



## TERMS OF REFERENCE

Reference No.	PN/FJI/137/22
Location	Home based
Application deadline	12 October 2022
Type of Contract	Individual Contractor
Post Level	International Consultant – Outcome 3.1 & 3.2 Technology Demonstrations Assessment and Replication Planning (Outputs 3.1.3 to 3.1.6 and Output 3.2.2)
Languages required:	English
Duration of Initial Contract:	Fifty (50) workdays spread over the period (1st November 2022 – 31 <sup>st</sup> January 2023)

## BACKGROUND

The *Facilitation of the Achievement of Sustainable National Energy Targets of Tuvalu* (FASNETT) Project is aimed at facilitating the development and utilization of feasible renewable energy resources and application of energy efficiency technologies for achieving the Government of Tuvalu's updated target of reducing emissions of greenhouse gases from the electricity generation (power) sector by 100% by 2025 based on the country's INDC in November 2015. According to the NDC Registry, Tuvalu is listed as having submitted a first NDC (which was its INDC) effective when the Government of Tuvalu became a Party to the Paris Agreement based on Decision 1/CP.21. Currently, Tuvalu plans to enhance its NDC including updating the timeframe for achieving the target from 2025 to 2030. The facilitation or enabling objective is meant to address, i.e., eliminate the identified RE/EE awareness and capacity barriers to the cost-effective application of RE technologies using the country's indigenous RE resources, as well in the effective and extensive application of EE measures and techniques. The overall project goal will be achieved through the implementation of:

- Component 1: Awareness Raising on Renewable Energy and Energy Efficiency Applications of the Project. The other components are:
- Components 2: Energy Policy Improvement and Institutional Capacity Building
- Component 3: Applications of Renewable Energy & Energy Efficiency Technologies & Techniques and
- Component 4: Financing of Renewable Energy and Energy Efficiency Initiatives.

This TOR covers the implementation of remaining activities and outputs towards achieving **Outcome 3.1: Enhanced energy utilization efficiency and development and application of feasible renewable energy resources in support of national economic development and Outcome 3.2: Increased application of viable climate resilient renewable energy and energy efficiency technology applications in the country.** These two (2) Outcomes are under **Component 3: Applications of Renewable Energy & Energy Efficiency Technologies & Techniques** as defined in the FASNETT ProDoc. The Project is implementing the following RE/EE technology demonstrations in the context of Tuvalu's needs and program expansion to achieve the energy goals of increased RE/EE technology applications through the following:

- 1) 100 kWp Floating Solar Photovoltaic (FSPV) Power Generation Demo
- 2) Solar Powered Capacitive De-Ionization (Solar/CDI) Water Purification Demo
- 3) Demand Management and Response System (DMRS) Energy Efficiency Demo
- 4) Solar Home Systems (SASH) for Funaota Village Electrification Improvement Demo supported by India-UN Development Partnership Fund Project.

These FASNETT-supported RE/EE demo projects are implemented through engineering, procurement and construction (EPC) contractors and need to be assessed in terms of their energy generation and saving potential and performance towards reducing GHG emissions. This TOR defines the tasks necessary to complete the assessments regarding operation and maintenance experience and their replication possibilities in augmenting the RE/EE capacities in support of the sustainable 100% RE goal of the country in the coming years. The FASNETT project is targeted to be completed by February 2023 in an extended period.

The FASNETT Project is financially supported through the GEF (USD 2,639,725) and co-financed by the UNDP (USD 250,000), the Government of Tuvalu (USD 8,250,000) and Tuvalu Electricity Corporation (USD 7,400,000).

## DUTIES AND RESPONSIBILITIES

### Scope of Work and Expected Outputs

The scope of work of this TOR includes the remaining activities and outputs under Outcomes 3.1 & 3.2 - involving technology demonstrations assessment and replication planning as defined in Outputs 3.1.3 to 3.1.6 and Output 3.2.2 in the FASNETT Project Document (ProDoc). With the purpose of integrating all RE/EE projects at the national level, the assessment results and analysis of the above RE/EE technology pilot demos will be combined with assessments of the other existing and planned types of RE/EE applications in the country, e.g. solar home systems, roof-mounted solar generation, energy efficient home appliances, solar-powered devices, etc. The International Consultant will have the following scope of work and outputs and will be supported by a National Consultant.

