

Terms of Reference

CONSULTANCY: Offshore Sargassum Interception, Containment, and Collection in Quintana Roo, Mexico

1. BACKGROUND

The Mesoamerican Reef, stretching over 1,000 km along the Caribbean coasts of Mexico, Belize, Guatemala, and Honduras, is the largest barrier reef in the Western Hemisphere. It supports ecosystems and economies valued at approximately US\$4.5 billion annually through tourism, fisheries, and coastal protection (WRI, 2016). However, declining reef health threatens these benefits and could result in economic losses reaching billions of dollars by 2030 (Burke et al., 2011). The Mesoamerican Reef Fund promotes reef conservation through funding mechanisms and strategic partnerships. One such initiative is MAR+Invest, launched in 2022 by the Global Fund for Coral Reefs. MAR+Invest focuses on financing reef-positive ventures, including sustainable tourism, waste management, and other nature-based solutions (UNEP, 2022). More information is available at mar-invest.org.

Sargassum, a brown macroalgae that forms part of the “Great Atlantic Sargassum Belt,” has increasingly inundated Caribbean shores, especially along Quintana Roo’s coastline. As it decomposes, sargassum releases nutrients and toxins that damage coral reefs, seagrasses, and mangroves. It also emits hydrogen sulfide and ammonia, contributing to unpleasant odors and potential health issues. In 2024, Quintana Roo collected approximately 37,000 tons of sargassum, an increase of 60% compared to 2023 (Mexico News Daily, n.d.-a). When improperly disposed of in unlined sites, sargassum can leach heavy metals such as arsenic and cadmium, threatening both groundwater and nearby marine ecosystems (Western, n.d.; Florida Department of Health, 2023). Anaerobic decomposition further exacerbates the issue by producing methane and hydrogen sulfide, posing serious environmental and public health risks (United States EPA, n.d.; Vázquez-Delfín et al., 2024).

Carbonwave, a company that transforms sargassum into agricultural and cosmetic products, plays a key role in valorizing this biomass. Yet seasonal arrivals frequently exceed current processing capacity, resulting in large volumes of sargassum decomposing on beaches and releasing odors, greenhouse gases, and leachates. To mitigate these impacts, MAR+Invest and Carbonwave propose a feasibility study focused on intercepting floating biomass offshore, before it reaches the nearshore zone, using advanced engineered barrier geometries combined with enhanced collection and transfer systems (skimmer vessels, conveyor barges, or pump-assisted loading into hoppers/totes).

A forward-looking offshore program emphasizes the deployment and evaluation of new technologies that prevent decomposition at the shoreline, strengthen data-driven operations, and improve environmental outcomes. This requires: assessing technology performance in local sea states and currents; gathering metocean and seabed data to inform barrier placement and mooring designs; ensuring environmental stewardship through reef and seagrass protection; and leveraging real-time monitoring systems to optimize interception efficiency, document biomass flows, and support scalable implementation.

The Contracting Entity seeks a qualified consultant/consortium to: (i) assess and shortlist offshore interception and collection technologies suitable for Quintana Roo including evaluation of previously and currently deployed systems in the region to extract lessons learned on performance, limitations, and operational feasibility under local conditions; (ii) collect and analyze field and operational data to optimize siting and design; (iii) produce a ready-to-deploy pilot plan for one or two priority locations; and (iv) deliver a feasibility study addressing technical, environmental, regulatory, and economic dimensions, supported by clear recommendations and a roadmap for expansion.

2. OBJECTIVES OF THE PROJECT

Overall objective

To identify and advance technically feasible, environmentally and socially responsible, and cost-realistic solutions to intercept, collect, and transfer sargassum prior to beaching; and to design, deploy, and monitor a pilot nearshore barrier system suitable for scalable implementation in Quintana Roo.

Specific objectives:

The Consultant shall:

1. Screen multiple interception/collection/transfer technology options (nearshore and offshore) and shortlist the best options using a transparent decision framework.
2. Identify 1–2 feasible pilot locations and provide siting justification (technical, environmental and social, permitting, operational).
3. Deliver an engineering package for a nearshore barrier pilot including three (3) anchoring/mooring concepts evaluated and ranked, and a selected configuration for deployment.
4. Support permitting preparation and deliver a permitting roadmap with agency map, required studies, and timeline, and estimated related costs.
5. Deploy the selected pilot configuration, during the 2027 sargassum arrival period (approximately from March to September of 2027) and implement a minimum 3-month monitoring program with defined key performance indicators and reporting.
6. Deliver the implementation roadmap and recommendations for scale-up (including capital expenditure/operating expenditure and operational requirements).

