INVITATION TO BID

Investor	**Habitat for Humanity International in Vietnam (Habitat Vietnam)**
Project	**Provision and installation of 66 household rooftop solar systems in Thanh Loi commune, Thap Muoi district, Dong Thap province**
Bid Reference No.	**Ref.FY25-HFHI-RTS-DT**
Submission deadline	**25th December, 2024**

Issued on: November 29th, 2024

TABLE OF CONTENT

Contents

E

1.INTRODUCTION

1.1 Investor's information

Since its initiation in 2001, Habitat for Humanity International has been actively involved in Vietnam. Habitat Vietnam has consistently pursued a comprehensive housing approach, dedicated to enhancing living conditions and eradicating poverty housing by empowering communities to take ownership of the improvement process. Our housing services have fostered collaboration with various stakeholders, facilitating the support of families and community members in building strength, stability, and self-reliance. This commitment is realized through increased access to affordable and safe shelter, guided by thematic areas such as inclusive housing, safe and resilient communities, housing affordability, and government-people engagement. Our project footprint extends across various regions, including Thai Nguyen, Hoa Binh, Phu Tho, Thai Binh in the north; Ha Tinh and Quang Nam in the central; and Long An, Dong Thap, Kien Giang and Tien Giang in the southern part of Vietnam.

At Habitat for Humanity Vietnam, we embrace a history rooted in creating equity – we take our principles seriously by courageously committing to a culture and workplace where all staff feel safe, welcome, visible, respected, supported, and valued. As an equal opportunity employer, we encourage people of varied ethnicities, national origins, tribes, religions, ages, gender identities and expressions, genders, sexual orientations, marital statuses, disabilities, veteran/reserve national guard statuses, socio-economic statuses, thinking and communication styles to work with us. Across Habitat for Humanity International's many networks, we're working together to support the life-changing mission of connecting families and communities with the transformational impact of decent, affordable shelter.

A noteworthy initiative is implementing the "Clean Energy-Green Community" project. This project aims to assist impoverished and low-income families not officially connected to the national electric grid in accessing solar energy sources. Through the "Clean Energy-Green Community" project, Habitat Vietnam reaffirms its unwavering dedication to improving the living conditions of the Vietnamese population.

Under the approved scope of work of the project, Habitat Vietnam is organizing an open tender to select a supplier to supply and install 66 household rooftop solar systems in Thap Muoi district, Dong Thap province.

1.2 Project Introduction

In general, Habitat Vietnam is seeking solar contractors who can deliver the following:

- Based on industry best practices, install solar rooftop systems for 66 households in Thap Muoi district, Dong Thap province.

- Providing guidance and support to the 66 households supported by HFHV in this solar PV rooftop systems, to ensure they will get the permit from the local government for installing and connecting the solar PV rooftop systems to the national grid system and other permit required. This includes but is not limited to (1) notifying local electricity about the installment of the solar PV rooftop system at the 66 mentioned households; (2) coordinating with the local electricity agency to provide or get necessary documents for applying for the permit; (3) guiding the 66 households to prepare and fulfill the required documents package for applying for the permits; and (4) checking quality of the solar PV rooftop systems and supporting the households in adjusting the power purchase contract (between the local electricity agency and the households, if any.
- Fulfill all applications, installation, and testing procedures that are needed.
- Perform all maintenance and operational activities for the first 02 years.
- Keep the full portfolio in mind while planning the rollout across all sites.

1.3 Contact information

Correspondence related to the tender shall be addressed to:

Habitat Vietnam - Procurement Department - Email: procurement@habitatvietnam.org

1.4 Project timeline

Milestones	Deadline
Phase 1	
Invitation to Bid issued	29/11.2024
Questions Due	06/12/2024
Responses to Questions	10/12/2024
Bid Submission Deadline	25/12/2024
Shortlisting	28/12/2024
Phase 2	
Site visits	02/01/2025
Final proposal Submission	07/01/2025
Phase 3	
Final selection	10/01/2025
Signing of contract	20/01/2025
Construction phase begins	08/02 to10/03-2025

Phase 1 – Invitation to Bid and submission of response

Questions concerning the process and procedures applicable to the Invitation to Bid and its requirements may be submitted at any time via e-mail until the date specified above. Any questions received will be kept anonymous, collated, and answered on the date

indicated to all bidders to ensure a common understanding. Following this, the submission of the bid is due on 25.12.2024.