- *Output 3.1.3: Successful demonstration of approved EE and RE technologies that promote and support Low Carbon (LC) development in the country and comparative evaluation report from monitoring with other existing RE/EE installations*

This Output will involve the implementation of the following Activities:

- Activity 3.1.3.1: Development and establishment of a computer-based M&E system for performance, maintenance and energy contributions of RE/EE project demonstrations and other existing RE/EE installations
- Activity 3.1.3.2: Evaluation of the design and operating performance and experiences in all demonstration and other existing RE/EE installations
- *Output 3.1.4: Published energy performance and impact reports on implemented Low Carbon projects; including action plan for community-supported LC energy initiatives in island communities*

This Output will involve the documentation and dissemination of results and impacts of the RE/EE project demonstrations and the recommended action plan in promoting and replicating RE/EE projects for community-supported LC initiatives in island communities (*Activity 3.1.4*). The results of the monitoring and evaluation of all RE/EE projects gathered in *Activity 3.1.3* will be published and shared via internet-based website (Output 1.6) for the project. This task will entail coordination with the EPC contractors of the demos and with TEC and DOE regarding the existing and planned RE/EE installations in the country to come up with a comprehensive report at the national level.

- *Output 3.1.5: Completed technical information packages and guidelines based on RE/EE project implementation experience for use in the capacity development program*

This Output will involve the development and production of technical information packages and guidelines as inputs to the implementation of training workshops, strategic planning and execution of plans for national government authorities and local leaders in Component 2. This task will include inputs and coordination with the respective EPC contractors on the demos as well as TEC and DOE on the other types of RE/EE technologies applied in the country.

- *Output 3.1.6: Completed design and implementation plans for the replication of demonstrated successful LC energy projects*

This Output will involve the implementation of the following Activities:

- Activity 3.1.6.1: Development of standard design for replication of RE/EE applications in other areas of the country
- Activity 3.1.6.2: Development of technical inputs to the establishment and enforcement of basic design and operating guidance manuals for the RE/EE replication program and policy to be developed in Component 2.

This task will involve inputs and coordination with the respective EPC contractors on the demos as well as TEC and DOE regarding typical designs and implementation plans of the other feasible and practical types of RE/EE technologies to be applied in the country. To top the result of this assessment and technology designs, an Action Plan for the implementation of the replication of these selected RE/EE technologies will be submitted to be used as inputs to the formulation of the Tuvalu National Energy Plan (2023 – 2028) in Component 2. Close coordination with the IC and NC hired for Component 2 is required in order to synchronize plans at the national level.

- *Output 3.2.1: Completed and operational LC development technology application demonstrations in accordance to established quality standards in pilot tropical coastal communities enhancing market opportunities for RE/EE applications*

This Output will involve the integration of the results of the FASNETT demos and of the required documentation by the EPC Contractors of the various experiences on procurement, delivery, installation, initial operation and debugging of the RE/EE facility as well as the associated technical services and training for the RE/EE demonstration projects. This task will also involve inputs and coordination with the respective EPC contractors on the demos as well as TEC and DOE regarding enhancing market opportunities of the feasible and practical types of RE/EE technologies to be applied in the country.

- *Output 3.2.2: Implemented LC projects in selected communities*

This Output will involve the implementation of the following Activities:

- Activity 3.2.2.1: Formulation and implementation of a technology development and application program for RE/EE in government, community-based and private business projects for selected island communities.
- Activity 3.2.2.2: Development and implementation of a technical assistance scheme for individual commercial and residential RE and EE project investment proposals from national government agencies, local community leaders and private entrepreneurs

A draft technology development and application plan for RE/EE in government, community-based and private business projects for selected island communities shall be developed and endorsed before the project ends in February 2023. However, a draft technology development and application plan shall be submitted by end November 2022 in line with the Terminal Evaluation of the Project.

The timeliness of outputs as well as the completeness and quality of the above-mentioned Outputs will be the overall responsibility of the International Consultant (IC) working in tandem with a National Consultant (NC) on-site as defined in this TOR.

