

NTPC Limited
(A Government of India Enterprise)



EXPRESSION OF INTEREST (EOI)
FOR
SOLARIZATION OF 47 LDC & SIDS
MEMBER COUNTRIES OF
ISA

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SECTION-I: INVITATION FOR EXPRESSION OF INTEREST

1. INTRODUCTION

International Solar Alliance (ISA) was established in 2015 to undertake joint efforts required to reduce the cost of finance for solar projects, the cost of solar technology and mobilize more than US \$ 1000 billion of solar investments by 2030. In this quest, ISA intends to implement demonstration projects in Least Developed Countries (LDC) and Small-Island Developing States (SIDS) member countries through technical and financial assistance of approximately USD 3 million.

ISA intends to provide financial assistance to 47 Nos. LDCs and SIDS member countries “Member Countries” (**Annexure-A**) for implementation of pilot projects across 3 themes viz. ISA CARES Initiative, ISA Solar Water Pumping Programme (SWPS), and ISA Solar Cold Storage Initiative. ISA aims to promote innovative technologies and efficient business models with implementation of these three categories of demonstration projects.

Further, ISA has engaged NTPC also a corporate partner, as an implementation partner/ Project Management Consultant for these demonstration projects. NTPC plans to provide end-to-end support to ISA by coordinating and supervising the projects starting from need assessment to the final commissioning and handing over of the project to member country.

NTPC is a Government of India Enterprise, with a rich experience of more than 44 years in development, engineering, and operation & maintenance of large, diversified power projects with coal, gas and renewables etc.

Today, with 62,918 MW capacity, NTPC is the largest power generating company in South Asia, powering approx. 24% of India’s electric energy and exporting around 500 MW to BIMSTEC region. It is ranked # 2 in Independent Power Producers and Energy Traders Globally in Platts Top 250 Global Energy Company Rankings – 2019.

2. INTENT OF THE EXPRESSION OF INTEREST (EOI)

ISA has appointed NTPC as Project Management Consultant (PMC) for solarization projects in 47 LDC/SIDS member countries as referred above. On behalf of ISA, NTPC is inviting “Expression of Interest (EOI)” to assess market response from the vendors/parties “Applicants” to determine further course of action in procurement of goods and services for solarization projects. This can be through Long-term tie up/ MOUs/ tendering, etc. or by any combination of the options mentioned above.

The purpose of this EOI is also to determine the capability and capacity and willingness of applicants

willingness of applicants.

3. SCOPE OF EXPRESSION OF INTEREST (EOI)

The International Solar Alliance (ISA) in association with NTPC is planning to implement “solarization projects” in various member countries (**Annexure-A**) across various themes as under:

1. Solar Powered Cold Storage (5MT)
2. Solar Water Pumps for Agricultural purpose (1 to 5 HP)
3. Solar Powered RO Water System (5000 LPD)
4. Off-Grid Solar PV system for Primary Health Care Centers (5-6 KW with Battery Energy Storage System (BESS))
5. Combination of above projects

NTPC on behalf of ISA is exploring market for interested applicants who have a track record of working as EPC contractors in providing any of the solarization projects and related services in countries indicated in **Annexure-A**.

The applicants are required to execute solarization projects on turnkey basis including engineering, supply, erection, commissioning, warranty/maintenance support for a period of three years.

Note:

- 1) It is expected that member country may identify a local agency(ies) for custom clearance, inland logistics and support during erection. Applicant may engage the services of such local agency(ies) if required.
- 2) It is understood that the product warranty of supplied goods shall be as per manufacturer’s terms and conditions. However, it is expected that a warranty of one year for goods and services shall be provided by the applicant

The applicants would also be required to provide on-line training as well as onsite training to the local agency/user.

