

***Toledo Institute for Development and Environment [TIDE]
Grant agreement No. BZ – KfW FIII - 006 - 2024***

**Invitation to submit a proposal to upgrade the Solar System at Hunting Caye Ranger Station-
Sapodilla Cayes Marine Reserve.**

July 2nd 202

TERMS OF REFERENCE

1. Background

The Mesoamerican Reef Fund, Inc. (MAR Fund) and Toledo Institute for Development and Environment (TIDE) have entered into a Grant Agreement under the project: *Enhancing Protection and Conservation of Commercial Species, Coral Reefs, and Fish Spawning Aggregation Sites in Sapodilla Cayes Marine Reserve, Belize* with the objective of increasing protection and biodiversity conservation of commercial species, coral reefs, and legally established FSAs within Sapodilla Caye Marine Reserve (SCMR) including Elbow and Cayman Crown.

The Sapodilla Cayes Marine Reserve (SCMR) is the most southern of the marine protected areas in Belize and encapsulates the southernmost tip of the Belize Barrier Reef. It lies in the general area of N16 6 32.9, W88 16 10.4 and is an integral part of the Belize Barrier Reef Reserve System (BBRRS), inscribed as a UNESCO World Heritage Site in 1996.10. (SCMR management plan 2023)

The expanded marine reserve covers an area of 321,623.5 acres (approximately 130,156 ha) and contains fourteen palm-fringed sand or mangrove cays, fringe reefs, natural lagoons, and key spawning aggregation sites (SPAGs). It is one of the 17 barrier reef regions that compose the Mesoamerican Reef System that is home to more than 65 species of stony coral, 350 species of molluscs and more than 500 species of fish. (SCMR management plan 2023).

With the significant expansion of SCMR from 38,595 acres to 321,623.5 acres which includes a large portion of the Cayman Crown, a resilient coral reef ecosystem, there is an urgent need for the Toledo Institute for Development and Environment [TIDE], a new co-manager of SCMR to seek significant funding for investment in infrastructure, urgent resource protection, sustainable management and socio-economic opportunities for primary users to increase management effectiveness of this world heritage site.

Commercial and recreational fisher-folk and tour operators from southern Belize rely on the SCMR to generate an income either from fishing commercial species during season or from sports fishing and tourism related activities. With changing climate, increased local and transboundary fishing pressure, and increased visitation to Hunting Caye, there is an urgent need for an equipped ranger base with necessary amenities for park rangers that reside at the base who ensure compliance with fisheries and tourism regulations. Solar power is necessary at this off grid location to power as a main energy source to powering equipment and infrastructure.

The existing solar system includes 9 solar panels with 275W each, 1 X 100A, 1 Magnum Inverter, and battery bank including 4 X 48V 5KW Lithium Batteries. This system is incapable of producing the energy needed for the Sapodilla Cayes Ranger Station; therefore, an upgrade is needed to meet operational needs and enhance management effectiveness.

This project seeks to implement recommendations from an assessment conducted of the existing solar system at SCMR on Hunting Caye by solar expert Chris Nesbitt to upgrade the system. Recommendation, Option 1 proposes to increase battery bank from 20 Kw/416-amp hours to 40 kw/832-amp hours, increasing photovoltaic array to more than or equal to 6 kw. The consultant will refer to the detailed description, quantity, unit and total cost of this solar system in the assessment report submitted to TIDE for replacement of the solar system.

2. **Objective:** Within 2 months, optimize the existing solar system at SCMR ranger station at Hunting Caye to increase battery bank from 20 Kw/416-amp hours to 40 kw/832-amp hours, increasing photovoltaic array to more than or equal to 6 kw to meet the operational needs of the station.

3. Contracting activities

- 3.1 Refer to assessment report by Chris Nesbitt to be familiar with existing solar system and proposed upgraded system.
- 3.2 Procure materials listed in recommended Option 1 upgrade in the report, from reputable suppliers.
- 3.3 Mount solar panels as recommended in the report to ensure durability and easy dismantling during hurricane season.
- 3.4 Connect the solar system to the battery storage system, ensuring compliance with safety standards and regulations.
- 3.5 Conduct performance tests and system checks to verify that the solar system is functioning properly.
- 3.6 Implement a monitoring system to track energy production and system performance.
- 3.7 Train the ranger team to conduct regular maintenance of the solar system and provide written troubleshooting and maintenance instruction sheets.
- 3.8 Prepare and submit to TIDE a Solar system maintenance manual, outlining procedures and timeline for system maintenance.
- 3.9 Prepare a report on the installation of the upgraded solar system and training provided to park rangers. Include an instruction sheet for maintenance of the system.

4. Presentation of the Bid

- 4.1 The Bidder shall submit a Financial Bid based on the assessment document conducted by TIDE.
- 4.2 The bidder can request assessment document at info@tidebelize.org
- 4.3 The proposal will be submitted in **electronic form** in unmodifiable PDF format.
- 4.4 The bidder submits a technical proposal outlining the work plan
- 4.5 If the Estimated Completion Date cannot be met by the Bidder, the Bidder shall indicate in its Financial Bid the earliest Estimated Completion Date for the construction of docking facility and boat lift.
- 4.6 The Bid must be signed by the Contractor's natural person or the legal representative or attorney-in-fact of the Contractor for such a purpose.
- 4.7 The Bidder shall attach to its Bid the documentation requested: for **INDIVIDUALS** – copy of ID card or passport (in case of foreigners), copy of legal invoice to be used for payment, Resume/CV (3 pages max), 2 professional references; **LEGAL ENTITIES**: copy of company registration, copy of legal status/power of attorney of legal representative, copy of identification document of legal representative or passport, copy of legal invoice to be used for payment, entity presentation/resume, 2 professional references.
- 4.8 The e-mail address for submission of the Bid is: info@tidebelize.org
- 4.9 The bidder request and submit to the contracting party a signed declaration of understanding
- 4.10 The **deadline** for submission of the Bid is **5:00 p.m. on 18/07/2025**

