

## Section II: Schedule of Requirements

### Supply of 170 number of 40W Solar Home Systems Telefomin District, Papua New Guinea

e-sourcing Tender Reference: ITB/2022/41595

#### A. Summary of Requirements

Through this tender, UNOPS intends to select a company to provide 170 units of 40W Solar Home Systems / Kits for delivery to Telefomin District in Papua New Guinea. The selected company is also responsible for distribution of the Solar Home Systems to the households in 6 villages in Telefomin District. The Breakdown of the Distribution is as follows:

Satellite Village Location detail :

Village name	Bogalmin	Imfumavip	Misinmin	Atemkiakmin	Sepikialkmin	Tolax	Total
Solar kits needed	33	30	30	48	17	12	170

#### B. Technical specifications for Goods and Comparative Data Table

No	Item	UNOPS Minimum Technical Requirements
1.	40W Solar Home Systems	<p><b>Specifications and Requirements</b></p> <ol style="list-style-type: none"> <li>1. The solar home system (SHS) shall include:               <ol style="list-style-type: none"> <li>a. PV module suitable for outdoor installation</li> <li>b. A central control unit with integrated battery designed for fixed indoor installation</li> <li>c. Minimum four (4) included light points that are designed for indoor installation, complete with LED lamps and cable length of minimum 5m.</li> <li>d. Other accessories such as cables and switches.</li> </ol> </li> <li>2. The PV module maximum power point voltage and the working voltage of any other components in the</li> </ol>

		<p>kit shall not exceed 35V DC. AC inputs may exceed this limit</p> <ol style="list-style-type: none"><li>3. The kit shall support DC loads only. No inverters, systems with AC outputs/outlets, or AC appliances are accepted.</li><li>4. The peak power rating of the PV module shall be less than 350 Wp, <b>with 40Wp is minimum and 350Wp is maximum.</b></li><li>5. All connections shall be 'plug-and-play'; no technicians or electricians are necessary to install and operate the system safely and successfully</li><li>6. Fee-for-service or Pay-as-you-go (PAYG) enabled products shall be in "unlocked" mode so that the systems are fully operational without the need for payment, entry of codes, network connectivity, etc</li><li>7. Qualifying products shall be Lighting Global quality-certified (i.e. meet the Lighting Global Quality Standards), and have a valid Verification Letter at the time of submission of bids.</li><li>8. The user manual must present instructions for installation, use, and troubleshooting of the system. Installation instructions must include appropriate placement and installation of the PV module. Basic electrical safety and system maintenance must also be covered. Installation and operation instructions should be presented in English with graphics that can be understood by the typical consumer.</li></ol> <p><b>Warranty Requirements</b></p> <ol style="list-style-type: none"><li>1. The minimum warranty period from the time of purchase by the end-user is at least<ol style="list-style-type: none"><li>a. 2 (two) years for the main system, including the PV module, control unit, cables and lights and the system battery. (Note that batteries included within appliances are only required to meet the 1-year warranty). The battery warranty is assumed to include a capacity retention figure of at least 80% at two years, benchmarked to the advertised battery capacity and/or the battery capacity presented in the Lighting Global test report, whichever is higher.</li><li>b. 1 (one) year for all lighting appliances that include their own batteries (including pico-power lights), all non-lighting</li></ol></li></ol>
--	--	---

