

**MINISTRY OF ENERGY**  
**KENYA OFF-GRID SOLAR ACCESS PROJECT FOR UNDERSERVED COUNTIES**  
**(K-OSAP)**  
**TERMS OF REFERENCE**  
**FOR A TECHNICAL ADVISOR SOLAR**  
**JOB REF NO.KE-MOE-28269-CS-INDV**

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**I. Background**

The Kenya Off-grid solar access project for underserved counties (K-OSAP), financed by the World Bank and implemented by the Ministry of Energy, Kenya Power and Lighting Company (KPLC) and Rural Electrification Authority ( REA), aims at providing a comprehensive suite of investments to provide electricity services to households, enterprises and community facilities, boreholes, with pragmatic business models to attract private sector investment, sustainable services, know-how and efficiencies. The Project has four components as follows:

**Component 1:** Mini-grids for Community Facilities, Enterprises, and Households to be implemented by KPLC and REA: This component finances procurement of construction, operation and maintenance of mini-grids. Nearly 120 mini grids will be implemented in the 14 underserved counties, in lots of 100-700 prospective users, with approximate total demand of 20-300kW. This component will have six (6) contract packages for Supply and Installation, and 7 to 12 years O&M of mini-grids, with possible renewal of O&M contract period by the client.

**Component 2:** Standalone Solar Systems, and Clean Cooking Solutions for Households to be Implemented by Ministry of Energy through debt facility as a financial intermediary (FI) and a grant facility as a management contract. This component has two sub components: Sub Component 2A - Standalone Solar Systems for households and Sub Component 2B- Clean Cooking Solutions for Households;

**Component 3:** Standalone Solar Systems and Solar Water Pumps for Community Facilities to be implemented by KPLC and REA: This component has two sub components: Sub-component 3A- Standalone Solar Systems for Community Facilities and Sub-component 3B- Solar Water Pumps for Community Facilities.

**Component 4:** Implementation Support and Capacity Building: This component has two sub components: Sub-Component 4.1- Consumer Education and Awareness and Sub-component 4.2 - Implementation Support and Capacity Building.

The Ministry of Energy, has established a Project Coordination Unit (PCU) to focus and fully manage the day to day operation of the project. The PCU is to be staffed with highly experienced key technical experts who will handle and manage the project implementation. As

the project involves various solar photovoltaic technology systems, the Ministry is desirous to recruit a competent technical advisor to work in the PCU.

## **II. Objective of the Assignment**

The objective of the technical advisor is to provide technical assistance to the implementing agencies, advice on solar electricity technologies and management of solar contracts under the K-OSAP project. The technical advisor will support project implementation and ensure value for money in achieving the project development objectives.

## **III. Scope of the Assignment:**

Provide guidance and assistance in procurement of solar Photovoltaic (PV) system equipment, components, related works as well as consulting services in compliance with the World Bank Procurement Regulations for Borrowers and in line with the GoK procurement regulations. Specifically, to:

- i. Assist the implementing agency in the formulation of tendering procedures and drafting of all document requirements to ensure the conclusion of successful bidding and negotiations of the solar mini-grids, solar stand-alone systems and solar water-pumping systems;
- ii. Assist the implementing agency in the preparation of Terms of Reference for the solar mini-grid operators (generation and reticulation); solar stand-alone systems and the solar water pumping systems;
- iii. Advise the implementing agency on the appropriate designs and size of generation plants for each site based on analysis from recruited design consultants for the solar mini-grids, solar community stand-alone systems and solar water pumping. The technical advisor also to review and advice on obtained borehole camera inspection report, borehole yields and advice before tendering for their works;
- iv. Support and advice the PCU to deliver an agreeable power purchase agreement between the service providers and the off-taker. For the solar water pumps, determine the lowest water tariff to be charged to the communities given that water is a basic need;
- v. Provide technical expertise primarily relating to mini-grids, solar water pumping systems, Standalone solar PV systems for community/public facilities and household solar home systems;
- vi. provide guidance and advice to the project executing agencies (MOE, KPLC, REA) to ensure successful delivery of expected outputs as well as technical assurance of the project;
- vii. Provide advice on the scientific and technical knowledge, in particular to guide the PCU in project planning. This will involve the implementation of monitoring and evaluation plan with performance indicators, baseline and target for each output, and the detailed work plan and budget on the basis of the logical framework;

- viii. Ensure that the outputs which are to arise from the project are of high quality and meet the stated objectives;
- ix. Provide technical advice at the planning, management and implementation stages;
- x. Liaise with global scientific and technical community and feed the project with the latest information and data on relevant technologies and experience;
- xi. Participate in PCU and PIU meetings and provide inputs on the quality, quantity and timeliness of progress against the work plan;
- xii. Provide inputs for the preparation of Progress Reports, Annual Project Reports and Project Implementation Reviews;
- xiii. Support capacity building of counterparts and other local staff to ensure effective skills and technology transfer;
- xiv. Ensuring proper and speedy implementation of the project by ensuring agreed and contracted technical designs, specifications and standards comply and are in accordance with sound engineering practice;
- xv. Advise on suitability of the proposed business model for the solar mini-grids, stand-alone solar systems and the solar water pumping systems;
- xvi. Any other duties as may be assigned by the Project Coordinator

#### **IV. Assignment Location**

The Technical Advisor - Solar will be based at the PCU offices at Ministry of Energy Headquarters, Nairobi, and will be expected to regularly meet to support the technical staff at MOE, KPLC and REA.

The Technical Advisor may also be called upon to undertake any other task relevant to the K-OSAP project as well as participate in program-wide meetings to discuss matters relevant to the project.

#### **V. Time frame and Reporting**

The expected duration of the advisory service is for one year, with possibility of contract extension subject to satisfactory performance of the incumbent. The assignment is expected to commence in **November 2018**. The successful candidate will report to the Project Coordinator at the Ministry of Energy Headquarters, Nairobi. The Technical advisor will work closely with the PCU as well as PIUs to ensure timely and successful delivery of the project.

The **Technical Advisor – Solar** will be required to submit reports as follows:

- 1) One copy of monthly progress reports highlighting both challenges and Achievements;
- 2) One copy of quarterly progress on activities undertaken and solutions to challenges;
- 3) One copy of annual progress reports; and
- 4) One copy of project completion report after the completion of the Project.

**VI. Qualifications and Experience Requirements:**

- i. A Bachelor's degree in engineering discipline related to energy, power generation and/or distribution, specialization in renewable energy preferably PV technology;
- ii. Possession of a Master's Degree in any of the above disciplines will be an added advantage;
- iii. Minimum of 8 years of experience in the utility/energy sector with extensive knowledge and experience in renewable energy sources, in particular solar PV;
- iv. Practical experience in similar assignments, preferably with experience in renewable energy projects;
- v. Demonstrated analytical clarity, problem-solving skills and negotiating skills with ability to balance project objectives and technical requirements with client needs;
- vi. Exceptional degree of integrity, judgment and tact in handling sensitive, diverse and confidential material.

**VII. Selection Method:**

The Technical Advisor - Solar selection will follow the GoK and World Bank's Procurement Regulations for Investment Projects Financing (IPF) Borrowers for Individual Consultants.