Brief description of the Projects

1. Solar Powered Cold Storage

Solar Powered cold storage solution is a compact 5 MT Solar Powered Cold Storage solution to prevent post-harvest losses. The solar powered cold storage solution works on solar thermal technology, which minimizes the requirement of battery for running the system even during non-sun hours. The solution consists of a cold room with a door access, refrigeration unit placed alongside the cold room in a compact form, solar panels installed on top of the cold room.

Specifications	Indicative Values/ Description
Cold Room and refrigeration requirements	
External dimensions (L x W x H)	(Min. 15 feet x 7 feet x 7 feet)
Internal volume	Minimum 700 CFT (dependent on the commodity to be stored)
Indicative storage capacity	5MT (dependent on the commodity to be stored)
Storage temperature range	4 - 10 °C (dependent on the commodity to be stored)

Precooling capacity (assumed from 30 to 5 °C)	750 kg/day on a daily basis (dependent on the commodity to be stored)
Remote monitoring System	The remote monitoring system will be able to display the available thermal storage capacity, cold room temperature and alarms related to system faults.
Customizations	With respect to Capacity, storage, mobility of the system etc.

2. Solar Water Pumps for Agricultural purpose

Solar Water pump for agricultural use shall be installed in member countries. A typical solar water pump shall comprise of motor-pump set, SPV array, SPV controller, Module Mounting structure and Tracking system, earthing arrangement etc. The requirement of type of pump/capacity shall be finalized with the member countries.

Indicative Specifications	Indicative Values/ Description
Pump Type	DC/AC/Shallow/Borewell (Depending upon the requirement)
Motor-pump set Capacity	1 to 5 HP (Depending upon the requirement)
Water Output (Litres PerDay)	45600 from a head of 30 metres to 50400 from a head of 100 metres (Depending upon the pump capacity)
Customizations	With respect to Off-grid/Hybrid, AC/DC, Shallow water/Submersible pumps, Motor-pump capacity

3. Solar Powered RO Water System

The system is powered by solar energy with battery storage to provide purified water 24×7. The system is available in modular form depending upon the quality and quantity of water required for purification. The concept is to solarize the RO system so that purified water can be accessed by the people living in the remote areas.

Specifications	Indicative Values/ Description
Filtration Technology	Reverse Osmosis (RO) Multi Grade Filter Activated Carbon Filter Iron Filter Cartridge Filters
Raw Water Source	To be stored in Overhead Tank (5000 L)
Output Capacity of R.O. system	5000 LPD
RO Water Storage Capacity	1000 L
Remote Monitoring	Operational parameters- Flow rate, Conductivity, TDS
Microbiological Control	UV lamp and Ozoniser
Total Dissolved Solids (TDS)	Control setting for TDS
	With respect to RFID card/Token based

Customizations

dispensing unit, capacity, storage, design

4. Off-Grid Solar PV system for Primary Health Care Centres

An off-grid solution of (5-6) KW off-grid Solar PV based solution supported by Battery Energy Storage System (BESS) is envisaged. The system components for such a solution would be solar PV array, Power conditioning unit with charge controller, Module Mounting Structure, Battery bank and rack, cable, connectors, earthing and Balance of Systems etc. The actual design may be different from the proposed designed depending upon the requirement of the member country and site conditions.

Specifications	Indicative Values/ Description
Solar PV Plant complete system including Balance of System	(5-6) KW with BESS
Customization	With respect to Ground mounted/Roof mounted, capacity, battery storage, hybrid, remote monitoring, design etc.

5. Combination of projects

This project is envisaged as a combination of projects across various themes for e.g. (Off-grid Solar PV system + RO System + Solar Water Pump), (Off-grid Solar PV system + RO System), (Off-grid Solar PV system + Solar Water Pump), (Cold storage+ Solar Water Pump) etc. The capacity of systems under this project will be finalized with the member countries based on availability of funds.

