**Invitation to Quote (ITQ)**

**Shopping for Goods**

**Project Title:** Tuvalu Energy Sector Development Project (P144573)

**Date:** 21 May 2021

**Source of Funding:** World Bank Project P144573

**Contract Ref:** ESDP/TUV/SH9 /2021 Electric Motorcycles for pilot program under the Tuvalu Energy Sector Development Project

Dear Supplier,

1. The Government of Tuvalu has received a Grant from the World Bank and intends to apply the proceeds of this grant to eligible payments under the contracts for which this Invitation to Quote is issued.

The Tuvalu Electricity Corporation (TEC) hereby invites you to submit your price quotation(s) for the Electric Motorcycles for pilot program under the Tuvalu Energy Sector Development Project. Details are as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| **Description** | **Unit** | **Country of origin** | **Quantity** |
|
| Electric Motorcycle, Moped or Scooter | Vehicle |  | 12 |
| Spare batteries | Set |  | 2 |
| Workshop special tools and instruments (if necessary) | Set |  | 2 |
| Spare tyre – front wheel | 1 tyre |  | 8 |
| Spare tyre – rear wheel | 1 tyre |  | 8 |
| Unpacking and commissioning in Tuvalu | 1 set |  | 1 |
| 1st Training with operation and maintenance manuals in Tuvalu  At least 3 days plus travel and accommodation | 1 set |  | 1 |
| 2nd Training with long-term maintenance recommendation report in Tuvalu  At least 3 days in Tuvalu plus travel and accommodation | 1 set |  | 1 |
| Helmet (half/open face type) | 1 helmet |  | 24 |

The technical specifications is attached to this invitation

1. You must quote for all the items under this Invitation.
2. Your price quotation in the form attached may be submitted by hand delivery, surface mail, courier service or electronically at the following address:

Attn: Mr Mafalu Lotolua, General Manager,

Tuvalu Electricity Corporation

PO Box 32

Vaiaku, Funafuti

Telephone + 688 20357

Email:  [mafaluloto2@gmail.com](mailto:mafaluloto2@gmail.com)

Please cc [rapajyoung@gmail.com](mailto:rapajyoung@gmail.com) and [jorgecavero@ecytbolivia.com](mailto:jorgecavero@ecytbolivia.com)

Each bidder shall submit only one quotation, either individually, or as a partner in a joint venture. All quotations submitted in violation of this rule shall be rejected. Partners in a joint venture shall be jointly and severally liable for the execution of the contract.

1. The deadline for receipt of your quotation (s) by the Purchaser at the addresses indicated in above Paragraph 3 is **13th July 2021**
2. Your quotation in duplicate and in English, should be accompanied by adequate technical documentation and catalogue(s) and other printed material or pertinent information for each item quoted, including names and addresses of firms providing service facilities in Tuvalu.
3. Your quotation(s) should be submitted as per the following instructions and in accordance with the attached Contract. The attached Terms and Conditions of Supply is an integral part of the Contract.

(i) PRICES: Your quotation and prices can be quoted in up to three foreign currencies for the total cost CIP Funafuti including installation at final destination - the TEC Office The TEC will be responsible for all local taxes, VAT and custom duties including clearance of equipment from the port of entry.

For evaluation purpose, all the quotes will be converted to Australian Dollars. The official source of the exchange rate is the Mid-market rates provided by the “XE Currency Converter” at [www.xe.com](http://www.xe.com); the date and time of the exchange rate is 14 days before the deadline for submission of proposals at 16.00 UTC.

(ii) EVALUATION OF QUOTATIONS: Price quotations will be evaluated for all the items together and contract awarded to the firm offering the lowest evaluated total cost of all the items. Quotes determined to be substantially responsive to the technical specifications will be evaluated by comparison of the total price as per (i) above.

In evaluating the quotations, the Purchaser will determine for each bid the evaluated price by adjusting the price quotation by making any correction for any arithmetical errors as follows:

a) where there is a discrepancy between amounts in figures and in words, the amount in words will govern;

b) where there is a discrepancy between the unit rate and the line-item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will govern;

c) if a Supplier refuses to accept the correction, his quotation will be rejected.