5. Bid Pricing

- 5.1 The Prices offered by the Bidder shall be fixed and shall not be subject to any variation for any reason whatsoever.
- 5.2 The rates and prices submitted shall be deemed to include all costs of materials, labor, overhead, utilities, insurance, taxes, duties, liabilities, risks and other matters necessary for providing the contracted work. The Contracting Party shall not accept any costs other than those clearly indicated in the financial proposal to be considered for the performance of the Contract.
- 5.3 The Contractor shall be responsible for paying taxes according to the country's regulations.
- 5.4 Freight costs for materials and equipment shall be borne by the Contractor, as well as the costs of transportation of its personnel.
- 5.5 Additional items not requested by the Contracting Party should not be included in the Financial Bid.

6. Currency of the Bid and payment

The Bidder shall quote prices in **US Dollars**

7. Period of validity of the Bid

The Bid shall remain valid for a period of **90 days** from the deadline established by the Contracting Party for submission of the Bid.

8. The Contracting Party's right to accept and reject the Bid

The Contracting Party reserves the right to cancel the Procurement Process and to accept or reject the Bid at any time prior to notification of award, without thereby acquiring any liability to the Bidder.

9. Notification of award and signing of the contract

Prior to the expiration of the period of validity of the Bid, the Contracting Party shall notify the Bidder in writing whether its Bid has been accepted in writing in the form of **Acceptance letter**. The contract will then be sent for review, and a date will be arranged for its signing at the office of the contracting party.

4. Estimated Work Schedule (2 months)

Activities								
4.1 Refer to assessment report by Chris Nesbitt to be familiar with existing solar system and proposed upgraded system.	1	2	3	4	1	2	3	4
3.2 Procure materials listed in recommended Option 1 upgrade in the report, from reputable suppliers.								
3.3 Mount solar panels as recommended in the report to ensure durability and easy dismantling during hurricane season.								

3.4 Connect the solar system to the battery storage system, ensuring compliance with safety standards and regulations.								
3.5 Conduct performance tests and system checks to verify that the solar system is functioning properly.								
3.6 Implement a monitoring system to track energy production and system performance.								
3.7 Train the ranger team to conduct regular maintenance of the solar system and provide written troubleshooting and maintenance instruction sheets.								
3.8 Prepare a report on the installation of the upgraded solar system and training provided to park rangers. Include an instruction sheet for maintenance of the system.								

4 Expected products

The contractor will deliver the following product(s):

No	Deliverables	Time Frame
1st deliverable	Plan for the installation of the upgraded solar system in assessment report Option #1	1 week after signing contract
2nd deliverable	Procure equipment and materials for the installation to upgraded solar system as per Option #1 in the assessment report.	2-5 weeks after signing contract
3 rd deliverable	Install solar system on the Hunting Ranger station	6 – 7 weeks after signing contract
3rd deliverable	Report on the installation and operation of the upgraded solar system, training of park rangers on use troubleshooting and maintenance of the system. Prepare and submit a solar system maintenance manual	8 weeks after signing contract

5 Contractor's Profile

The contractor or contracting team must possess the following qualifications and qualities:

5.1 A bachelor's degree in engineering, renewable energy, electrical engineering, advanced degrees or certifications in solar energy technologies.

5.2 A strong understanding of solar energy principles, photovoltaic technology, electrical systems, and energy efficiency.

5.3 Expertise in system design, installation techniques, and project management and knowledge of relevant codes, regulations, and safety standards.

5.4 Experience working in the renewable energy industry, specifically in solar energy projects. Experience includes site assessments, system design, equipment procurement, installation, testing, and commissioning of solar systems.

5.5 Experience in designing solar energy systems tailored to meet the energy needs of the client and overseeing the installation process, ensuring that the system is installed correctly and efficiently.

5.6 Ability to conduct performance evaluations, troubleshoot issues, and provide maintenance services to ensure optimal system performance.

5.7 Willing and able to travel to Hunting Caye to conduct assessment and installation of the solar system.

Travel and Transportation: All travel and transportation costs must be included in the BID.

Payment plan

Payment for the contract shall be made upon approval of the deliverables by the Contracting Party and submission of corresponding legal invoices in 3 payments in accordance with the payment schedule below.

Payment No.		Payment %
1	Plan for the installation of the upgraded solar system in assessment report Option #1. Procure material and equipment required for installation	60%
	Install equipment and materials for solar system upgrade as per Option #1 in the assessment report.	30%
3	Report on the installation and operation of the upgraded solar system, training of park rangers on use troubleshooting and maintenance of the system. Submit to TIDE a solar system maintenance manual	10%
Total		100%

Contract supervision

The contractor will be supervised by the TIDE Project Coordinator and TIDE Executive Director.

The contractor shall attend virtual and/or face-to-face meetings to which he/she is summoned for the execution of this consultancy.

The contract deliverables will be submitted to the contract supervisor for review and approval. If improvements are required, the consultant will proceed to make the requested adjustments.

Payment for each product will be made once it has been approved by the Executing Party's reviewers.

In all discussions and comments made *on site*, the contractor shall expressly state that these reflect his/her opinion and not necessarily the position or opinion of the Contracting or Executing Party.

