FKEE

FONDI I KOSOVËS PËR EFIÇIENCË TË ENERGJISË
KOSOVSKI FOND ZA ENERGETSKU EFIKASNOST
KOSOVO ENERGY EFFICIENCY FUND

Terms of Reference (TOR)

For Assessment to determine the feasibility for installation of the Solar panel solutions to generate power by Solar Photovoltaic (SPV) systems, technical specification and cost estimate, supervision and commissioning.

I. Introduction

As agreed with the government, EC and other development partners, and as stated in the new EE Law, the KEEF has been established as an independent, autonomous and sustainable non-profit legal entity, to serve as the primary financier for municipal subprojects such EE building renovations, EE improvement of public lighting system and installing of PV technology. The KEEF is now developing its marketing strategy and investment plan to finance EE projects not served by commercial banks, starting with the municipal sector. The KEEF would allow its capital to revolve over time, and thus seek to become a sustainable financing and implementation agency.

With the successful implementation of the parent Project to date (KEEREP), the government is seeking to expand the Project scope on a more sustainable basis with the creation of the KEEF. The GOK has thus requested, and the EC has agreed, to contribute a grant to the Project in order to renovate a greater number of buildings and ensure the successful set-up and initial operations of the KEEF. The World Bank has also proposed that the government consider adding an additional US$10-15 million in IDA funds to further scale-up results, which could be processed at a later date.

Under sub-component 1b of the project would include consultancies to support the investment component, including development of detailed designs, construction supervision, and project commissioning/passports. It would also include technical assessments needed for adequate disposal of any hazardous materials from the renovations as well as their actual disposal and a pre-and post-renovation building occupant satisfaction surveys. A consultant will be selected in accordance with World Bank's Procurement Regulations for IPF Borrowers' (the Regulations), issued July 2016, and revised November 2017, and Aug 2018 for the supply of goods, works, non-consulting and consulting services.

II. Scope of Services

The scope of the consultant firm's services includes (i) provide a technical and financial assessment of solar rooftop PV installations, (ii) prepare technical specifications for procurement of contractor supplying and installing the solar rooftop PV, (iii) supervise completion and acceptance/commissioning of the solar rooftop PV system, and (iv) supervise the O&M responsibilities of the contractor supplying and installing the solar rooftop PV system for three municipality buildings in Mamusha.

Proposed project should be within existing legal framework which was approved by Energy Regulatory Office on April 2017 based on:

- RULE ON SUPPORT SCHEME FOR RENEWABLE ENERGY SOURCES GENERATORS, April 2017
- RULE ON AUTHORIZATION PROCEDURE FOR CONSTRUCTION OF NEW GENERATION CAPACITIES FROM RENEWABLE ENERGY SOURCES, April 2017.

Based on this rule it is allowed to license PV system to enter net-metering scheme by following some procedures which should be explained in details by hired company.

III. Key tasks are expected to include:

Task 1: Assessment to determine the technical and financial feasibility for installation of the Solar panel solutions to generate power by Solar Photovoltaic (SPV) systems

Propose the Optimal Solar panel solution specifying the Total Costs Investment, optimal sizing of the Solar PV Capacity, Energy Production Capacity, Renewable Fraction, Grid usage, Annual Monetary Savings, payback period, CO2 Emissions Saved, net electricity grid exchanges (if applicable), Annual Monetary Savings, and with factors to be considered as below:

- The availability of sunlight throughout the year and the area available on the rooftop to calculate the power that can be generated.
- The orientation of the rooftop towards the sun, considering the exposure towards the south for the panels.
- The angle facing south for placing the roof panels that receive the maximum possible sunlight.
- Assessment if there are nearby high-rise buildings or other sources of shading not to hinder the exposure of the solar panels to sunlight.
- Determination of how much rooftop to use for solar panels, including the availability of sunlight and the space available on the rooftop; the maximum power that can be generated for producing electric power.
- Access to roof for installation and Load bearing capacity of the roof and need arrange suitable structures based on the quality of roof.
- Minimum clearance of the structure from the roof level.
- Local regulations pertaining to solar PV.

Task 2: Prepare technical specifications for procurement and installation of solar rooftop PV system, including bill of quantities with costs estimates

The technical specifications should include description of individual actions and unit's measures (bill of quantities and costs estimates; (specifications should not indicate the name of the manufacturer).

Thus, the technical specification must include details as follows, but not limited to:

- Solar Photovoltaic Modules
- Specification of the International Electro technical Commission (IEC) qualification test of the PV, requirements for construction, testing and safety.
- Adequate protective devices against surges at the PV module.
- Qualification of the module frames.
- Tolerance rate of output power of any supplied module.
- Variation of the peak-power point voltage and the peak-power point current of any supplied module and/or any module string.
- Junction box for module, such as terminal connection, type, arrangement, lid, cable gland entry points, etc.
- I-V (current-voltage characteristic) curves at STC (Standard Test Conditions)

Task 3: Supervise completion and acceptance/commissioning of the PV implementation contract:

3a) supervise a PV implementation works contract, prepares the site reports and send a copy of material acceptance to KEEF. Oversee all phases of project and contract and sign payment parts as specified on contract. Administer works contracts; evaluate schedules; monitor progress of the contractors on projects; ensure that project deadlines are met. Consultant shall make sure that all health & safety measures are respected by Construction Company during the entire period of construction project.