Phase 2 – Site visits and final proposal

A site visit can be arranged with interested parties to the project's communities for the delivery of a final proposal for the 66 houses in Thap Muoi district, Dong Thap province.

Phase 3 - Selection and signature

Based on the proposals, Habitat Vietnam will select its contractor and sign a contract with the chosen contractor.
It is expected that the preferred contractor will be selected by 10.01.2025, and the solar PV rooftop system construction will start on 08 February 2025 and be completed on 10 March 2025. Habitat Vietnam reserves the right to adjust the timeline as needed at its sole discretion.

2. PROJECT REQUIREMENTS

It is essential for the proposals to consider all the requirements listed below and for the deliverables to fulfill these requirements. Proposals that do not meet the Project requirements will be excluded from further consideration.

2.1 Eligibility of the bidder

A bidder is eligible when it satisfies the following conditions:

- Having a full business registration certificate, establishment decision, or equivalent document issued by a competent authority;
- Not undergoing dissolution process, are not thrown into bankruptcy, and do not incur bad debts as prescribed by law;
- Not prohibited from participating in bidding activities in Vietnam;
- Have a main office or branch or representative office or personnel located at a suitable location to ensure the implementation of contractual obligations as well as resolve complaints during the service performance period. There is an organizational structure and staff with experience in organizing events with domestic and international guests.
- Have sufficient financial capacity to carry out the project:
    - No tax debt until October 2024
    - Working Capital (current assets minus short-term debt) must be positive
    - Average annual turnover is defined as the total payments received by the

bidder over the last 3 years of at least 5.000.000.000 VND (Five billion Vietnamese dongs)

- Have sufficient technical capacity to carry out the project:
  - Completed at least 01 similar or bigger project in term of budget.
  - Site manager with at least 05 years of experience in the solar energy, graduated from university majoring in electricity, electronics, telecommunications, automation or professions related to power sources, have valid Site Manager certificate
  - Technical staff with at least 02 years of experience in roof-top solar energy system, graduated from university majoring in electricity, electronics, telecommunications, automation or professions related to power sources
  - The contractor provides a Curriculum Vitae (CV) and relevant qualifications proving the appropriate experience and qualifications of the Site Manager and technical staff who meet the requirements and declares that they meet the requirements.

2.2 Technical requirements of the solar systems

There are 02 types of household rooftop solar systems procured in this project:

- 60 hybrid rooftop solar systems
- 06 off-grid rooftop solar systems

The detailed rooftop solar electrical system design for 66 households can be found in the link below.
https://drive.google.com/drive/folders/1Lq6hOFdEAJYjmJ3av4l_LbeI3azDDNrx

All the components supplied must be brand new, and incorporate all recent improvements in design and materials, with an extended shelf life, unless otherwise stated in the contract.

The items supplied shall comply with the required technical specifications and services as below or equivalent specifications.

Hybrid rooftop solar systems – 60 systems

No.	Description	Technical specifications requirement
Solar PV panel specification		Longi or equivalent
1	Quantity for 1 site	Total peak power ≥2 kWp
2	PV type	PV panel capacity: ≥500 Wp

