

**International Solar Alliance (ISA) Expression of Interest (EOI) for Empanelment of Global Firms / Companies for Assessment of Solar Powered Irrigation and other Off-Grid Solar Applications in Agriculture Sector for ISA Member Countries**

**Background:**

The International Solar Alliance (ISA) is an action-oriented, member-driven, collaborative platform that seeks to create effective and sustainable markets and political commitments for the deployment of solar energy systems globally, with a strong focus on Least Developed Countries (LDCs) and Small Island Developing States (SIDS). By leveraging a unique political opportunity to empower developing and emerging economies, the ISA also promotes a transition to clean energy that is truly global, while simultaneously advancing principles of economic development and social equity. The ISA undertakes joint efforts to reduce financing costs and the cost of solar technology applications and services. The ISA seeks to help countries mobilize USD 1 trillion of investment for a massive deployment of solar energy technologies and expand solar markets. This would help achieve three different but interlinked objectives: promoting a clean energy transition, enabling energy access and energy security, and delivering a new economic driver for all countries.

The Programme and Projects Implementation Cluster (PPIC) of the ISA Secretariat is supporting the Member Countries in their self-reliance by providing skill development support and technical assistance for developing a pipeline of sustainable solar projects. The PPIC unit of ISA is currently focusing on the following three areas –

**Programmatic Support:** The PPIC unit has been providing programmatic support to member countries for reducing energy poverty through the promotion of various solar solutions including both centralized and dedicated distribution renewable energy domain, including solar applications for agriculture use, solar parks, mini-grids, and rooftop.

**Demonstration Projects and Implementation Support:** The PPIC unit also provides implementation support in 27 countries for demonstration projects on solar water pumps, solar home systems, solar cold storage and solarization of health facilities etc.

**Skill Development Support:** The ISA also aims to support the Member Countries through developing skills of stakeholders at all nodes of the solar value chain, from policymakers and bankers to technicians and master trainers. The PPIC unit is providing training courses as part of the programmatic support.

**Context**

Global trends show a clear shift from fossil-fuel-based energy generation based on coal, diesel and gas resulting in high GHG emissions towards clean, efficient, environment-friendly renewable energy sources such as hydro, solar and wind due to increasing global warming and climate change concerns. In this energy transition, solar energy would be at the Centre stage.

Energy is a key input towards raising the standard of living of citizens of any country which is evident from the correlation between per capita electricity consumption and the Human Development Index. Nearly 570 million (2019) people across the world are without access to electricity, with most of them in the least

developed countries (LDCs). Energy policies of developing countries should aim to raise per capita energy (and electricity) consumption with focus on energy access and eradication of poverty.

There is a need for large power capacity addition, particularly in developing countries. However, the countries today are largely dependent on fossil fuel-based electricity generation plants to meet their power requirements. The clear way forward is to focus on efficient use of energy and thrust on newer power capacity additions based on Renewable Energy (RE) sources. This will not only address the issues of energy access and global warming but also increase the energy security of the countries.

Among RE Sources, Solar stands highly promising, particularly for ISA Countries. In recent years, the reduction in cost of Solar PV panels due to increasing market competition has brought down the Solar PV Based power generation cost lower than fossil fuel-based power generation thereby bringing lot of opportunities for Solar PV generation capacity to scale up. Low gestation period for development of solar projects from 'concept to commissioning' is another key advantage.

While decentralized deployment of Solar PV, such as Solar Applications for Agriculture Use, would help in addressing the energy access challenges, there are distinct advantages in going for large scale Solar Projects. In fact, in many parts of the world, large scale ground-mounted Solar Projects are being planned /developed with simultaneously focus on decentralized Solar Projects.

ISA's first programme, Scaling Solar Applications for Agricultural Use (SSAAU), was launched in New York, the USA on 22nd April 2016. The SSAAU Programme mainly focuses on decentralized solar applications in rural settings. Major focus areas of the programme include Solar Water Pumping Systems (SWPS), solar drying, solar chilling, solar milling, etc. Other activities under the program include R&D, capacity building, and development of common standards, facilitating the transfer of technology, etc.

