

**GOVERNMENT OF (COUNTRY)**

**OFFICE OF -----**

**Project Name**

**(Agency)**

**LIMITED TENDER ON GOODS AND SERVICES**

(Country)

(Date, Year)

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## 1. DEFINITIONS

For the purpose of this present tender, the following definitions shall be used:

**Bidder, Seller, Contractor:** Entity submitting a technical and financial proposal upon which the tendering authority may or may not enter into a binding contract with same.

**Buyer, Employer:** Tendering agency requesting the submission of bids who may enter into a contract with the Bidder upon accepting the bid.

**Bid, Submission, Proposal, Offer:** Entirety of documents submitted by the Bidder describing the Services and Goods offered to the Buyer to the price specified in the Bid Documents.

## 2. INSTRUCTIONS TO BIDDERS

The Project comprises One Complete Package:

Design and delivery of specified Goods and related services and proper installation of Goods on a turnkey basis at the premises of the (Building or Agency, Location), (Country).

Companies interested in participate in the Tendering are kindly requested to present their Bids via e-Mail to the email address of the Buyer:

Email:

CC to:

Addressed to:

XXXXXXXXXXXXXXXXXXXXX  
Government of (Country) Office of ..  
Address, (Country)

Contact person: XXXXXXXXXXXXXXXX  
Phone: XXXXXXXXXXXXXXXX

Contact person: XXXXXXXXXXXXXXXX  
Phone: XXXXXXXXXXXXXXXX

The latest date and time for receipt of Bids by the Buyer is at xx:xx hrs (Local Time) on (Date, Year).

Bidders must submit Tenders based on one (1) complete package. No Tenders only for one or several of the items listed in the Package will be considered.

The Bidders must also submit a list of reference projects, including a brief project description, that they have implemented showing their experience with similar projects.

All documents should be presented in English.

All measurements should be expressed in metric units.

All prices should be expressed in USD.

The offer should be valid for 60 days after submission date.

The Buyer reserves the right to cancel the tendering procedure at its discretion. In this case the Bidders will not have any right to claim remedy.

### **3. BACKGROUND INFORMATION: PHOTOVOLTAIC PILOT PROJECT**

#### **3.1. Beneficiary country**

(Country)

#### **3.2. Contracting Authority**

Government of (Country), Office of XXX

### **4. OBJECTIVE, PURPOSE AND SHORT DESCRIPTION**

#### **4.1. Overall objective**

The PV pilot project will contribute towards (Country)'s efforts to reduce reliance on imported fuels through the demonstration, popularisation and deployment of Renewable Energy technologies.

#### **4.2. Purpose**

The purpose of the PV pilot project is as follows:

- To further demonstrate the applicability of photovoltaic electricity in (Country).
- To establish a pilot project to demonstrate grid-tied systems and the contribution of small-scale renewable power producers to the main grid.
- To demonstrate the possibility to increase the contribution to renewable energy to (Country)'s energy mix.

#### **4.3. Short description of the site of the PV pilot project**

(Country) receives abundant sunshine, which can be used to generate electricity. Photovoltaic systems have a relatively high capital cost but this can be recovered over time, particularly if excess power can be fed to the main grid and compensated by a still-to-be discussed financial arrangement with (Utility) based on their

recently published “Interconnection Connection Statement” (please download from the following location on the internet: xxxx.com).

The Photovoltaic (PV) pilot project is aimed at demonstrating the feasibility and desirability of grid-tied PV technology while contributing to (Country)’s overall effort to promote the use of renewable energy. For this reason, in addition to the PV system itself, a public display is required showing the actual state of operation of the PV system.

Figure 4-1: Aerial photo of the building (Source: Google Earth)

#### **Figure 4-2: Photo of the building in question**

## **5. SCOPE OF GOODS AND SERVICES REQUESTED**

### **5.1. General**

The tender calling for convenient bids is dedicated to identify and contract a Seller for the following services:

- (i) detailed design of the specified PV system and related services;
- (ii) supplying the requested equipment (one (1) PV system including one (1) public display board) according to the specifications provided;
- (iii) completely installing the supplied equipment at the specified site and connecting the system to the grid to the full satisfaction of the Buyer;
- (iv) training assigned persons in order to be able to judge on the correct or non-correct operation of the system;
- (v) hand-over the fully operational and grid-connected system to the Buyer,
- (vi) providing after-sales services to (Agency).