3b) Evaluate on the completion and commissioning of the project, confirming its compliance with the investment plan. In case of deviation from those plans, justification of the differences and evaluation of consequences in terms of compliance of the project with the eligibility criteria of the Facility. Before issuing the Taking-Over Certificate the Consultants will enforce any obligation placed on the Contractor to remove from that part of the Site to which the Certificate relates all obstructions, surplus materials, plant, wreckage, rubbish and Temporary works. Upon completion of the whole of the works the Consultants will require the Contractor to remove all plant, equipment and materials except those required to complete any outstanding or remedial works and facilities required by the Consultants during the Defects Notification Period.

Completion of the commissioning of construction works is linked with the finalization works by Construction Company. The Taking-over certificate shall be prepared and issued by the Consultant in consultation with the KEEF, following the successful completion of the works provided that Consultant is satisfied that the defects or deficiencies have been successfully rectified.

The issue of the Taking-over Certificate shall be subjected to:

- ✓ The Contractor having provided the operating and maintenance manuals, as well as all the drawings and documents handled over to the Client requested in the Contract.
- ✓ No major deficiencies are found and minor deficiencies are listed in the defects list by the Consultant.
- ✓ Items specified as reverting to the Employer revert accordingly

The consultant shall witness the works performance tests carried out under Test after Completion. They will analyze, evaluate and appro the final performance tests with the concurrence of the Client.

The analyses, results and conclusions with recommendations shall be compiled in the performance evaluation report to be submitted to the Client.

The Consultant shall prepare for the final inspection and acceptance meeting, thereafter prepare the Performance Certificate with the approval of the Client and submit after the expiry date of the Defects Notification Period, to the Client who will issue the Performance Certificate to the Contractor

Task 4: Supervise the O&M responsibilities of the contractor supplying and installing the solar rooftop PV system

Supervision of the O&M responsibilities of the contractors for the first six months following the commissioning date, including investigation of any complaints or issues raised by the beneficiary.

IV. Reporting

A number of reports are scheduled to be provided over the course of the assignment provided below:

1. Solar panel solution Assessment Report
2. Technical specification, and BOQ report.
3. Final report including the information on Supervision and Certification of the works completed

V. Deliverables and payment schedule

The deliverables for each task will be submitted to and approved by KEEF. The consulting firm must obtain approval for each deliverable before moving to subsequent tasks. The table below summarizes the deliverables and includes an indicative timeline and payment schedule.

Task	Deliverable	**Deadline** (months after contract signing)	**Payment** (% of total payment)
1	Solar panel solution Assessment Report	2	30%
2	Technical specification and BOQ reports.	3	50%
3	Supervise a construction PV project, prepares the site reports and send a copy of material acceptance to professional consultants.	Deadline for completion of the task is linked with the performance of construction company.	20%

VI. Timeline

The estimate time for this assignment will be from October 2020 and to be continue until the end of December 2021.

VII. Experience and Qualifications of the Consultant

The Consultant should be a consulting firm with relevant project experience. The work should be undertaken by a consulting team consisting of experts who have following skills and credentials:

VIII. Key staff:

1. **Team leader/Technical Expert:** Must have a Bachelor's degree in Engineering or Masters in Renewable Energy or in power systems with minimum of 10 years' experience in the field of substation designing, electricity transmission & distribution system design, operation including minimum 5 years of experience in the field of renewable energy technology.
2. **Solar Energy Expert:** A relevant degree in engineering with at least 10 years of experience, out of which a minimum of five years of experience in solar PV projects is required. The solar expert should have good command of PV standards and proven experience on resource assessment and calculation of energy yield for solar PV projects.
3. **Electrical System Design Expert**: A relevant degree in engineering with at least 10 years of experience, out of which a minimum of 10 years of experience in electrical system design is required.
4. **Financial/Economic Analyst:** The financial/economic analyst must have a Masters in Economics or any relevant subject with a minimum of 5 years of experience in financial/economic analysis. Demonstrated experience in economic appraisal of solar power projects.

IX. Selection process and evaluation criteria

The selection process will be conducted in accordance with selection of Consultants procedures in the World Bank Procurement Regulations for IPF Borrowers' (the Procurement regulations) for the supply of goods, works and non-consulting services, issued July 1, 2016 revised Nov 2017 and Aug 2018. The selection process will follow the selection based on Consultants Qualification (CQ) method, as defined in the mentioned Procurement Regulations".

Selection will be based on the following evaluation criteria:

(i) Firms experience in architecture, engineering, supervision and project designing (40%);

(ii) Relevant work experience in implementing similar projects (50%) and

(iii) Availability of the qualified key staff within the consulting firm (10%).

The qualification of key staff (or their CVs) will not be taken into consideration for the shortlisting/evaluation criteria set forth under para VI above; however, the first ranked consulting firm will be required at contract negotiations to provide the required key staff with respective qualification requirements.