In this context, ISA is looking for a competent firm/company to help achieve the above-mentioned objectives by way of assessing the potential for scaling solar applications for agriculture use in the country as detailed brought out in this document

### **Scope of Work**

The ISA Secretariat intends to conduct:

A national-level assessment cum feasibility study to identify and assess the needs and benefits of solar applications in the agriculture sector, specifically solar water pumps with the goal of reducing dependency on rainfed and diesel-operated water pumps for irrigation. The feasibility study will help in building a business case for integrating solar pumps and other solar applications with the agriculture and irrigation sector on a national scale.

A project-level assessment cum feasibility study to develop bankable projects pertaining to a specific area/region and solar application in the agriculture sector as per the country's requirement. The study will consist of developing a site survey, stakeholder consultation, need assessment, techno-commercial study and a sustainable business model.

The proposed consulting firm/ company is expected to develop the assessment cum feasibility study which includes:

Prepare the country profile by assessing the current state of solarization initiatives in the country including agricultural solarization initiatives, covering policies, programmes (such as solar water pumping systems, solar cold storage, solar home lighting and other productive uses), evaluation of solar and agriculture sector value chain, business models, experiences and lessons learned.

Resource assessment involves taking stock of availability and current stage of development for solar energy and water resources.

Undertake virtual/in-person consultation with stakeholders.

Develop an assessment cum feasibility report to identify and evaluate the needs and benefits of scaling solar applications for agriculture use (including the productive use applications), in the country.

Detailed Tasks and/or Expected Output

The selected consultancy firms are generally required to carry out the following, but not limited to, activities while doing the assessment in member countries of ISA. The key deliverables of the consultancy firm shall be one or more of the following to enable the readiness of the member country for the scaling of the use of solar for agricultural projects:

**Site Survey:** Identification of sites in the proposed regions and conduct a detailed survey for each site consisting of the duration and the type of crops being cultivated at each region/site, the primary source of water being utilized and its availability throughout the year, type of irrigation techniques being used (flood, sprinkler, drip, etc.), the power source for irrigation such as rainfed and diesel, grid electricity, solar or any other source powered pumping system, per day or per unit expenditure on irrigation, daily water requirement for the type of crops being cultivated, awareness of solar water pumping technologies, and willingness to pay for irrigation services.

The consulting firm/ company would also be required to conduct a survey on farmers experiences with Solar powered equipment including irrigation pumps, solar home lighting and productive uses.

**Resource Assessment:** Conduct a study on solar radiation patterns in the selected project sites based on secondary data and prepare a report covering solar radiation's monthly and annual summary with generation potential. On the waterside, this would include water resource availability and current stage of surface and groundwater development, and the status of irrigation and water supply coverage. Based on this, the report will present a first-cut assessment of the overall (potential) size of the solar pump market in the country.

**Stakeholder Consultation and Market Ecosystem:** Undertake virtual/in-person consultations with stakeholders to gain insights and updates on the developments in policy and regulatory environment and relevant value chains where solar applications play – or can potentially play – a significant role. The component will also explicitly look at the ecosystem for acquiring and servicing solar equipment.

**Assessment cum feasibility report:** Based on the above-mentioned activities and gathered information, the assessment cum feasibility report shall be developed, including but not limited to:

Overview of the country's agriculture and irrigation sector,

**Evaluation of the surveys conducted,**

Outcomes from the stakeholder consultation and assessment of the market ecosystem,

Potential of integrating solar applications with the agriculture sector -including home lighting, solar-powered irrigation and areas of productive use in the country and investment estimates for solar applications, Developing a strategic roadmap for solarizing the agriculture and irrigation sector in the country based on the country's readiness, policy and regulatory support, and the available infrastructure, Proposing various business models that can be effectively implemented in the country.

**Note:**

For the preparation of the reports for the above-mentioned tasks, the firm shall closely interact and liaison with the key stakeholders like policymakers, regulators, Power generation & transmission utilities, power distribution companies, etc. of the member country.