		<p>appliances, USB charging adaptors and similar accessories.</p> <ol style="list-style-type: none"><li>2. The warranty must cover, at minimum, manufacturing defects that impede operation under normal use and protection from early component failure.</li><li>3. The warranty certificates must be available to the end users in writing to understand the terms of warranty prior to purchase. The written information should be available in English. Consumer-facing warranties could be included on the product box, or on a user agreement or warranty card that is easily accessed prior to purchase</li><li>4. A statement must be provided detailing the bidder capability to handle warranty issues and after-sales service in the context of Telefomin. This must include how users will access the warranty and the process involved (return to point of purchase/distributor/service center, call or SMS a number, etc.), how the warranty will be executed (repair, replacement, etc.)</li></ol> <p><b>Other Requirements</b></p> <p>The following documents (at a minimum) shall be provided by the Supplier:</p> <ol style="list-style-type: none"><li><b>1. Evidence of meeting the technical requirements</b><ul style="list-style-type: none"><li>• Valid Lighting Global Standardized Specification Sheet;</li><li>• Valid Lighting Global Product Testing Verification Letter;</li><li>• Official IEC TS 62257-9-5 test report;</li></ul></li><li><b>2. Description of after-sales service and spare parts</b><ul style="list-style-type: none"><li>• Suppliers shall describe how products or components that fail under warranty and are returned to them under warranty will be replaced;</li><li>• Suppliers shall detail prices of all spare parts that can be supplied separately, and which will be available to consumers in Papua New Guinea. However, these prices will not be part of the financial evaluation; rather it will be used to evaluate the life cycle cost;</li></ul></li></ol>
--	--	--

- Suppliers shall describe the parts that can be replaced by the consumer and those that have to be replaced by the supplier or that can not be replaced;
- The terms and conditions of the warranty are to be provided in detail. In particular a description of the items that are included and excluded under the warranty.

### **3. Distribution and Training**

The Supplier shall distribute the Solar home kits to households at the six (6) satellite villages indicated above and provide the required training on the use and maintenance to each household. The bidder shall provide supporting documentation on the training and distribution of the kits. UNOPS and the local administration will supervise the distribution of the kits to each household by the Supplier.

### **4. O&M manual**

Upon award, the Supplier will be required to provide:

- 1) Product packing configuration;
- 2) Product user's manual;
- 3) Product warranty;
- 4) Spare parts list;
- 5) Distribution and training plan.

### **5. After sales support**

The Supplier shall provide details of the after sales support that they can provide consumers. As part of this support the Supplier shall allow in their financial proposal for three after sales visits to Telefomin. These visits are to be made at 1 month; 6 months, and 24 months after the distribution and training is completed. During these visits refresher training is to be provided and faulty components repaired or replaced. Should components or the full kit need to be returned to the Supplier's workshop as part of a warranty claim then the household is to be provided with a replacement component or kit at the time of the visit.

### **6. End of life support**

The Supplier shall provide details of the end of life support that they can provide consumers for the solar home

		<p>systems (kits). A reuse, recycling and disposal outline plan is to be provided that includes:</p> <ol style="list-style-type: none"> <li>a. the removal from Telefomin to Port Moresby of all materials that have reached the end of their life;</li> <li>b. the disposal of e-waste and</li> <li>c. the disposal of batteries. Indicative cost estimates for the above services are to be provided for each solar home kit.</li> </ol> <p>These indicative costs will be used by UNOPS to develop a funding plan for the future removal of e-waste from Telefomin. This work would be covered by a separate contract and is not to be included in the financial proposal for this supply contract.</p>
--	--	--

<b>UNOPS Requirements</b>	
<b>Delivery time</b>	Bidder shall deliver the goods <b>6-8 weeks days</b> after signing PO
<b>Delivery place and Incoterms rules</b>	<p>DAP, each of the following village in Telefomin District, Papua New Guinea:</p> <ol style="list-style-type: none"> <li>1. Bogalmin</li> <li>2. Imfumavip</li> <li>3. Misinmin</li> <li>4. Atemkiakmin</li> <li>5. Sepikiakmin</li> <li>6. Tolax</li> </ol>
<b>Consignee details</b>	Will be advised upon contract signature
<b>UNOPS Right to vary requirements</b>	At the time the Contract is awarded, UNOPS reserves the right to vary the quantity of the goods and associated services specified above, provided this does not exceed <b>+20%</b> , without any change in the unit prices or other terms and conditions of the ITB.

**Sustainable Requirements**

UNOPS Requirements		Is Bid compliant? Bidder to complete	Details Bidder to complete
<b>Sustainability Requirements</b> – <b>Prevention of pollution (e.g. EMS, waste and waste water management)</b>	Written warranty of the bidder of the availability of spare parts (parts not to be included in the offered price) for at least <ul style="list-style-type: none"> <li>- 2 (two) years for the main system</li> <li>- 1 (one) year for all lighting appliances</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<b>Insert details</b>