Substantial responsiveness includes essential compliance with these specifics:

**Detailed technical specifications to be evaluated**

* Compliance with the minimum specifications of the equipment

(iii) AWARD OF CONTRACT/PURCHASE ORDER: The award will be made to the bidder offering the lowest total evaluated price and that substantially meets the required standards of technical and financial capabilities. The successful bidder will sign a Contract as per attached form of contract and terms and conditions of supply.

(iv) VALIDITY OF THE OFFER: Your quotation(s) should be valid for a period of sixty (90) days from the deadline for receipt of quotation(s) indicated in Paragraph 4 of this Invitation to Quote.

7. Further information can be obtained from:

Mr Mafalu Lotolua,

General Manager,

Tuvalu Electricity Corporation

PO Box 32

Vaiaku, Funafuti

Telephone + 688 20352/20350

Email:  [mafaluloto2@gmail.com](mailto:mafaluloto2@gmail.com)

Please cc [rapajyoung@gmail.com](mailto:rapajyoung@gmail.com) and [jorgecavero@ecytbolivia.com](mailto:jorgecavero@ecytbolivia.com)

8. Inspections and Audits

8.1 The Supplier shall carry out all instructions of the Purchaser, which comply with the applicable laws where the destination is located.

8.2 The Supplier shall permit, and shall cause its Subcontractors and consultants to permit, the Bank and/or persons appointed by the Bank to inspect the Supplier’s offices and all accounts and records relating to the performance of the Contract and the submission of the bid, and to have such accounts and records audited by auditors appointed by the Bank if requested by the Bank. The Supplier’s and its Subcontractors and consultants’ attention is drawn to Clause 5 Fraud and Corruption of the Form of Contract, which provides, inter alia, that acts intended to materially impede the exercise of the Bank’s inspection and audit rights constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Bank’s prevailing sanctions procedures).

9. Please confirm by e-mail the receipt of this invitation and whether or not you will submit the price quotation(s).

Yours sincerely

Mr. Mafalu Lotolua

General Manager

TEC

**Technical Specification Electric Motorcycles**

**OVERALL CONCEPT**

On behalf of the Government of Tuvalu and with the assistance of the World Bank, the Tuvalu Electricity Corporation (TEC) is intending to introduce electrically powered motorcycles/ motor scooters (the vehicles) as a pilot scheme in Funafuti. If the pilot scheme is successful, it is anticipated that the use of electrically powered 2 wheelers will increase and displace the use of hydrocarbon fuelled vehicles.

**BACKGROUND OF THE PILOT**

Fogafale is the main island in Funafuti atoll and has a peak demand of about 1 MW. The generation system in Fogafale comprises (i) a diesel power station installed under the Japan International Cooperation Agency (JICA) project in 2007, comprising three 600 kW diesel generators with an 11 kV/415 V/230 V distribution system, and (ii) solar PVs of about 800kW total capacity. In 2015, the Government of Tuvalu (GoT) concluded the financial agreement of the Energy Sector Development Project (ESDP) with WB to promote renewable energy and energy efficiency. Under ESDP, TEC is implementing “supply and installation of 768kW solar PVs and 2MWh battery storage in Fogafale” In parallel, Asian Development Bank (ADB) plans to install 500kW solar PVs and 2MWh battery storage, and the Global Environment Facility (GEF) plans to conduct a pilot project of 100kW floating solar PVs. With the increase of solar PVs, the power system requires a larger capacity of battery storage, which makes the economy of solar PVs worse. Electric Mobility (e-Mobility) can reshape the daily load curve in favour of solar PVs and reduce the necessary capacity of the battery storage and GHG emission in both the energy and transportation sectors.

**OBJECTIVE OF THE PILOT**

The objective of the pilot is to evaluate the technical and economic feasibility of deploying e-Mobility at a larger scale while creating synergies with the renewable energy power plants in a harmonized energy system.

**TUVALU ROAD CONDITIONS**

Roads in the pilot scheme area are flat and are mostly sealed with bitumen. However, there are some roads that are not sealed and consist of compressed coral sand or crushed coral. Rain water lying in puddles can have a high salt content, as the area is surrounded sea. Occasionally, high tides can cause salty groundwater to rise to road level.