3. DEFINITIONS AND SCOPE CLARIFICATIONS

Nearshore: 0–1 km from shoreline, depths up to 15 m.

Offshore: more than 1 km from shoreline, more than 15 m depth.

Pilot Barrier: A physical barrier/interception system deployed in nearshore waters to intercept and aggregate sargassum for subsequent transfer/removal.

Phase I – Existing Practices and Information Review

Task 0: Inception and Work Planning

The Consultant shall:

- a. Hold a kick-off meeting and confirm objectives, assumptions, responsibilities, and decision gates.
- b. Submit an **Inception Report** including methodology, workplan, stakeholder map, data needs, fieldwork plan (if applicable), and risk register.

Deliverable: Inception Report. Due: end of Week 2 (15 November 2026).

Task 1: Data Review and Gap Assessment

The Consultant shall:

1. Compile and review existing relevant data (as available), including:
 - a. Historical sargassum arrival patterns, seasonality, and volumes.
 - b. Bathymetry and seabed conditions.
 - c. Metocean conditions (waves, currents, wind, storms).
 - d. Navigation constraints and marine traffic.
 - e. Sensitive receptors (habitats, protected areas, marine fauna).
 - f. Existing collection infrastructure and operations including public, private, and academic (educational) initiatives related to sargassum interception, collection, and management.
2. Identify key data gaps and propose a plan to close gaps (desk-based and/or field-based).
3. Establish a clear baseline and assumptions log for engineering and feasibility calculations.

Deliverables: Data Review & Gap Assessment Memo; Assumptions Log; Data Acquisition Plan (if needed). Due: end of Week 4 (29 November 2026).

Task 2: Technology Options Identification and Screening (Nearshore + Offshore)

The Consultant shall:

1. Review and identify a shortlist of technology options that address:
 - Interception nearshore and offshore (booms, barriers, netting, etc.).
 - Collection and aggregation.
 - Transfer systems (vessels, pumps, conveyors, offloading etc.), including onshore and offshore storage/handling options.
2. For each option, provide:
 - a. Concept description + schematic

- b. Operational concept (personnel, equipment, operations and maintenance)
 - c. Regulatory status
 - d. Preliminary capital and operating cost estimates and cost drivers
 - e. Key risks (technical, safety, environmental and social, permitting) and mitigations (e.g., deep anchoring, wave resistance, active collection, installation and removal feasibility and costs, etc.), and include, where possible, documented feedback on strengths and shortcomings from operators of comparable systems (private hotels, municipalities) and from the communities affected by those systems, whether positive or negative.
3. Apply a decision matrix with transparent scoring criteria (e.g., feasibility, cost, safety, environmental and social risk, permitting complexity, scalability) and recommend a preferred pathway.
 4. Identify specialist permitting advisors who can support navigation of the authorization process, and set out, for each authorization required to intercept, collect, and transport sargassum: the responsible authority, the studies or documentation required, the estimated official and advisory costs, and the estimated processing time.

Deliverables: Technology Options & Screening Report (with decision matrix), due end of Week 9 (3 January 2027); technical review and approval meeting with MAR Fund and Carbonwave to confirm the preferred technology pathway before Phase II begins, to be held by the end of Week 11 (17 January 2027).

Phase II – Pilot Interception and Collection System: Design, Deployment, and Monitoring

Task 3: Pilot Site Identification and Selection

The Consultant shall:

1. Propose **1–2 candidate pilot sites** with maps and coordinates.
2. Evaluate each site against:
 - a. Engineering suitability (depth, seabed, metocean exposure)
 - b. Logistics (access, staging area, offloading)
 - c. Navigation and safety constraints
 - d. Environmental and social sensitivity and stakeholder considerations
 - e. Permitting feasibility and timeline
 - f. Emergency Response Plan (for example barrier breach, anchor drag, vessel strike, entanglement).
3. Recommend a preferred site and provide justification.