No.	Description	Technical specifications requirement
3	Technology	Mono-crystalline Half-cell type
4	Maximum Power (Pmax/W)	≥500
5	Open Circuit Voltage (Voc/V)	≥49.50
6	Short Circuit Current (Isc/A)	≥13.85
7	Voltage at Maximum Power (Vmp/V)	≥41.65
8	Current at Maximum Power (Imp/VA)	≥12.97
9	Module Efficiency (%)	≥21.1
10	Temperature Coefficient of Isc (%/^{0}C)	+0.048
11	Temperature Coefficient of Voc (%/^{0}C)	-0.27
12	Temperature Coefficient of Pmax (%/^{0}C)	-0.35
13	Cell Orientation	144 (6 x 24)
14	Junction Box	IP68, three diodes
15	Output Cable	4mm^2
16	Glass	Single glass, 3.2mm coated tempered glass
17	Frame	Anodized aluminum alloy frame
18	Operation temperature (^{0}C)	-40 ÷ +85
19	Power Output Tolerance (W)	0 ÷ +5
20	Voc and Isc Tolerance (%)	±3
21	Maximum System Voltage	DC1500V (IEC/UL)
22	Maximum Series Fuse Rating	≥25A
23	Nominal Operating Cell Temperature (ºC)	45 ±2
24	Protection Class	Class II
25	Fire Rating	UL type 1 or 2
26	Front Side Maximum Static Loading (Pa)	5400
27	Rear Side Maximum Static Loading Pa	2400
28	Hailstone Test	25mm Hailstone at the speed of 23m/s

No.	Description	Technical specifications requirement
29	Warranty period	Minimum 20 years
Hybrid solar inverter		
1.	Quantity for 1 site	1
2.	Type	Hybrid solar inverter
3.	Technology	• Convert DC power to AC power that according to Vietnam standard grid power 220VAC/50Hz • Integrating solar charger controller to charge for battery • Can be charged from AC source: grid or generator
Battery input		
4.	Battery type	Li-Ion/Lead-acid
5.	Battery pack voltage	12Vdc – 48Vdc
Inverter output		
6.	Nominal Power (W)	≥3000
7.	Nominal Apparent Power (VA)	≥3200
8.	AC Voltage Regulation	230Vac ± 5% @50/60Hz
9.	Surge Power (VA)	≥3000
10.	Efficiency (peak)	98%
11.	Waveform	Pure sine wave
Other specifications		
12.	Ingress Protection Rating	Indoor IP20
13.	Relative Humidity (%)	10% - 95%
14.	Max. Operating Altitude (m)	2000
15.	Operating Temperature (^{0}C)	-10÷55
16.	Protection	○ PV Reversed Polarity Protection

No.	Description	Technical specifications requirement
		○ PV Over Voltage Protection ○ PV Over Current Protection ○ Battery Reversed Polarity Protection ○ Battery Over Voltage Protection ○ Battery Over Current Protection ○ AC Surge Protection ○ Output Over Current Protection ○ Output Short Circuit Protection ○ Output Over Voltage Protection
17.	Expandability	Available to expand the system for PV panel, battery on demand
18.	Warranty period	Minimum 03 years
Battery specification		
1.	Type	Lead acid battery 12V 100Ah
2.	Quantity	2 pcs/site
3.	Technology	• Valve Rechargeable lead acid battery. • Battery that specially for power storage without maintenance • Including cable, screw, bolt… attached.
4.	The product must be commercialized and officially disclosed on the manufacturer's website.	Provide manufacturer's website link
5.	Brand, original	The bidder must provide the link to the document from the manufacturer's website
6.	Design Life (at standard temperature 25^0C)	≥10 years
7.	Nominal Capacity (25℃) @10-hour rate (10.0A, 10.8V)	≥100Ah

No.	Description	Technical specifications requirement
8.	Short Circuit Current	≥2200A
9.	Internal Resistance @ Fully Charged battery 25℃	≤5,7 mΩ
10.	Self-Discharge at 20^0C	≤3%/30 ngày
11.	Maximum charging current	30A
12.	Applicable standards	IEC 60896 PART 21/22 or equivalent
13.	Certificate	ISO 14001:2015, ISO 9001:2015, ISO 45001:2018 of manufacturer
14.	Battery housing	Made by slow fire-retardant ABS
15.	Safety valve	One-way valve with self-relieving capability, ensuring safety and explosion prevention
16.	Terminal	Copper
17.	Separator	AGM or PE or PVC
18.	Operation temperature	Discharge: -20~60℃ Charge: -10~60℃ Storage: -20~60℃
19.	Warranty period	Minimum 01 years
Accessories		
1.	DC cable	• Standard : BS EN 50618: 2014; EN 60228 • Cross-sectional area 4mm^2, • Working voltage: up to 1500V • Protection: IP68 (1m, 1h, mated IP2X, unmated)
2.	MC4 connector	• Standard : IEC 1500V&UL 1500V • Working voltage 1500V • Rated Pulse Voltage: 16kV