### **Deliverables**

The Activities under the above-mentioned Outputs, shall be implemented according to a proposed Activity Work Plan in order to optimize the time involved so that all outputs will be delivered within the duration of the Project as indicated in the approved time table:

#### *Deliverable #1: Inception Report*

- Overall approach and Activity Work Plan

#### *Deliverable #2: Outputs 3.1.3 and 3.1.4*

- Computer-based M&E system for performance, maintenance and energy contributions of RE/EE project demonstrations and other existing RE/EE installations
- Evaluation report on the design and operating performance and experiences in all demonstration and other existing RE/EE installations

#### *Deliverable #3: Outputs 3.1.5 and 3.1.6*

- Developed and produced technical information packages and guidelines on FASNETT demo projects
- Developed standard design for replication of RE/EE applications in other areas of the country
- Developed technical inputs to the establishment and enforcement of basic design and operating guidance manuals for the RE/EE replication program and policy

#### *Deliverable #4: Outputs 3.2.1 and 3.2.2*

- Report on completed and operational FASNETT demos in accordance to established quality standards for enhancing market opportunities for RE/EE applications

- Report on a technology development and application program for RE/EE in government, community-based and private business projects for selected island communities
- Developed and facilitate approval of a technical assistance framework and scheme for individual commercial and residential RE and EE project investment proposals from national government agencies, local community leaders and private entrepreneurs.

### **Institutional Arrangement**

The principal responsibility of the IC is to implement the remaining Activities under Outcome 3 together with the support of a National Consultant, and in coordination the FASNETT Chief Technical Advisor (CTA). The IC and NC will work also with Project Implementation Support Officer in day-to-day matters.

The IC will work closely with the NC and provide guidance to the NC in the needs for data and analysis, information, coordination with the PMU, DOE and TEC and in coming up with the committed deliverables through the performance of the above-listed duties.

- The work of the IC and the NCs will be monitored, overseen and supervised by the FASNETT Project Manager as assisted by the CTA, and in close cooperation with the DOE/MTET, TEC and UNDP through the weekly project oversight and coordination meetings.
- The IC is expected to submit reports upon successful completion of activities in the approved Time Schedule/Activity Work Plan in Deliverable #1.
- The IC is expected to use his/her own computer in the conduct of this consultancy assignment.

### **Duration of the Work**

- The consultancy duration is for five (3) months and is expected to commence from 1 November 2022 to 31<sup>st</sup> January 2023;
- The Consultants shall be engaged to undertake the consultancy according to an approved Time Schedule/Activity Work Plan and is expected to complete the work by 31<sup>st</sup> January 2023.

### **Duty Station**

Because of the prevailing pandemic travel restriction and protocols, the IC will work as home-based assignment in providing the leadership, direction and overall responsibility in the accomplishment of the tasks and the expected deliverables, while the NCs, based in Funafuti, Tuvalu, will provide the data/info gathering, direct support, material inputs, on-site implementation and local facilitation. If possible and allowed by national protocols the IC may possibly be permitted to travel to Tuvalu within the duration of the Contract. Ideally, the IC should be able to travel to Tuvalu that would necessitate and possibly obtain government permit because of the nature of the tasks involving comprehensive workshops and hands-on training for the participants. PMU will endeavor to secure the necessary government permits and travel clearance when allowable. If the travel happens, the travel cost will be reimbursed by the project on actual economy basis.

### **COMPETENCIES**

- Proficiency in computer packages; good working knowledge of word processing and spreadsheet programs, particularly MS Word, MS Power Point and MS Excel and on-line

communication/conference and training platforms such as Zoom, Google meet, WhatsApp, etc..

- Maturity and confidence in dealing with senior members of national institutions.
- Displays cultural, gender, religion, race, nationality and age sensitivity and adaptability.
- Excellent written communication skills, with analytic capacity and ability to synthesize relevant collected data and findings for the preparation of quality analysis for the project proposal.
- Excellent coordination skills and result oriented collaboration with colleagues – especially for this case with the other international and national level consultants.

## **REQUIRED SKILLS AND EXPERIENCE**

### **Educational Qualifications:**

- Post graduate degree in the fields of Electrical Engineering, Environmental Management, International Development, Sustainable Development, Environmental communication or relevant related fields.

### **Experience**

- At least 5 years of relevant professional experience in similar assignment at national or international level
- Strong expertise in RE/EE technology designs, application and performance assessment, particularly in the floating Solar PV power generation, various solar PV applications such as in water purification, demand management and response systems in RE/EE configurations, solar PV village electrification and roof-mounted solar PV systems, and other RE/EE technologies applicable in south Pacific islands.
- Familiarity with the UNDP project management requirements and procedures.
- Experience in coordinating projects with government counterparts.
- Ability to pick up new terminology and concepts easily.
- Familiarity with UNDP policies, templates and requirements.
- Experience of providing technology development support to government and private sector counterparts;
- Previous experience in working with international organizations and ideally on the development project/program
- Excellent analytical skills; very good inter-personal skills and ability to work with a multitude of stakeholders environment;

### **Language requirements**

- Fluency of English language is required.