4. TERMS AND CONDITIONS OF THE EXPRESSION OF INTEREST (EOI)

- a. This EOI is open to Indian applicants and applicants from member countries of ISA as per list enclosed in **Annexure-B**.
- b. The countries where solarization projects are to be implemented are indicated in the list at **Annexure-A**.
 - i. The countries have been grouped in various regions based on geographical proximity for ease of execution. However, exact grouping of region would be finalized during tendering stage.
 - ii. Applicant is expected to provide services in all the countries of a particular region
 - iii. A particular region may be serviced by more than one applicant
 - iv. Applicant may provide services in more than one region based on their capability and willingness
 - v. Some of the countries in a particular region may be excluded from the final list of countries at the time of tendering.
 - vi. Applicant will execute projects across different themes as finalized between NTPC, ISA and member country in the chosen region through tie-ups if required.
- c. Applicant should necessarily have experience of supply, erection/supervision of erection, commissioning/supervision of commissioning of similar projects in India and/or abroad. Such projects should have been in successful operation for more than 3 years.

d. Applicant should either be a manufacturer of similar project equipment/systems

or a system integrator for similar projects after procuring the equipment/systems from reputed suppliers of such equipment/systems.

- e. Applicant should necessarily have organizational capabilities in at least one of the countries in chosen region on its own or through associates/Sub-contractor.
- f. Applicant should have requisite financial capacity to undertake the projects in member countries
- g. Participation in this EOI shall be treated as conclusive evidence of the fact that the Applicant has carefully gone through and understood the terms and conditions of EOI including the amendments if any, prevailing at the time of EOI.
- h. Participation in this EOI does not, in any way, constitute any kind of commitment on the part of NTPC with applicants.
- i. NTPC reserves the right to assess the capacity/ capability of the applicant and viability of proposal, based on verification of documents and if required, cross verification for establishment of the capable applicant(s).
- j. NTPC reserves the right to accept or reject any or all applications, cancel/withdraw the EOI process without assigning any reason whatsoever, in case situation arises, and in such a case no applicant / intending applicant shall have any claim arising out of such action.
- k. The actual number of solarization projects to be executed in each country shall be finalized by ISA in discussion with NTPC and member countries.

SECTION-II: INSTRUCTION TO APPLICANTS

INSTRUCTIONS TO APPLICANTS

Interested Applicants may download the documents of EOI free of cost from www.ntpctender.com and <https://eprocurmentpc.nic.in>

The interested applicants should submit the following information/ documents as per the format(s) attached with each page of the document submitted duly numbered, signed and stamped along with this EOI documents:

- a) **Schedule-I:** Form of Application of EOI for solarization projects
- b) **Schedule-II:** Past experience with regard to relevant Experience in similar type of project Including client Certificates/ Other certificates.
- c) **Schedule-III:** Financial Strength of the Organization
- d) **Schedule-IV:** Proposed Strategy and project team structure for execution of the projects in the chosen region
- e) **Schedule-V:** Form for acceptance of NTPC's fraud prevention policy.
Signing & stamping all pages of this EOI document as confirmation of having read, understood and accepted all conditions.

DATE, PLACE & METHOD OF SUBMISSION OF APPLICATION

For consideration of EOI, applicant(s) are required to e-mail soft copy of documents on mohilmittal@ntpc.co.in with a copy to narindermohan@ntpc.co.in or upload the complete documents on GePNIC portal till 04th January 2021. No hard copy submission is required.

In case of any clarifications, applicants may reach out to:

Sh. Mohil Mittal
Sr. Manager, International Business Development
#75, 7th Floor, Engineering Office Complex, NTPC Ltd.
Plot A-8A, Sector-24, Noida-201301, Distt. Gautam Budh Nagar (U.P.), India.
Phone no.- +91-9416212794, 0120-4948713

Application received on or before due date would be considered for further evaluation.