### **5.2. Site descriptions and technical requirements**

The roof of the (Destination building) (Location) was identified for the demonstration system. Its coordinates are as follows: (Geographic coordinates). For roof design see Annex.

The capacity of the PV plant is estimated to be (number) kWp. Depending on the PV modules used in the system design, slight variations may occur. The installation site of the system will be on the roof of (Destination building); an indicative drawing of the construction including dimensions is shown in the Annex.

The PV system must be designed in compliance with the stipulations and standards (relevant interconnection policy, if appropriate).

<http://www.apua.ag/interconnection-policy/>

The Bidders are informed that only xxx-certified installers are entitled to install PV systems. **Please contact the Buyer’s contact persons for further clarification:**

XX

The whole sub-arrays and each individual panel should have the same inclination as the roof of the building, which is estimated to be about xx degrees. The roof has an East-West orientation, i.e. the roof surfaces are facing east and westwards. The PV modules should be installed on a mounting frame suitable to withstand hurricane strength storms of Category 5 (wind speed xxx km/h). A minimum distance between the PV modules and the roof surface of about 10 cm must be respected for air cooling purposes of the PV modules. Sufficient space should be left between sub-arrays in order to allow inspection of the individual PV modules.

If the installation of the PV plant does not occupy all available roof space, the installation should consider the possibility of an extension of the PV generator in the future in such way that such future extension will not be hindered. Also, aesthetic aspects shall be considered when installing the system on the roof, such as symmetry and straightness of the installation.

Adequate measures should be taken against theft and vandalism.

Special attention should be given to avoid any kind of damage to the roof construction in order to avoid water penetration.

The specific installation spot of the inverter and the display board should be agreed with the management of the xxx and (responsible agency).

### **5.3. Specification of required hardware**

#### **5.3.1. General remark**

It is pointed out that the whole installation should be designed and installed in such way that all components are resistant to climate conditions of the specific site, specifically against corrosion. The installation has to take into consideration that (Country) lies in the Caribbean Hurricane zone; precautions have to be taken against the results of hurricanes.

All systems have to be designed and installed in such way that the risk of theft and vandalism is minimized. Bolts and nuts of the PV arrays should be fixed in a way that theft is not possible.

### **5.3.2. Photovoltaic Modules**

- PV modules according to international standards (IEC 61215 etc.);
- Total capacity not less than 25 kWp;
- All PV modules should show the same capacity;
- Manufacturer should be internationally recognized and provide references and certificates on module testing.

### **5.3.3. Mounting structure for PV Modules**

- Frames of aluminum;
- Protection against environmental hazards, such as corrosion resulting from salt laden air and hurricanes category 1;
- Protection against vandalism and theft;
- Grounding.

### **5.3.4. Inverter**

- Inverters sufficient in number and capacity to interconnect the entire system to the public electricity grid;
- Connection to the public electricity grid using all three phases;
- Master/Slave or String type (IEC 60146);
- Technical requirements (UL 1741, EN 50081, EN 60555, EN 50178 and others as listed in the Interconnection Policy paper):
  - True sinewave output;
  - High efficiency (AC) > 90% @ P/Pn (AC) = 10% ;
  - Protection against overcurrent and overvoltage;
  - International standards incl. EMC;
  - Indications of status of operation (e.g. LED);
  - Automatic disconnect from the grid in case of need (see requirements of APUA: <http://www.apua.ag/interconnection-policy/>)
  - Capability of connecting monitoring devices;
- Security measures (refer to Interconnection Policy paper).
- Interface to the main grid (switchboard including manual disconnection device)

### **5.3.5. Overvoltage Protection Device**

- To prevent voltage surges from the inverter or the utility grid to any connected loads in the building;
- Adjustable threshold;
- Compliant to international standards;

### **5.3.6. Cabling**

- Supply and installation of all required cables for the system up to grid connection point;
- Cables exposed to the sun should show an adequate type designed to withstand harsh weather conditions (UV radiation, salty humidity etc.), e.g. type HN07-RNF;
- Compliant to international standards;

### **5.3.7. Monitoring device**

A monitoring device connected to the inverter should forward continuously important operational data to the internet in order to allow monitoring and evaluation of operation and performance data via internet.

