REPUBLIC OF TURKEY

MINISTRY OF ENVIRONMENT, URBANIZATION AND CLIMATE CHANGE

General Directorate of Construction Affairs

PUBLIC AND MUNICIPAL RENEWABLE ENERGY PROJECT

(P179867**)**

TERMS OF REFERENCE FOR
JRECRUITMENT OF A JUNIOR ELECTRICAL ENGINEER

(Ref: PUMREP/WB/IND-JE-01)

1. BACKGROUND

The Ministry of Environment, Urbanization and Climate Change has received financing from the World Bank toward the cost of the Public and Municipal Renewable Energy Efficiency Project (PUMREP) and intends to apply part of the proceeds for consulting services. The implementation period will end on July 31, 2028. Financed by the proceeds of the Loan Agreement signed between the Ministry of Treasury and Finance, the Project holds a budget of USD$549 million IBRD loan, US$3 million Energy Sector Management Assistance Program (ESMAP) grant. The overall objective of the Project is to increase the use of renewable energy (RE) through self-generation in public facilities.

The Project will support investments in central government and central-government-affiliated facilities (e.g., public buildings under central ministries, universities, dormitories and hospitals) and will be implemented by the General Directorate of Construction Affairs (GDCA) under the Ministry of Environment, Urban and Climate Change (MoEUCC). Buildings will be identified through the application list of public buildings, which can then be prioritized based on eligibility criteria.

The Project will include three components: (i) RE investments in central government buildings, to be implemented by MoEUCC; (ii) RE investments in municipal buildings, to be implemented by İlbank; and (iii) technical assistance (TA) and implementation support, for both MoEUCC and İlbank.

The General Directorate of Construction Affairs (GDCA) established a project implementation unit (PIU) is responsible from implementation of Component 1, 3a and 4a of the project such as selection of the facilities, procurement of the various contractors (e.g. feasibility studies, energy audits, technical designs, installation of RE systems, renovation works, construction supervision, savings verifications, technical assistance or consultancies, etc.).

Under Component 1 investments in RE technologies, primarily solar Photovoltaic (PV) will be supported. RE installations will be primarily used to offset the facilities' electricity (i.e.. for self-consumption purposes rather than to generate power to sell to the grid). An initial pipeline of about 291 subprojects in central government facilities (e.g.. state universities, sports buildings and hospitals) distributed across most provinces in the country and amounting to a total generation capacity of nearly 136 MW has already been identified. This pipeline includes rooftop,

car park canopies and ground mounted solar PV installations, ranging from a few kW to several MW. RE technologies other than solar PV are also eligible under this subcomponent, as per the eligibility criteria.

The facilities in the subcomponents have been gathered in different packages considering the geographic location and the electricity distribution company's authority zone. Under the project consultant companies will be hired to prepare the feasibility studies to assess the technical and financial viability of installing RE power generation (solar PV and solar thermal) in public facilities.

The Feasibility Studies will assess the RE installation under the unlicensed generation scheme. The Consultant shall use a solar resource mapping from a reputable source, such as the Solar Energy Potential Atlas (GEPA) prepared by Ministry of Energy and Natural Resources (MENR) in order to evaluate the proposed facilities. These sites shall be appraised for proposing a final configuration. From this information, the Consultant will produce the feasibility studies for each of the selected projects.

The feasibility studies will provide an assessment of the project using as reference the resource mapping results, the available databases, land use analysis (if needed), and grid connection assessment, the capacity of the transformer, contract capacity, self-consumption values, installation area. The studies will focus on main aspects of the project such as the adequacy of the solar resource, grid connection and construction costs, and savings in order to decide whether the projects are worth taking forward and prioritize the order of development of those that are technically, Environmentally and economically viable.

The Consultant shall identify the optimal generation profile for the RE (+BESS) plants and facilities. The Consultant shall study the local load profile and define the optimal RE (+BESS), if any limitation exists.

Within the framework of the Public and Municipal Renewable Energy Efficiency Project, a **Junior Electrical Engineer (Ref: PUMREP/WB/IND-JE-01)** will be employed at Project Implementation Unit of the General Directorate of Construction Affairs of Ministry of Environment, Urbanization and Climate Change (MoEUCC).

2. OBJECTIVES

The main objective is to employ an experienced consultant as an Electrical Engineer of GDCA PIU to assist in the project implementation activities as follows:

3. SCOPE OF THE SERVICES

The main task of the consultant is to review the feasibility study reports prepared by the consultant companies for installing RE power generation (solar PV and solar thermal) in public facilities.