**BASIC REQUIREMENT**

The pilot scheme will require 12 motorcycles. Chargers will be connected to 230/240V, 50Hz electric outlets so that TEC can automatically or manually turn on when (i) daytime and (ii) the output of diesel drops to a certain amount (kW). Spare batteries, spare electronic controls, tools, instruments and training of local technicians will be required. Full maintenance manuals and extended maintenance support will also be required. Ease of use and high reliability is essential for any vehicles and support systems offered. The vehicle shall comply with relevant design rules, which are internationally recognized (e.g., Australian, New Zealand, USA, EU, and Japan), for 2 wheeled vehicle construction and safety.

**ENVIRONMENTAL CONDITIONS**

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| --- | --- | --- |
|  | **ITEM** | **PARAMETERS** |
|  | Temperature | 25 to 40 degrees Celsius |
|  | Relative humidity | Normally 80% to 85%, sometimes higher |
|  | Rainfall | Averages 16 to 22 days per month, in excess of 3,000 mm per year |
|  | Solar radiation | Average 6 to 8 hours per day full sun |
|  | Altitude and topography | Approximately 2 metres above 3 level, flat |
|  | Airborne pollution | Fine coral sand, salt spray |

**GENERAL REQUIREMENTS**

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| --- | --- | --- |
|  | **ITEM** | **REQUIREMENTS** |
|  | Carrying capacity and construction | Seat to accommodate an adult driver and adult pillion passenger, high carrying capacity preferred. |
|  | Configuration | Step-through, suitable for female drivers |
|  | Footrests | Driver and passenger |
|  | Wheelbase | Minimum 1230mm |
|  | Minimum ground clearance | 135mm |
|  | Seat height | Minimum 700mm |
|  | Stand | Side stand or centre stand. Side preferred. |
|  | Range on fully charged batteries | Minimum 40km |
|  | Maximum speed | At least 45km/h |
|  | Battery enclosure | To be concealed within vehicle, protected from weather |

**DRIVE MOTOR AND TRANSMISSION**

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| --- | --- | --- |
|  | **ITEM** | **REQUIREMENTS** |
|  | Drive motor | Electric, maintainable, brushless preferred |
|  | Motor continuous rating | 1000 watts or greater |
|  | Electronic controls | Replaceable and suitable for tropical environment |
|  | Electronic and electrical connectors | Vibration proof and proofed against moisture ingress and condensation |

**SUSPENSION, WHEELS, BRAKES**

|  |  |  |
| --- | --- | --- |
|  | **ITEM** | **REQUIREMENTS** |
|  | Front suspension | Telescopic forks |
|  | Rear suspension | Swinging arm |
|  | Wheel material | Metal, corrosion resistant |
|  | Wheel rim diameter | Minimum 12 inch, 17 inch preferred |
|  | Braking system | ABS or linked front and rear brakes will be an advantage, but are not essential |
|  | Front brake | Mechanical or hydraulic, drum or disk |
|  | Rear brake | Mechanical or hydraulic, drum or disk |
|  | Tyres | Tyre construction, load and speed ratings to be provided to be suitable for Tuvalu road conditions |

**EXTERIOR FINISHES AND DURABILITY**

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| --- | --- | --- |
|  | General requirements and corrosion resistance | Suitable for tropical humid conditions with some salt spray during storm conditions |
|  | Bodywork colour | Preferably bright or light colour, UV resistant/anti-fade finish |
|  | Seat | Suitable for 2 adults |
|  | Seat upholstery | Durable, UV resistant, long life, water resistant |

**BATTERIES AND CHARGING SYSTEM**

Batteries shall be lithium-ion, replaceable.

For the Pilot Scheme, it is proposed that one or more independent mains-powered charging locations will be established by TEC. At each charging location 230/240V mains power will be available, either automatically turned on and off by timer based on the advanced setting by TEC or manually, mainly to utilize the output from solar PVs for charging. The setting parameters will include at least (i) sunrise time, (ii) sunset time, (iii) threshold of diesel generators’ output to turn on/off, and (iv) period (minutes) to average diesel output.

