

Terms of Reference for Individual Contractor (IC)

National or International consultants: National consultant

Description of the assignment (Title of consultancy): LED Lighting Inspection and Retrofit

Project Title: Response to the impact of COVID-19 in Lebanon – 00118152 A6 (*Solar for Health*)

Period of assignment/services: 35 man-days spread out over a period of 5 months

Is this a LTA (yes/no): No

1. Background

The COVID-19 pandemic came at a time when Lebanon was already under an unprecedented shock due to the socio-economic-financial crisis and the Syrian refugee crisis. This pandemic is a health, humanitarian and development crisis that is threatening to leave deep social, economic and political scars for years to come, particularly in countries such as Lebanon already weighed down by fragility, poverty and conflict. UNDP is responding to a growing volume of requests from countries to help them prepare for, respond to and recover from the COVID-19 pandemic, focusing particularly on the most vulnerable, and Lebanon is one of them.

It is also imperative to assist Lebanese public health care institutions that are tasked to deal with the COVID-19 pandemic to become more cost-effective, more comfort-related, environmentally responsible, especially with respect to energy-use. Interventions that ease the cost pressures, increase reliability, and improve the environmental performance of energy provision will impact positively on the health of the Lebanese and refugee population in which they provide health care services for.

Funded by KfW Bankengruppe and in coordination with the Lebanese Ministry of Public Health, the Response to the impact of COVID-19 in Lebanon will work on several activities, including Activity 1.3 “Implementing solar for health initiatives”. Sustainable energy interventions will be designed and implemented to target 10 public sector hospitals that were selected in different regions of Lebanon under the Ministry of Public Health Phase 1 plan for COVID-19 response.

2. Scope of work, responsibilities and description of the proposed analytical work

As part of the Solar for Health project, 3 of the shortlisted hospitals will require LED lighting inspection and the 7 remaining hospitals will require a complete LED lighting retrofit. The LED lighting retrofit shall comply

with the ANSI/IES RP-29-16 (Lighting for Hospitals and Healthcare Facilities) recommendations. The hospitals and respective work are identified in the table below.

#	Hospital Name	Building info	Region	Existing lighting	Required Task
1	Abdallah Rassi Public Hospital	1 bldg - 3 floors 110 Beds	North Lebanon	LED and Fluorescent	LED lighting inspection and LED lighting retrofit
2	Rafic Hariri Public Hospital	5 bldgs - 5 floors each 450 Beds	Beirut	LED and Fluorescent	LED lighting inspection and LED lighting retrofit
3	Bent Jbeil Public Hospital	1 bldg - 1 floor 136 Beds	South Lebanon	Fluorescent	LED lighting retrofit
4	Hermel Public Hospital	1 bldg - 4 floor 70 Beds	Bekaa	Fluorescent	LED lighting retrofit
5	Mashgara Public Hospital	1 bldg - 5 floors 100 Beds	Bekaa	Fluorescent	LED lighting retrofit
6	Baalbeck Public Hospital	3 bldg - (5,4 ,1) floors 125 Beds	Bekaa	LED and Fluorescent	LED lighting inspection and LED lighting retrofit
7	Keserwen Public Hospital	1 bldg - 5 floors 100 Beds	Mount Lebanon	LED and Fluorescent	LED lighting inspection and LED lighting retrofit
8	Tripoli Hospital	1 bldg - 3 floors 200 Beds	North Lebanon	LED	LED lighting inspection
9	Nabatieh	2 bldg - 4 floors 164 Beds	South Lebanon	LED	LED lighting inspection
10	Bcharri	1 bldg - 3 floors 32 Beds	North Lebanon	LED	LED lighting inspection

** Please note that the above list may be subject to minor changes where one or two hospitals may be replaced by another one or two hospitals, respectively.*

UNDP is seeking a National Individual Consultant (IC) to prepare the full technical component of the tender document for these ten (10) sites (for LED lighting maintenance – when required – and LED lighting retrofit for the 7 above listed hospitals), including the full bill of quantities (BOQ), technical specifications grouped per area of use and tasks (i.e. patient room, corridor, reception, clinics, etc.), work methodology in replacing the existing lamps or fixtures, disposal criteria of existing fixtures, and also assist the UNDP in evaluation of the tender submissions. Special attention should be placed on the technical specifications for the lighting requirements for circulation areas (emergency departments, hallways, elevators) and for areas which require

24/7 lighting (parking, sign boards...). The aim is to end up with energy efficient LED lighting that would improve on lamp lifetime, reduce energy consumption, reduce total harmonic distortion (THD), respects task matching lighting color, increase light loss factor (LLF) and improve on lamp lumen depreciation factor (LLD).