No.	Description	Technical specifications requirement
		• Operation temperature: -40℃~+85℃ • Used for both 4mm2 and 6mm2 cable • Resistance: ≤0.5mΩ • Protection: IP68 (1m, 1h, mated IP2X, unmated)
3.	AC Surge Protection Module	• Propagation Lightning Protection • Pole Number: 2 (2P) • Uc: 385 VAC • In: 20kA (8/20μs) • Imax: 40kA (8/20μs) • Up: ≤1.8kV
4.	PV frame	Ensuring robustness, aesthetics
5.	Warranty period	Minimum 01 year

Off-grid rooftop solar systems – 6 systems

No.	Description	Technical specifications requirement
Solar PV panel specification		Longi or equivalent
30	Quantity for 1 site	Total peak power ≥500 Wp
31	PV type	PV panel capacity: ≥500 Wp
32	Technology	Mono-crystalline Half-cell type
33	Maximum Power (Pmax/W)	≥500
34	Open Circuit Voltage (Voc/V)	≥49.50
35	Short Circuit Current (Isc/A)	≥13.85
36	Voltage at Maximum Power (Vmp/V)	≥41.65
37	Current at Maximum Power (Imp/VA)	≥12.97

No.	Description	Technical specifications requirement
38	Module Efficiency (%)	≥21.1
39	Temperature Coefficient of Isc (%/^{0}C)	+0.048
40	Temperature Coefficient of Voc (%/^{0}C)	-0.27
41	Temperature Coefficient of Pmax (%/^{0}C)	-0.35
42	Cell Orientation	144 (6 x 24)
43	Output Cable	4mm^2
44	Glass	Single glass, 3.2mm coated tempered glass
45	Frame	Anodized aluminum alloy frame
46	Operation temperature (^{0}C)	-40 ÷ +85
47	Power Output Tolerance (W)	0 ÷ +5
48	Voc and Isc Tolerance (%)	±3
49	Maximum System Voltage	DC1500V (IEC/UL)
50	Maximum Series Fuse Rating	≥25A
51	Nominal Operating Cell Temperature (ºC)	45 ±2
52	Protection Class	Class II
53	Fire Rating	UL type 1 or 2
54	Front Side Maximum Static Loading (Pa)	5400
55	Rear Side Maximum Static Loading Pa	2400
56	Hailstone Test	25mm Hailstone at the speed of 23m/s
57	Warranty period	Minimum 20 years
Solar charger		
1.	Quantity for 1 site	1
2.	Max. PV Array Power (W)	6000
3.	MPPT Range@ Operating Voltage	150Vdc -430Vdc
4.	Max. Input Current Per MPPT (A)	18
5.	Max. PV Array Open Circuit Voltage (V)	500Vdc

No.	Description	Technical specifications requirement
6.	Max. Solar Charge Current (A)	80
Other specifications		
7.	Ingress Protection Rating	Indoor IP20
8.	Relative Humidity (%)	20% - 95%
9.	Max. Operating Altitude (m)	2000
10.	Operating Temperature (^{0}C)	0÷50
11.	Expand ability	Available to expand the system for PV panel, battery on demand
12.	Warranty period	Minimum 01 year
Battery specification		
20.	Type	Lead acid battery 12V 100Ah
21.	Quantity	1 pcs/site
22.	Technology	• Valve Rechargeable lead acid battery. • Battery that specially for power storage without maintenance • Including cable, screw, bolt,… attached.
23.	The product must be commercialized and officially disclosed on the manufacturer's website.	Provide manufacturer's website link
24.	Brand, original	The bidder must provide the link to the document from the manufacturer's website
25.	Design Life (at standard temperature 25^{0}C)	≥10 years
26.	Nominal Capacity (25℃) @10 hour rate (10.0A, 10.8V)	≥100Ah
27.	Short Circuit Current	≥2200A