Deliverable: Pilot Site Selection Note (including geographic information system and map package). Due: end of Week 11 (17 January 2027), together with the client validation meeting.

Task 4: Nearshore Pilot Barrier Engineering Design Package

The Consultant shall:

1. Develop a pilot design package including:
 - a. System design and layout drawings (plan + profiles)
 - b. Performance assumptions and design basis
 - c. Materials selection and corrosion considerations
 - d. Installation method statement (high level)
2. Develop and evaluate **three (3) anchoring/mooring concepts**, including:
 - a. Design assumptions and load cases
 - b. Pros/cons, risks, maintainability
 - c. Ranked recommendation and selection rationale
3. Develop an operations and maintenance concept including inspection and maintenance schedule, resources and spare parts, and operational staffing, and timeline and deliverables for the pilot.
4. Define a commissioning plan and acceptance checks for installed equipment.
5. Define the operational concept for collection from the barrier, transfer of sargassum to shore, and onward handling or final disposal, including equipment, vessel and offloading requirements, indicative cycle times, and the interface with Carbonwave's receiving operations. This concept shall build on the options assessed under Tasks 1 and 2.

Deliverable: Pilot Engineering Design Package (drawings + narrative + calculations/assumptions). Due: end of Week 18 (7 March 2027), so that deployment readiness can begin immediately and installation can start in the first week of April 2027.

Task 5: Environmental, Social, Occupational Health and Safety, and Permitting Support

The Consultant shall prepare environmental and social deliverables according to the pilot's risk profile and aligned with good international industry practice. At minimum:

1. **Environmental, social and occupational health and safety risk register** covering construction, operations, maintenance and decommissioning (inspection, fouling control, connector checks, seasonal adjustments, storm retrieval/redeployment).
2. **Mitigation Measures** (e.g., navigation marking/lighting, wildlife interaction prevention, waste handling, spill prevention, worker safety).
3. **Stakeholder Engagement Approach** (who is consulted, how, and grievance channel).

4. **Emergency Response Plan** minimum scenarios:

- a. Barrier breach/failure
- b. Anchor drag
- c. Vessel strike/collision
- d. Entanglement risk (wildlife or vessels)
- e. Severe weather response and demobilization triggers
- f. Disposal of old barriers

5. **Permitting Roadmap:** agencies, required authorizations/studies, sequence, timeline, and dependencies.

Deliverables: Environmental, Social and Occupational Health and Safety Package; Emergency Response Plan; Permitting Roadmap. Due: Permitting Roadmap by end of Week 13 (31 January 2027), so that permit applications can be filed from early February; Environmental, Social and Occupational Health and Safety Package and Emergency Response Plan by end of Week 18 (7 March 2027). All authorizations required for installation shall be in hand by end of Week 21 (28 March 2027).

Task 6: Deployment Support and Commissioning (Pilot)

The Consultant shall lead the pilot deployment activities set out below, engaging and supervising any specialist marine contractors and vessels required. Bidders shall price this scope in full:

- a. Pre-deployment readiness review, including appropriate permitting for pilot.
- b. Installation oversight (or direct installation management if contracted).
- c. Commissioning checks and documentation.
- d. "As-built" documentation.
- e. Permitting for installation and operation: the Consultant shall prepare and submit all applications, studies, and supporting documentation required for the pilot, and shall obtain the authorizations in Carbonway prior to installation. The Client will provide letters of support and site access documentation as required.

Deliverables: Installation & Commissioning Report; As-Built Drawings/Package with permitting installation. Due: deployment readiness (including all authorizations in hand) completed by end of Week 21 (28 March 2027); installation of the pilot beginning in the first week of April 2027 and installation and commissioning completed no later than end of Week 24 (18 April 2027), before the peak of the 2027 sargassum season; Installation & Commissioning Report and As-Built Package due end of Week 26 (2 May 2027).