The tasks that are to be expected from the consultant are:

- **Task 1.** Collect needed data and information on the ten (10) sites, including thorough site visits to each of the ten selected public hospitals that are spread across the Lebanese territory in order to form a preliminary outlook on the status of the existing LED lighting, the required LED retrofit (quantity, lamps per fixture, type of lamps, wattage, location of fixtures) and the circuitry quality (namely voltage and frequency).
- **Task 2.** Complete detailed lighting design (using lighting design software such as DIALux / RELUX) per type of areas (patient room, circulation areas, emergency rooms, ICUs, surgery rooms, etc...) clearly showing the type, capacity, illuminance etc... of the LED lighting. Draft the full detailed bidding documents complete with schedule, Bill of Quantities and technical specifications (for replacement / maintenance or retrofit), evaluation criteria, and disposal plan for existing lamps/fixtures.
- **Task 3.** Assist the UNDP team in the evaluation of all the offers submitted in accordance with the criteria and evaluation form set in Task 2.

3. Expected Outputs and deliverables

The deliverables are to be submitted in stages of draft and final. Each deliverable is to be submitted in the form of a soft copy to the Project Manager. The time needed by the Project Management for the review of each submitted deliverable is 5 working days. The Required deliverables under the terms of reference are:

Deliverables/ Outputs	Estimated Duration to Complete	Target Due Dates	Review and Approvals Required
Task 1: 10 site visit reports including data collection	20 person-days spread over 1 calendar month	End month 2 after contract signature	Project Manager
Task 2: Full tender document preparation (BOQ, specifications, evaluation criteria, software simulations, and requirements)	10 person-days spread over 1 calendar month	End month 3 after contract signature	Project Manager
Task 3: Bids evaluation report	5 person-days spread over 1 calendar month	End month 5 after contract signature	Project Manager

4. Institutional arrangements

The consultant will work under the supervision of the CEDRO Project Manager. The project will provide support service and / or logistical support (working space as per section 6 below and related services, and transportation from the office to the selected public hospital sites).

5. Duration of work

The contract is 35 man-days spread out over a period of 5 months (extension may be applied).

6. Duty station

Beirut Central District, UNDP office

7. Requirements for experience and qualifications

I. Academic Qualifications:

- Bachelor's degree in Electrical Engineering or related discipline.
- Master's degree in Lighting design, Energy studies or related field is a plus.
- Professional certification in Lighting design / Lighting calculations is a plus.

Copy of degrees / certifications must be submitted for full evaluation grading.

II. Experience:

- Overall relevant experience in lighting design and installation of at least 5 years*
- Technical experience in lighting design and supply in hospitals
- Experience in software related to engineering and lighting design (e.g. AutoCAD, Dialux...)
- Experience in preparation of tender document and elaboration of technical specifications*
- Experience in working with UNDP or other local or international non-governmental organizations on lighting design and/or implementation*.

*: List of completed projects (to be accounted for in the experience) should be provided listing: project name, nature of work completed, year of completion, description of type of facility. Failure to submit the here mentioned information, the criterion will not be considered.

III. Competencies:

- Good analytical and report-writing skills
- Commitment to team and cross-disciplinary work
- Emphasis on delivery of results and reacts well to constructive criticism
- Proficiency in English

8. Scope of Price Proposal and Schedule of Payments

Task	Deliverables	Target Due Dates	Payment Terms
1	Task 1: 10 site visits reports including data collection	End month 1 after contract signature	First Payment: 40% of the contract value
2	Task 2: Full tender document preparation (BOQ, specifications, software simulations, evaluation criteria and requirements)	End month 2 after contract signature	Second Payment: 40% of the contract value
3	Task 3: Bids evaluation report	End month 5 after contract signature	Fourth Payment: 20% of the contract value

Payments will be issued upon satisfactory completion of the required deliverables and submission of the certificate of payment. Payment file shall include a summary of the tasks completed by the consultant and submitted to the Project Manager.