumping Systems- Programme 1

1. Introduction

International Solar Alliance is looking to engage a Training Institute to conduct training on Solar Water Pumping System for officials from Member countries in English language.

The training will be provided **using Moodle e learning platform** virtual mode (Zoom/MS team/ any other virtual platform) with simultaneous translation facility from English to French or Spanish and vice versa.

2. Background

The International Solar Alliance (ISA) is an action-oriented, member-driven, collaborative platform for increased deployment of solar energy technologies as a means for bringing energy access, ensuring energy security, and driving energy transition in its member countries.

The ISA is guided by its 'Towards 1000' strategy which aims to mobilise USD 1,000 billion of investments in solar energy solutions by 2030, while delivering energy access to 1,000 million people using clean energy solutions and resulting in installation of 1,000 GW of solar energy capacity. The training programme is a step towards achieving ISA mission.

The objective of this training to update knowledge of Official from energy/renewable energy department/electric utility/regulator and other with similar background on the latest development of Solar Water Pumping Systems. The training program would enable them to assess techno-commercial feasibility and financial viability of setting up Solar Water Pumping projects, as well as analyse various financial instruments, government schemes and policies, tools, business models and risk mitigation mechanisms that are being adopted for deployment of Solar Water Pumps.

3. Methodology and scope of work

Under this section, the proposed methods for organizing the trainings on solar roof top will be identified. Under the supervision and in close co-operation with the ISA the training institute / organization will implement the following tasks:

Total number of batches under this contract will be six (6) for the period of 1year with the
provsion of ± 2 batches. Each batch of the training module is expected to be a minimum of 30
participants and maximum partcipation per batch will depend on nominations received from
member countries.

- Each batch of training shall be for five days duration (from Monday to Friday). Every day there would be two sessions. Each session will be of 1.5 hours duration, with a total of 3 hours every day and total 15 hours for 5 days period.
- Date and time of training batches will be informed by ISA from time to time for the oneyear period.
- The medium of the training program will be in ENGLISH language and there will be facility for French and / or Spanish Interpretation, which shall be arranged by ISA.
- The mode of the training shall be virtual and using Moodle e learning platform and Zoom or MS Teams which shall be provided by ISA.
- The tentative agenda and topics of the proposed online training program is placed at Annexure-I.
- Participants shall be arranged and informed by ISA Secreteriat to the selected training institute / organization.
- The presentations of the training course shall be submitted by the Training Institute / /Organization for approval of ISA.
- The course content has to be customized according to the Region of the participants.
- Videos and Graphical presentations of scientific principles, engineering, specialized activities and installation practices should also be included in Training Course.
- A report of each training programme has to be submitted to ISA within two days after the completion of the Training Programme.
- Presentations made during the Training Program will be shared with the participants by the training institute / organization every day.
- Evaluation and feedback will be carried out after the last session (sheet to be filled by the participants).
- The training institute / organization shall also provide certificate to the participants.
- 4. Consultancy Competencies, Experience and Skill Requirements:
- The training shall be imparted by 1 Master trainer and a pool of expert trainers (minimum 2 and maximum 3), dedicated for the proposed training. Master Trainer and the expert trainers should have minimum qualification of engineering graduation or post-graduation in science with at least 4 years of experience in the Renewable Energy Sector and 2 years of experience in online solar training.
- Training Institute / organization should have in-house infrastructure for conducting on-line trainings with seamless internet facilities with audio video provision and uninterrupted power supply.

The Online training programme will be coordinated by Mr Praphul Chander Sharma, Joint Director (Program) on behalf of ISA Secretariat.

Annexure 5

Five days Training Program on Solar Water Pumps

Training Agenda

Date:

Mode of training: Online

Duration:5 days / 15 hrs.

Batch Size: --- Participants

		Day-1
Time	Торіс	Session Outline
1 Hr 20 Mins	Session-1 : Introduction	 Introduction of ISA Overview of Solar Energy Technologies, World Energy scenario and Energy Markets Advantages of Solar Energy technologies Solar PV WPS and other Applications Overview of world deployment of Solar PV Water pumps. Overview of components and Sub-systems of Solar PV Water Pumps
10 mins	Q & A Session	
1 Hr 20 Mins	Session-2 : Properties of Light & Solar Radiation Basics of Semiconductors & Solar Cells	 Basics of Light Solar Radiation Terrestrial Solar Radiation Solar Irradiance & Radiation Data Relative movements of Earth & Sun Semiconductor Materials & Properties P-N Junction and Characteristics Solar Cell Structure & Operation
10 Mins.	Q & A Session	

		Day-2
Time	Торіс	Session Outline
1 Hr 20 Mins	Session-3 : Solar Module Characterization	 Concept of Solar Modules Basic Current-Voltage (I-V) Curves Standard Test Conditions (STC) Module Output Curves Environmental Effects on module Output potential Module Interconnection Effects Interaction of modules with Motor/Resistive Load Standard Test Conditions (STC) Different PV Technologies and their comparison Monitoring and regular maintenance of Solar Modules
10 Min	Q & A Session	
1 Hr 20 Min	Session-4 : Solar Water Pumps: Details and Designing of an SPV WPS	 Why Solar water pumping - Advantages of Solar Pumps markets and applications battery powered or direct couple to Array Pumps Terminology of WPS Type of Motors for PV Pumping Systems (AC & DC) Type of pumps for photovoltaic Pumping Systems Types of Pump Controllers Primary Requirements for choosing a pump Supplementary Consideration for choosing a pump Pump Output Curves Pump Efficiency Considerations and Calculation: Designing a Solar Pumping System Component design considerations Matching Array to Pump
10 Min	Q & A Session	

		Day-3
Time	Торіс	Session Outline
1 Hr 20 Min	Session-5 : Module Mounting Systems	 Introduction Types of Module Mounting Systems: Fixed, Adjustable and Tracking Type Wind Loading Calculations Inter row spacing Ground mount systems
10 Mins	Q & A Session	
1 Hr 20 Min	Session- 6 : BOS in Solar Water Pumps	 Introduction of BOS Array Junction Boxes PV Main Disconnection Devices Cabling and Cable sizing for WPS Array String protection and disconnection switches. Lightening Protections Earthing Metering Overall System Protections System Monitoring
10 Min	Q & A Session	

Day-4			
Time	Торіс	Session Outline	
1 Hr 20 Min	Session-7 : Pre-installation Activities	 Introduction Site Assessment Selection of Array tilt angle and Orientation Choosing a Site-specific Module Mounting Structure Calculation of required flow rates Total Dynamic Head (TDH) Planning distribution of output water 	
10 Min	Q & A Session		
1 Hr 20 Min	Session-8 :	Applicable International/local Standards	

10.00%	Installation, Commissioning, Operation & Maintenance of Solar WPS	 Equipment Selection – Warranties Installation Preparation Equipment Installation (Array & Pump) Monitoring Equipment Pre-commissioning Checks Step-by -step Commissioning of Subsystems Commissioning of Complete system Performance Measurement Commissioning test sheets & Documentation Do's and Don'ts of O&M System Maintenance and its importance for sustenance of the Solar WPS. Troubleshooting
10 Min	Q & A Session	

Day-5		
1 Hr 20 Min	Session-9: Occupational Health &Safety	 On-site Risk assessment Safety related to individual PV components Safety Hazards Safety Equipment's Site Safety First Aid
10 Min	Q & A Session	
1 Hr	Session – 10 Economics of Solar WPS	 Introduction Costing of Solar WPS Business Models in Solar WPS Case Studies in Solar WPS
30 Min	Evaluation & Feedback	