### **Price Proposal and Schedule of Payments**

The Consultant must send a financial proposal based on **Lump Sum Amount**. The total amount quoted shall be all-inclusive and include all costs components required to perform the deliverables identified in the TOR, including professional fee, travel costs, living allowance (if any work is to be done outside the IC's duty station) and any other applicable cost to be incurred by the IC in completing the assignment. The contract price will fix output-based price regardless of extension of the herein specified duration. Payments will be done upon completion of the deliverables/outputs as listed above with the following

percentages:

- Deliverable #1: Submission of the inception report and Activity Work Plan - 10% of total contract amount
- Deliverable #2: Outputs 3.1.3 and 3.1.4 – 30% of total contract amount
- Deliverable #3: Outputs 3.1.5 and 3.1.6 – 30% of total contract amount
- Deliverable #4: Outputs 3.2.1 and 3.2.2 - 30% of total contract amount.

In general, UNDP shall not accept travel costs exceeding those of an economy class ticket. Should the IC wish to travel on a higher class he/she should do so using their own resources

In the event of unforeseeable travel not anticipated in this TOR, payment of travel costs including tickets, lodging and terminal expenses should be agreed upon, between the respective business unit and the Individual Consultant, prior to travel and will be reimbursed.

### **Evaluation Method and Criteria**

Individual consultants will be evaluated based on the following **Cumulative analysis** methodology. The award of the contract shall be made to the individual consultant whose offer has been evaluated and determined as a) responsive/compliant/acceptable; and b) having received the highest score out of set of weighted technical criteria (70%). and financial criteria (30%). Financial score shall be computed as a ratio of the proposal being evaluated and the lowest priced proposal received by UNDP for the assignment.

### **Technical Criteria for Evaluation (Maximum 70 points)**

- **Criteria 1:** Post graduate degree in the fields of Electrical Engineering, Environmental Management, International Development, Sustainable Development, Environmental communication or relevant related fields – Max 10 points
- **Criteria 2:** At least 5 years of relevant professional experience in similar assignment at national or international level - Max 10 Points
- **Criteria 3:** Strong expertise in RE/EE technology designs, application and performance assessment, particularly in the floating Solar PV power generation, various solar PV applications such as in water purification, demand management and response systems in RE/EE configurations, solar PV village electrification and roof-mounted solar PV systems, and other RE/EE technologies applicable in south Pacific islands Max 10 points
- **Criteria 4:** Familiarity with the UNDP project management requirements and procedures.: Max 10 points
- **Criteria 5:** Experience in coordinating projects with government counterparts and ability to pick up new terminology and concepts easily. Max 10 points
- **Criteria 6:** Excellent analytical skills; very good inter-personal skills and ability to work with a multitude of stakeholders' environment. Max 10 points
- **Criteria 7:** Assessment of approach/methodology described in technical proposal to conduct the assignment– Max 10 Points

Only candidates obtaining a minimum of 49 points (70% of the total technical points) would be considered for the Financial Evaluation.

Shortlisted candidates shall be called for an interview which will be used to confirm and/or adjust the technical scores awarded based on documentation submitted.

#### **Documentation required**

Interested individual consultants must submit the following documents/information to demonstrate their qualifications. Please group them into **one (1) single PDF document** as the application only allows to upload maximum one document:

- **Letter of Confirmation of Interest and Availability** using the template provided in Annex II.
- **Personal CV**, indicating all past experience from similar projects, as well as the contact details (email and telephone number) of the Candidate and at least three (3) professional references.
- **Technical proposal**, including a) a brief description of why the individual considers him/herself as the most suitable for the assignment; and b) a methodology, on how they will approach and complete the assignment.
- **Financial proposal**, as per template provided in Annex II. Note: National consultants must quote prices in United States Dollars (USD).

Note: Successful individual will be required to provide proof of medical insurance coverage before commencement of contract for the duration of the assignment.

Incomplete and joint proposals may not be considered. Consultants with whom there is further interest will be contacted. The successful consultant shall opt to sign an Individual Contract or a Reimbursable Loan Agreement (RLA) through its company/employer with UNDP.

#### **Annexes**

- Annex I - Individual IC General Terms and Conditions
- Annex II – Offeror's Letter to UNDP Confirming Interest and Availability for the Individual IC, including Financial Proposal Template

For any clarification regarding this assignment please write to [pts.fj@undp.org](mailto:pts.fj@undp.org)