**BATTERIES**

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| --- | --- | --- |
|  | **ITEM** | **REQUIREMENTS** |
|  | Battery type | Lithium-ion rechargeable, either plug-in detachable or fixed within vehicle |
|  | Battery cycle life | Minimum 600 full charging cycles |
|  | Battery charging connections | Corrosion-resistant plated terminals and covered during normal vehicle use |

**BATTERY CHARGERS**

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| --- | --- | --- |
|  | **ITEM** | **REQUIREMENTS** |
|  | Configuration | Self-contained |
|  | External finish | High corrosion resistance, double insulated |
|  | Connection | Cable at least 2 metre length fitted with AS/NZS 3 pin plug |
|  | Electrical connection | 230-240V AC, single phase, 50Hz |
|  | Electrical safety | To comply with Internationally recognized Electricity Regulations. (**Note 1**) |

**Note 1:** A **r**esidual current/earth leakage device will be provided by TEC at each charging location, if required to meet regulations.

**CONTROLS AND INSTRUMENTS**

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|  | **ITEM** | **REQUIREMENT** |
|  | All displays and instruments | Shall be able to withstand direct sunlight and high temperatures |
|  | Power on/off | Key operated switch, 2 spare keys per vehicle |
|  | Battery charge state | Handlebar mounted indicator preferred |
|  | Start/stop and speed control | Handlebar twist-and-go |
|  | Speedometer | Handlebar centre mounted, UV and heat resistant LCD or mechanical analogue |
|  | Km travelled | Indication on handlebar, centre mounted |
|  | Front and rear brake control | Brake levers on handlebars |

**SPARE PARTS**

The supplier shall provide spare parts for the first 5 years of operation as recommended by the manufacturer of the vehicles or vehicle subassemblies. These shall include both mechanical, electrical and electronic parts and if required, software. The price for recommended spare parts is not considered in the financial proposal evaluation.

**SETUP AND COMMISSIONING IN TUVALU**

The supplier shall provide at least one technical expert to visit Tuvalu in order to:

* Supervise unpacking of the motorcycles
* Inspect and record any shipping damage
* Ensure that each motor scooter is fully commissioned and functioning correctly
* Provide advice on correct storage of spare parts

The technical expert may be the same person who provides training (see below).

**MAINTENANCE**

Maintenance manuals and toolkits shall be provided for each vehicle. If specialist test and maintenance equipment and tools are required, these shall be provided in accordance with the manufacturer’s recommendations.

**MAINTENANCE SUPPORT**

Due to the site conditions in Funafuti, standard operating and maintenance instructions may need to be supplemented by site-specific information. This may include special instructions and equipment for cleaning electrical plugs and sockets, anti-corrosion maintenance and any other likely requirements necessitated by the local conditions. As Tuvalu is a remote location, maintenance instructions shall take account of the Tuvalu conditions and may need further supplementation to enable repairs to be performed locally. Supplementary information may be prepared during the unpacking and commissioning visit.

Operating and maintenance instructions shall be comprehensive, in English and shall include all necessary repair instructions, circuit diagrams, test procedures, diagnostic software and procedures.

Supplier support is required for a minimum of 5 years.

Tenderers shall provide details of remote technical support that can be provided.

**TRAINING**

Upon delivery of the vehicles and chargers, the supplier shall make at least one training person available in Funafuti to train local electrical and motorcycle technicians to maintain the vehicles, batteries, and the charging stations. During or within 2 weeks after the 2nd training, the supplier shall submit a report on recommendations for long-term maintenance based on the status of the facilities 4 months after the delivery.

|  |  |  |  |
| --- | --- | --- | --- |
|  | When | Duration | Purpose |
| 1st training | Right after the delivery | At least 3 days | Operation and short-term maintenance |
| 2nd training | 3 months after the delivery | At least 3 days | Long-term maintenance |

**NOTE:** The Government of Tuvalu has a declared a state of emergency preventing international travel into Tuvalu. TEC recognises this and encourages Suppliers to suggest alternative options for delivering the training with an option to do in-country training once travel restrictions have been lifted.