Details of Proposed Projects should be as per the need of the ISA Countries in the Regional Cluster. The firm shall submit the soft copy and an appropriate number of translated hard copies of these reports as per the requirement of the member country. The exact scope of work would be finalized by ISA as per the requirement of the member country.

**Focus Countries:**

A cluster of ISA Member Countries in Small Island Developing States and Least Developed Countries in Africa, Asia-Pacific, and Latin America and Caribbean Regions

**Required Competencies:**

Should have worked in at least 10 Solar Off-Grid projects for national governments, multilateral development banks, etc., especially in the area of Solar Water Pumping Systems, Solar Home Lighting Systems and other Solar Applications for Agriculture Use, as per the details below:

Should have worked/familiar with the Power sector policies, Renewable Energy sector policies, Electrification plans, Electricity and RE Power regulations, technical standards for solar pumps, solar home systems and other solar off-grid systems, grid regulations, grid codes, grid connectivity standards, etc.

Should have experience/ knowledge in preparing Pre-Feasibility Report, Detailed Project Report (in the appropriate official languages), draft of the country programme, development of programme to create industries based on solar energy, payment security instruments, bidding documents, development of forward and backward linkages of the Solar Off-Grid Programme, etc.

Experience/ Knowledge sharing of successful case studies and business models of solar pumps, solar home systems, financing mechanisms for solar power projects, existing power purchase transaction models, etc. operational in ISA Countries.

Experience in coordination with various stakeholders like relevant Ministries/ Organisations/Institutions, Policymakers, Regulators, Power Generation & Transmission Utilities, Power Distribution Companies, Financial Institutions, MDBs, etc.

Experience in locating solar projects by necessary simulations after identification of Land, solar resources, and transmission connectivity.

Familiarity with the potential assessment for deployment of various sizes of solar applications including solar home systems, solar water pumping systems, etc. and the reasons for the same.

Familiarity with various suppliers/players, and associations active in the deployment of these systems.  
Familiarity with present financial institutions like MDBs/ DFIs and local banks.

Familiarity with the socio-economic conditions of the countries.

**EoI Submission details:**

- Company Profile
- Registration certificate
- Compliance Statement for eligibility requirement as mentioned under Required Competencies (Clause 6), along with documentary evidence against each requirement
- List and value of projects performed for the last 3 years plus client's contact details who may be contacted for further information regarding their feedback on those contracts
- List and value of ongoing Projects with ISA (if any) and other national/multi-national organization with contact details of clients and current completion ratio of each ongoing project
- Completed and signed CVs for the proposed key Personnel

**Empanelment period:**

The timeline of the empanelment period shall be 2 years from the date of award of the empanelment contract. Further, any extension in time shall be mutually decided based on the requirement /work progress.

How to submit:

Proposal Submission Address- E-mail: [procurement@isolaralliance.org](mailto:procurement@isolaralliance.org)

Format: PDF files only

File names must be maximum of 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: 5 MB When to submit (Expression of interest and statements of qualification must be delivered to the email address below **above by 03 October 2022**)

Interested Companies must provide information indicating that they are qualified to perform the services (brochure, description of similar assignments, experience in similar conditions, availability of appropriate skills among staff, etc...). Companies may associate to enhance their qualifications.



**The EOI and accompanying documents must be received through email no later by 03 October 2022 clearly labeled “EOI for Empanelment of Global Firms / Companies for Assessment for ISA Programme-01 (Scaling Solar Applications for Agricultural use) in member countries of ISA”.**

EOI from suppliers failing to provide the requested information will be disregarded. Request for Proposal and any subsequent purchase order will be issued in accordance with the rule and procedures of ISA.

This EOI does not entail any commitment on the part of ISA, either financial or otherwise. ISA reserve the right to accept or reject any or all EOI without incurring any obligation to inform the affected applicant/s of the grounds.

Interested firms may obtain further information at the below email address: [procurement@isolaralliance.org](mailto:procurement@isolaralliance.org)

\*\*\*\*\*