The consultant will;

- Review and control the feasibility study reports if they are addressing the tasks in the Terms of Reference of the consultancy service contract,
- Check if the solar resource mapping is used in order to evaluate the proposed facilities,
- Control the conceptual design of the project, including estimation of installed capacity of RE (and BESS).
- Control the financial analysis if the analysis provides the leveled cost per kWh of energy

delivery basis as well as 20-year life cycle cost - of the RE installation together with the needed structure to install the PV panels in the car park / rooftop / ground compared to existing supply cost with and without BESS, including the analysis of the payback period, Net Present Value (NPV) and Internal Rate of Return (IRR) of the RE investment,

- Review existing technical guidelines and regulations (NEPQA, feasibility study of solar minigrid, grid-connected PV policy etc.) and verify the system design and components that are assigned as per standards,
- Review detailed technical designs and specifications, tender documents and evaluate the bids for installing renewable energy power generation, review installation supervision reports, oversight electric generation,
- Review detailed technical designs to ensure compliance with best practices on electrical aspects related ballasts and wiring, solar PV designs and grid connections,
- Review the current international standards of the solar PV technology, its best practices and integrate them in project implementation when possible, give guidance to the feasibility study,
- Participate to the site visits conducted by the feasibility study consultant companies to prepare the site visits,
- Conduct site visits to supervise the contractors during the installation of the renewable energy systems,
- Support on developing the monitoring system of the implemented projects.
- Support on developing the operation and maintenance (O&M) concept for PV projects.
- Approve the eligibility of the proposed sub-projects,
- Record and share lessons learnt and explore best practices from the feasibility studies,
- Support on preparing bid documents as well as evaluation of the bids.
- Support on capacity building and training activities for project stakeholders (private sector, local government, provincial government, beneficiaries etc).
- Support in the project implementation activities as assigned by the project manager.

A detailed list of services will be provided to the Junior Electrical Engineer upon contract of employment.

4. REPORTS

The Consultant shall support PIU in preparing the monthly progress reports, biannual progress reports, evaluation reports of the procurement of the consultant companies and contractors.

5. DURATION OF THE SERVICES

The services will be required on a full-time basis. The Consultant is expected to commence work from February 2025, with two months' probation period and a renewable 1-year contract, if performance is satisfactory.

6. QUALIFICATION REQUIREMENTS

- Bachelor Degree in Electrical, Electronics or Electrical-Electronics Engineering,

- At least 1 years of experience in solar PV/Wind/BESS power plant development covering design and construction,
- Should have experience in medium voltage - low voltage technical design and/or installation works,
- Should have experience in design and calculation of the electrical works (single line, 3-line, grounding, current-voltage calculation, voltage drop calculation, short circuit calculation etc.),
- Should have knowledge in preparing and evaluation of solar energy system feasibility report,
- Should have knowledge of solar PV/ BESS standards and proven experience on resource assessment, financial analysis and calculation of energy yield for solar PV/ BESS projects including the analysis of the payback period, Net Present Value (NPV) and Internal Rate of Return (IRR) of the RE investment,
- Should have knowledge of PV and storage technologies and standards, on grid stability analysis and renewable integration planning,
- Understanding of solar energy technologies status and implementation challenges in Türkiye,
- Professional work experience with the private, bilateral and multilateral organization in the field of solar energy will be an asset,
- Good understanding of Turkish government's procurement process will be an asset,
- Good analytical and problem-solving skills and the related ability to adaptively manage with prompt action on the conclusions and recommendations coming out of the project's regular monitoring and self-assessment activities,
- Excellent interpersonal and communication skills,
- Experience and knowledge of Microsoft office tools and solar PV system modelling tools (PVSol, PVsyst etc.),
- Familiarity with the key characteristics of implementing solar PV installations, including grid connected, off-grid, and hybrid installations with and without battery storage,
- Ability and demonstrated success to work in a team, to effectively organize it, and to motivate its members to effectively work towards the project's objective and expected outcomes,
- Willing to travel to the cities where the renewable energy will be installed,
- Fluency in written and oral English (having at least B2 level) and Turkish.

7. METHODOLOGY

The consultant will be hired following the guidance of World Bank's "Procurement Regulations for IPF Borrowers" – November 2020 ("Procurement Regulations"). The contract will be signed

between the General Directorate of Construction Affairs of MoEUCC or his designee and the consultant.

8. APPLICATION

Curriculum vitae (CV) in English in the format given below together with a one-page application letter must be delivered to the address below in person or by e-mail, indicating the title and the reference code of the applied position in the subject line. **The deadline for application is January 20, 2025, 4:00 p.m. local time.** A confirmation will be shared upon receipt of application.

Ministry of Environment, Urbanization and Climate Change
General Directorate of Construction Affairs
External Investments Department
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CURRICULUM VITAE

Name of Staff		**:**
Profession		**:**
Date and Place of Birth		**:**
Civil Status		**:**
Home Address		**:**
Phone	**home**	**:**
	mobile	**:**
E-Mail		**:**
POSITION APPLIED		**:**

KEY QUALIFICATIONS

Specific experience in :

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EDUCATIONAL BACKGROUND

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PROFESSIONAL EXPERIENCES
(Employment Record)

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-
-
-

Language Proficiency :

1.	Excellent	Good	Poor
Reading			
Writing			
Speaking			

2.	Excellent	Good	Poor
Reading			
Writing			
Speaking			

3.	Excellent	Good	Poor
Reading			
Writing			
Speaking			

Computing Knowledge :

Experience in:

-
-
-
-

Membership of Professional Societies :

References and transcripts : AVAILABLE UPON REQUEST

Certification

I, the undersigned, certify that to the best of my knowledge and belief, this biodata correctly describes myself, my qualifications and my experience.

Signature Date