No.	Description	Technical specifications requirement
28.	Internal Resistance @ Fully Charged battery 25℃	≤5,7 mΩ
29.	Self-Discharge at 20^0C	≤3%/30 ngày
30.	Maximum charging current	30A
31.	Applicable standards	IEC 60896 PART 21/22 or equivalent
32.	Certificate	ISO 14001:2015, ISO 9001:2015, ISO 45001:2018 of manufacturer
33.	Battery housing	Made by slow fire-retardant ABS
34.	Safety valve	One-way valve with self-relieving capability, ensuring safety and explosion prevention
35.	Terminal	Copper
36.	Separator	AGM or PE or PVC
37.	Operation temperature	Discharge: -20~60℃ Charge: -10~60℃ Storage: -20~60℃
38.	Warranty period	Minimum 01 year
Accessories		
6.	DC cable	• Standard: BS EN 50618: 2014; EN 60228 • Cross-sectional area 4mm^2, • Working voltage: up to 1500V • Protection: IP68 (1m, 1h, mated IP2X, unmated)
7.	MC4 connector	• Standard: IEC 1500V&UL 1500V • Working voltage 1500V • Rated Pulse Voltage: 16kV • Operation temperature: -40℃ ~

No.	Description	Technical specifications requirement
		+85℃ • Used for both 4mm^2 và 6mm^2 cable • Resistance: ≤0.5mΩ • Protection: IP68 (1m, 1h, mated IP2X, unmated)
8.	PV frame	Ensuring robustness, aesthetics
9.	Warranty period	Minimum 01 year

2.3 Related services

- Provide packaging, transportation, installation, and operational testing services and training and hand-over of all solar energy systems. In addition, the contractor must develop documentation on the use and maintenance of the rooftop solar power system (in Vietnamese) and hand it over to 66 households.
- Warranty:
    - The warranty period of each component is specified in section 2.2
    - The supplier is responsible for a 1-for-1 warranty for goods that are defective or damaged items due to manufacturing or transportation within 30 days from the date of installation and handover.
    - During the product warranty period, the supplier is responsible for a free warranty for items defective by the manufacturer.
    - During the warranty period, Authorized Technical Staff will provide warranty support or other required support services within not more than 5 working days. Technical support and warranty services during the warranty period are completely free.

- Inspection and testing:
    - Goods are required to be delivered to the installation locations and will be checked in quantity by the investor or the investor's representative at the delivery locations.
    - The Contractor is responsible for carrying out installation at the required locations.

- Personnel involved in the construction and installation processes need to meet the requirements regarding the capacity and experience of personnel.
- After the contractor completes the installation, the investor or the investor's representative will inspect the quantity and operation of the installed systems to ensure that the goods have the technical specifications following the requirements of the contract.
- The Contractor is responsible for instructing the investor's representative to operate the product. The investor or the investor's representative will sign a record of receipt and acceptance of these products after completing inspection and testing.
- The contractor is also responsible for fulfilling all requirements from relevant agencies for the testing and operation of the solar systems, including local government, EVN, etc.

- Operation and Maintenance:
  - The Contractor will carry out regular inspection and maintenance activities for the installed systems within the first 02 years after completion to ensure proper operation of systems.
  - The expected frequency of inspection is at least 02 times/year.
  - All inspection and maintenance costs during the first 02 years will be free, except costs due to errors caused by users.

3. EVALUATION CRITERIA

The Evaluation Criteria need to be considered carefully before the submission of a response. Each proposal will be assessed individually with a predetermined methodology. Proposals provided in response to this INVITATION TO BID will be evaluated and ranked based on a set of criteria listed below (in no order). Although prices will be an important factor, it will not be the only basis for a contract award.

Investor will select the proposal(s) that the Investor deems to be in its best interest. The awarding of a contract may be subject to further discussions with the contractor. The issue of a preliminary awarding contract to a Contractor does not provide the Contractor with any rights and does not impose any obligations upon the Investor.

The final decision on the preferred and awarded Contractor(s) will be made by the Investor.

3.1 Price

Preference will be given to proposals that offer the best value to the Investor, i.e., proposed prices for all systems and services, including all relevant requirements for delivery.

3.2 Timing

Contractors shall suggest a practical timeline. Contractors that demonstrate time, effort, and money-saving constellation of the process, will be preferred.