### **5.3.8. Information Display Board**

For the purpose of showing existence of the installation and raising public attention and awareness on the technology, the installation should be complemented with an electronic display board, such as flat screen display, including mounting rack and all necessary protection devices, fixings and cables.

This display board will be connected to the PV system and should indicate the following information:

- Total installed capacity of the PV system;
- Actual power production in kW;
- Accumulated energy production in kWh;
- Avoided CO<sub>2</sub> emission in t;
- Photographs of the PV system on the roof;
- Logos of the sponsors and owners of the project.

The design (layout) of the display board should be proposed to and agreed by the Buyer.

The display board should be protected against vandalism and theft. If exposed to outdoor environmental conditions, protection standard IP65 shall apply.

The display should provide a standard interface in order to be connected to the inverter or any other device offering data required for the display. A reasonable sized TV screen used and duly programmed to show the required data would be an acceptable solution.

## **5.4. Documentation Requirements**

Complete documentation or data sheets showing all relevant technical characteristics, as well as certifications received for the equipment proposed, shall be included in the bid.

The bidder shall also provide references on similar PV projects (grid-tied systems) already implemented in the Country or other countries.



## **5.5. Specification of required services**

### **5.5.1. System design**

Based on the information provided by this dossier, the Bidder will design and present a proposal for the PV system, including display board.

If the Bidder may wish to visit the selected site, (s)he is free to approach OPM in order get acquainted with the site.

### **5.5.2. Delivery of equipment to installation sites**

The Contractor is fully responsible to organise and guarantee timely delivery and transport of the equipment to the installation site. Close co-ordination with responsible staff of the site is recommended.

The Bidder is requested to present detailed information on the schedule of delivery and transport modalities of the equipment to the project site. The Bidder is requested to consider site conditions having a potential influence on delivery and installation.

### **5.5.3. Installation**

The Contractor is fully responsible to organise and guarantee timely installation of the equipment at the project site according to contractual stipulations. Installation is completed when all equipment of the individual PV plant is installed and operational and connection to the grid is carried out.

**The installation and commissioning of the entire system and the provision of the operator's training must be concluded by (Date, Year)**

The Buyer is responsible to make all arrangements necessary with APUA in order to guarantee access for grid connection of the system.

### **5.5.4. Transfer of ownership and responsibility on operation**

After installation and successful commissioning of the overall equipment by the Seller, an Acceptance Inspection organized by the Buyer and in presence of the Seller will prove proper installation for the transfer of ownership and operation responsibility to the Buyer.

### **5.5.5. Warranty**

Two types of warranty have to be offered by the Bidder:

- a) Warranty on hardware failures on all products offered and used according to international established terms;
  - b) Warranty on the proper operation of the provided equipment according to the specification and terms fixed in the contract between the Contractor and the Buyer.
- The conditions of the two above described warranty types are a critical evaluation criteria for the selection of the successful Bidder.

### **5.5.6. After-sales service**

The Contractor must provide a local after-sales service. A complete description of the after sales services are to be included in the Bid.

**6. BID SCHEDULE OF PRICES -- „PRICED BILL OF QUANTITIES”**

PRICE SHEET

Name of Bidder\_\_\_\_\_.

1	2	3	4	5	6	7
Item No.	Description :	Country of Origin	Manufacturer	Unit Price (USD)	Quantity	Subtotal per Item (USD)
	A. For all individual system components: - PV module [type, number]: - Mounting structure: - Inverter [type, number]: - Overvoltage protection device [type, make, capacity]: - Cabling and miscellaneous - Internet capable monitoring device - Display board - Cost of design, installation, and commissioning: - ... (Complete as applicable)					
	Total price:					

Guarantee Period and Delivery time: .....

NB: In case of a discrepancy between unit and total prices, the unit price shall prevail

SIGNATURE OF BIDDER:

**ANNEX 1: DRAWINGS OF THE BUILDING**

(See separate PDF Document)