

TERMS OF REFERENCE

B.1. Background information

During 2022 NCA received its official registration in Lebanon which opened new doors for NCA Lebanon office to explore direct implementation as and when needed. Accordingly, and specifically as part of its WASH response in Lebanon, NCA Lebanon office is planning to implement solar power projects. For this purpose, NCA is looking for a Solar Power Specialist who will work together with the NCA WASH team to prepare the project design, develop the bill of quantities (BoQs), support in the setting of the selection criteria for the bidders who will apply for the tender book for the procurement and construction of the solar system, and last but not least provide technical supervision of the implementation. As part of this consultancy, NCA recommends a capacity strengthening approach by the consultant, where it will present on the job training for NCA WASH team to increase their technical skills on the design and implementation of solar power systems.

B.2. Objective:

The objective of the assignment is to work in close cooperation with NCA team, who will be coordinating with the stakeholders in the community. The Solar Power Specialist will have as a main role, the following responsibilities:

1. The design of the PV system and electrical installations pertaining to solar pumping or any other solar power system. The design shall include:
 - a) Design report showing the project components, proposed system configuration, solar system layout, financial feasibility of the project...etc.
 - b) PV system simulation using software like PVsyst to determine the size and yield of the system.
 - c) Scope of work with the design criteria, technical specifications, and the intended systems.
 - d) System components and wiring sizing
 - e) PV layout and wiring layout
 - f) Single Line Diagram
 - g) Installation details
 - h) Earthing layouts
 - i) All civil works including structural design for the support system with details and layouts.
2. The preparation of the tender documents including the specifications and bills of quantities of the solar systems (including the PV and balance of system, and the civil and structural works)
3. Technical advice in the selection of the contractors including assessing the technical submittal of the contractor and assessing its capabilities (noting that the Solar Power Specialist is not a member of the procurement committee but rather advising technically. Nevertheless, by accepting to take this advisory role, s/he will not have the right to apply for procurement or to be associated with any company that is applying).
4. Basic supervision of the construction including three site visits with site visits reports. The supervision visits shall include the first fix visit, the second fix inspection visits for the panels installation and wiring, and final testing visit.
5. Handing over of the system to the end users

NCA WASH senior officer will be responsible for the supervision of the civil and structural works, assisted by the site engineer. NCA WASH team will coordinate with the local community for any topographic survey in case needed.

NCA will be coordinating closely with the Solar Power Specialist throughout the project design and implementation.

B.3. Scope and Methodology:

This consultancy is envisioned as a close collaboration assignment between the consultant and NCA. The prime purpose of this assignment is to design and provide technical supervision for the procurement and implementation of solar systems (water pumping or other kind of projects).

The consultant will be expected to travel to the project site as per B.2 by his/her own means.

B.4. Expected deliveries and milestones:

The selected consultant/s will be expected to submit the following documents in English:

- a. **System design (days of work are based on the size of the system: <30kwp one day, >30kwp<100kwp two days, >100kwp 3 days):** This will be done in close cooperation with NCA technical team and includes, design of the PV system and electrical installation pertaining to solar system.
- b. **Technical document dossier for the procurement of the solar power systems (x1):** This will be done in close cooperation with NCA technical team and includes, BoQs, technical specifications, evaluation criteria, drawings, and diagrams,
- c. **Technical advice on the selection of the contractors (one or two days based on the size of bid):** technical advice to the procurement committee based on the dossier and the submittal of the applying contractors.
- d. **Basic supervision of the construction and implementation (x3):** The consultant is to conduct 3 site visits and submit a site visit report for each within 2 working days.
- e. **Handover of the site to the community/local stakeholder (x1):** This will be done in full coordination with NCA WASH team, the contractor and the local community/stakeholders, aiming to ensure local capacity to run and maintain the system beyond the project lifetime.

All final versions of the above deliverables are subject to review and approval by NCA.

B.5. Schedule:

The consultant should be ready and available to start the consultancy by the **10th of March 2024**. **And the framework agreement will cover all the projects of 2024.**

Core Tasks
Scoping meeting with NCA: Detailed briefing on the assignment and sharing of all relevant documentation
Milestone 1: Design of the solar system
Milestone 2: Technical documents dossier for the procurement of the solar power systems
Milestone 3: Technical advice on the selection of the contractor
Milestone 4: Basic supervision of the construction and implementation
Milestone 5: Handover of the solar system to the local community/stakeholder

B.6. Timing, logistics and facilities

The consultant should be ready and available to start the consultancies by the **10th of March 2024 and complete it by the 31st of December 2024** (working days per site will be decided based on the size of the project). The time period can be extended in agreement between NCA and the selected candidate if absolutely necessary. The total price shall not be affected by such a potential change.

During the assignment, the consultant will report to the NCA WASH Senior Officer. The consultant/s will be expected to make her/his/their own arrangements for accommodation, permits, transportation, office facilities, and if necessary, translation from Arabic to English during the assignment.

B.7. Qualification requirements

Specific qualifications:

- Technical and academic expertise (preferably within electrical or mechanical engineering)
- Minimum five years of working experience in similar consultancies, especially with solar system design
- To avoid any conflict of interest, the consultant/s should commit not to apply directly or indirectly with any contractor to the implementation of the solar power pumping project designed as part of this consultancy.
- Presence in the country, and ability to conduct site visits within 2 working days following NCA request.
- Knowledge of solar power strategies in the country, experience with other donors on solar power is preferred.