3.3 Contractor Experience, network, and track record

Contractors who can demonstrate a high level of experience and capabilities in the development, implementation, and operation of renewable projects, particularly in Vietnam, are strongly preferred. Moreover, a local team and operational experience will be valued and considered useful.

3.4 Contractor's financial strength and stability

Contractors with high credit ratings and strong financial strength will be preferred. Full transparency to ownership structure and financing structure for the projects and financing parties will also be considered.

3.5 Contractor's social and environmental engagement

Directly project-linked and general social and environmental engagement is also considered as positive throughout the process.

4. Terms and conditions of the Invitation to Bid

4.1 Confidentiality

This document contains confidential and proprietary information of Investor furnished for evaluation purposes only. Any dissemination of the presentation and/or content or parts thereof is only permitted with written permission by Investor, the relevant Company, or Advisor, as applicable. Without the foregoing written permission, this document and/or parts of it must not be passed on, modified, published, translated, reproduced, or used for any other purposes, either by photocopies, or by others.

Contractors shall not acquire any intellectual property rights or licenses from Investor.

Contractor shall not, without the prior written consent of Investor or the relevant Company, as applicable, disclose to any person or entity the fact of its participation in this INVITATION TO BID, that discussions or negotiations are taking place or have taken

place concerning a possible transaction involving the subject matter hereof, or otherwise disclose any of the terms, conditions or other facts with respect hereto, including but not limited to the status thereof. Contractors agree that, without the prior written consent of Investor, it will not use the name or trademarks of Investor or the Company in any marketing materials or other publications.

The contractor's name, proposal materials and communications will be held strictly confidential and will not be made available to any third party other than for the INVITATION TO BID itself.

4.2 Reservation of Rights

Investor reserves the right, without limitation or qualification and in its sole discretion, to reject any or all bids, and to cancel, postpone, modify, reissue and amend this INVITATION TO BID in whole or in part at any time without incurring any liability to the affected Contractor(s).

4.3 Costs

The Contractor agrees that the Investor will not reimburse any costs or expenses incurred by the Contractor in preparing or responding to this INVITATION TO BID. All costs associated with any resultant presentations or negotiations are the Contractor's sole responsibility.

4.4 No Binding Legal Relations

Neither this INVITATION TO BID, nor the INVITATION TO BID process, creates a process contract or any legal relationship between Investor.

5. SUBMISSION REQUIREMENTS

Bidding Documents are required to be made in Vietnamese. However, it is recommended that Bidding Documents be in both Vietnamese and English.

5.1 Company overview

Please provide a brief history and overview of the contractor's company, business activities, locations of operations, number of employees, Contractor's organizational chart, used tools (e.g. Helioscope, AutoCAD, etc.).

5.2 Company's track record

- Number and capacity of renewable energy projects taken to financial close and/or implemented.

- Number and capacity of renewable energy projects under management.
- Track record and CVs of key personnel participating in the project.

5.3 Financial qualifications

- Financial statements for the last 03 years of 2021, 2022, 2023 and at 31 Oct, 2024.
- Supporting document for no tax debt until October 2024
- Account balance confirmation letter from the Bank dated 31.10.2024.

5.4 Project price

Please provide a complete offer including desktop planning, financial proposal and O&M planning for the full portfolio, as described in the requirements.

5.5 Project timeline

Please provide:

- Timeline committed to the full portfolio installation as mentioned in **section 1.4** and complete the contract **by 10th Mar 2025.**
- On-site schedule.

5.6 Health and Safety

Please provide policies and plans to ensure the health & safety of workers, contractors, communities, and projects during project implementation.

6. SAFEGUARDING

6.1. Criminal record requirement	All staff of the selected contractor will be required to obtain and submit to Habitat Vietnam the Criminal Record Certificate No. 1 before going to the field.
6.2. Acknowledgment and compliance with the Codes of Conduct	If selected, all staff of the contractor who will go to the field to implement the service are required to sign two Codes of conduct namely, Ethical Covenant and Child Protection of Habitat Vietnam.
6.3. Safeguarding due diligence	As a requirement, safeguarding due diligence will be conducted on the contractor before the service contract is signed.