OWNERSHIP OF EOI DOCUMENTS AND INFORMATION THEREIN

All EOI documents/correspondence in this connection will become the property of NTPC upon submission. Where the Applicant believes that information provided in response to this EOI is or should be kept confidential; or disclosure of this information would unreasonably affect the Proponent's business affairs, notice is to be given at the time of delivery of the information or documents by clearly marking such information 'confidential'. In so far as is practicable, NTPC will give effect to

the Applicant's stated wishes, and requests for access to such information will be

determined under the Right to Information (RTI) Act of India

SECTION-III: FORM OF APPLICATION & SCHEDULES

SCHEDULE-I

Form of Application for undertaking solarization project(s) in member countries of ISA **(TO BE PRINTED ON THE LETTER HEAD OF THE INTERESTED APPLICANT AND SIGNED)**

Ref No.

To,

Date

Sr. Manager (International Business Development)
NTPC Limited, 7th Floor,
Engineering Office Complex, A-8A, Sector – 24, Noida,
Distt. Gautam Budh Nagar, Uttar Pradesh, INDIA 201301

Dear Sir,

We are interested to execute the solarization projects in member countries of ISA. We hereby express our willingness to participate in RFP as and when NTPC (on behalf of ISA) invites the proposal for the same.

With reference to your invitation for EOI..... dated....., we are furnishing herewith all the required details as per the prescribed Schedules:

Name of the Company and Address	Details of Company profile
Whether the company is Govt. firm / Private owned	Ownership/shareholding structure details to be provided
Are you a manufacturer? 1) Solar Powered Cold Storage 2) Solar Water Pumps for Agricultural purpose 3) Solar Powered RO Water System 4) Off-Grid Solar PV system for Primary Health Care Center	Yes/No Yes/No Yes/No Yes/No
Details of experience of executing solarization projects as per Schedule-II	
Details of financial capacity of the applicant as per Schedule-III	
Willingness to undertake solarization projects region wise 1) Region-I 2) Region-II 3) Region-III 4) Region-IV 5) Region-V 6) Region-VI	Yes/No Yes/No Yes/No Yes/No Yes/No Yes/No
Details of service network (own/associates/sub-vendors, etc.) outside	Details to be provided by

(own/associates/sub-vendors etc.) outside

the applicant.

Region-I Region-II Region-III Region-IV Region-V Region-VI	
Proposed Strategy and project team structure for execution of the projects in the chosen region as per Schedule-IV	Details to be provided by the applicant

Certified that above information is true to the best knowledge of the Applicant

Yours faithfully,

(Authorized Signatory with complete name and designation with company's seal)

SCHEDULE-II

(Experience of similar projects undertaken in the past)

S. No.	Project Name	Scope of project	Cost of Work in USD	Date of commencement and completion of the contract	Project Location	Country	Year of Supply	Years of successful operation	Client	Remarks

Note:

- 1) Please attach copy of the work order/Completion Certificate for the experience details shared as above.
- 2) In case the work is performed in any currency other than USD same may be converted in USD at a fixed exchange rate which must be mentioned here.

Place:

Date:

Name:

In the Capacity of:

Signed:

Duly authorized to sign the application for and on behalf of:

(Seal of the company)

Schedule-III

Financial Strength of the Organization					
S. No	Financial Year	Whether profitable Yes/NO	Overall annual turnover (in USD)	Annual net profit (in USD)	Net worth (in USD)
1	2017-18				
2	2018-19				
3	2019-20				

Note: Please enclose auditor's certificate in support of your claim.

Schedule-IV

Proposed Strategy and project team structure for execution of the projects in the chosen region

(Applicants are free to choose any format in which they want to provide the information in this schedule)

Schedule V

(FORM FOR ACCEPTANCE OF FRAUD PREVENTION POLICY)

We have read the contents of Fraud Prevention Policy of NTPC displayed on its tender website <http://www.ntpctender.com> and undertake that we shall strictly abide by the provisions of Fraud Prevention Policy of NTPC.

Place:

Date:

Name:

In the capacity of:

Signed:

Duly authorized to sign the application for and on behalf of:

(Seal of the company)

Annexure A

S.No.	Name of Country	Region
1	Maldives	Asia (Region-I)
2	Bangladesh	
3	Cambodia	
4	Myanmar	
5	Haiti	Caribbean (Region-II)
6	Cuba	
7	Dominica	
8	Grenada	
9	Jamaica	
10	Saint Lucia	
11	Trinidad and Tobago	East Africa (Region-III)
12	Burundi	
13	Comoros	
14	Djibouti	
15	Ethiopia	
16	Madagascar	
17	Malawi	
18	Mozambique	
19	Rwanda	
20	Somalia	
21	Uganda	
22	United Republic of Tanzania	
23	Mauritius	
24	Seychelles	
25	South Sudan	
26	Sudan	Oceania (Region-IV)
27	Kiribati	
28		
29	Vanuatu	
30	Fiji	
31	Nauru	
32	Papua New Guinea	South America (Region-V)
33	Samoa	
34	Tonga	
35	Guyana	
36	Suriname	
37	Chad	
38	Democratic Republic of the Congo	
39	Sao Tome and Principe	

40	Benin	West Africa (Region-VI)
41	Burkina Faso	
42	Gambia	

43	Guinea	
44	Mali	
45	Niger	
46	Senegal	
47	Togo	

Annexure B

List of member Countries of ISA

- 1 People's Democratic Republic of Algeria
- 2 Commonwealth of Australia
- 3 Peoples Republic of Bangladesh
- 4 Republic of Benin
- 5 Burkina Faso
- 6 Republic of Burundi
- 7 Kingdom of Cambodia
- 8 Republic of Cameroon
- 9 Republic of Chad
- 10 Union of Comoros
- 11 Republic of Cote d'Ivoire
- 12 Republic of Cuba
- 13 Congo Democratic Republic of
- 14 Republic of Djibouti
- 15 Commonwealth of Dominica
- 16 Arab Republic of Egypt
- 17 Republic of El Salvador
- 18 Republic of Equatorial Guinea
- 19 Federal Democratic Republic of Ethiopia
- 20 Republic of Fiji
- 21 France
- 22 Gabonese Republic
- 23 Republic of The Gambia
- 24 Republic of Ghana
- 25 Republic of Grenada
- 26 Republic of Guinea
- 27 Cooperative Republic of Guyana
- 28 Republic of Haiti
- 29 Republic of India
- 30 Jamaica
- 31 Japan
- 32 Republic of Kiribati
- 33 Republic of Madagascar
- 34 Republic of Malawi
- 35 Republic of Maldives
- 36 Republic of Mali
- 37 Republic of Mauritius
- 38 Republic of Mozambique
- 39 Republic of Myanmar
- 40 Republic of Namibia
- 41 Republic of Nauru
- 42 The Netherlands
- 43 Republic of Niger
- 44 Federal Republic of Nigeria
- 45 Sultanate of Oman

- 46 Independent State of Papua New Guinea
- 47 Republic of Peru
- 48 Republic of Rwanda
- 49 St. Lucia
- 50 Saint Vincent and the Grenadines
- 51 Independent State of Samoa
- 52 Democratic Republic of Sao Tome and Principe
- 53 Kingdom of Saudi Arabia
- 54 Republic of Senegal
- 55 Republic of Seychelles
- 56 Federal Republic of Somalia
- 57 Republic of South Sudan
- 58 Democratic Socialist Republic of Sri Lanka
- 59 Republic of Sudan
- 60 Republic of Suriname
- 61 Togolese Republic
- 62 Kingdom of Tonga
- 63 Republic of Trinidad and Tobago
- 64 Tuvalu
- 65 Republic of Uganda
- 66 United Arab Emirates
- 67 United Kingdom
- 68 United Republic of Tanzania
- 69 Republic of Vanuatu
- 70 Bolivarian Republic of Venezuela