Task 7: Monitoring Program (Minimum 3 months) and Reporting

The Consultant shall implement or supervise a minimum three (3) month monitoring program that includes:

1. **Barrier performance indicators, at minimum:**

- a. Interception efficiency (method defined)
- b. Quantity intercepted and removed (with measurement approach)
- c. Downtime and causes (categorization)
- d. Maintenance frequency and failure modes
- e. Collection and transfer performance: tons of sargassum (wet weight) removed from the barrier and delivered to shore per operating day, vessel and equipment hours, personnel hours, and resulting cost per ton, recorded in a format usable for the Task 8 capital and operating cost update

2. Environmental, social and occupational health and safety monitoring, at minimum:

- a. Incident and near-miss log
- b. Observations of wildlife interactions (including near-misses)
- c. Complaints/grievances log and resolution tracking
- d. Verification of mitigation effectiveness at and around the pilot site, including condition of nearby reef, seagrass and benthic habitat, water quality observations, and accumulation of debris or marine litter, compared against the pre-deployment baseline established under Task 1

3. Performance optimization recommendations (design or operational changes) based on observed results.

4. At the end of the monitoring period, execute or supervise demobilization of the pilot: retrieval or securing of the barrier, moorings and anchors, site clearance, handling and disposal of removed materials, and confirmation of seabed and site condition — unless the Client confirms in writing that the pilot will remain in operation.

Deliverables: Monthly Monitoring Briefs, due end of Weeks 29, 33, 37, 41 and 45 (23 May, 20 June, 18 July, 15 August and 12 September 2027); Final Pilot Performance & Monitoring Report, due end of Week 48 (3 October 2027). The monitoring program shall commence upon commissioning (Week 25, from 19 April 2027) and run for approximately five months, covering the full 2027 sargassum season, with a minimum of three months.

Task 8: Scale-Up and Implementation Roadmap

The Consultant shall provide:

- Scale-up pathway options, constraints, and enabling requirements
- Updated capital and operating cost ranges based on pilot learnings, to manufacture in Mexico.
- Recommended next steps (including additional studies, procurement plan, implementation schedule)

Deliverable: Final Feasibility & Implementation Roadmap Report, including the bilingual summary presentation. Due: end of Week 50 (17 October 2027).

4. DELIVERABLES CRITERIA

Provide all deliverables in English; presentation bilingual (English and Spanish). Submit digitally via shared link or secure transfer. Unless otherwise noted: text in PDF and editable (Word/PowerPoint), data in CSV/SHP/GeoTIFF, figures as PNG/JPG, drawings as PDF and editable (e.g., DWG).

5. OVERSIGHT

The consultant will work under the direct oversight of the **MAR+Invest Coordinator at MAR Fund**, who will serve as the focal point for this consultancy. The MAR+Invest Coordinator will be responsible for overall supervision, facilitating access to information, and coordinating the review and approval of deliverables. The coordinator will also liaise with MAR Fund's donor (the Global Fund for Coral Reefs and Pegasus Capital) as needed for any technical reviews.

In addition, the consultant will work in close coordination with the **Research and Development team of Carbonwave**. Carbonwave's Research and Development staff will provide technical input regarding sargassum characteristics, operational practicalities of collection/upcycling, and desired outcomes. They will collaborate with the consultant especially on pilot design details and will review technical deliverables to ensure they meet the innovative goals of the project. The Research and Development team may also assist in providing access to Carbonwave's facilities or data if needed (for example, if the pilot is conducted near an area where Carbonwave operates, or if previous sargassum analysis data is available). Regular update meetings (e.g., biweekly or monthly) will be held with MAR Fund and Carbonwave representatives to monitor progress. The consultant is expected to maintain open communication lines, promptly raise any issues or needs (such as delays, additional resources, or changes in scope), and incorporate feedback from the oversight team.

Final approval of all products and reports will be agreed with MAR Fund. The MAR+Invest Coordinator, in consultation with Carbonwave and relevant experts, will review each delivery for quality and completeness. Only upon written approval by MAR Fund will a deliverable be considered accepted. The consultant should factor in time for revisions in the work plan based on feedback from both Carbonwave and MAR Fund.

6. DURATION OF THE CONTRACT

Expected Start Date: 1 November 2026 (or the date of contract signature, if later).

Total Duration: 50 weeks from contract signature. Because sargassum arrivals are seasonal, the pilot installation and commissioning milestone is fixed: installation shall begin in the first week of April 2027 and installation and commissioning shall be completed no later than the end of Week 24 (18 April 2027), i.e. before the peak of the 2027 sargassum season (peak arrivals in Quintana Roo typically occur between March and August), so that the monitoring program runs across the full season. Should the contract signature date make this infeasible, the Consultant shall propose an accelerated schedule in the Inception Report for the Client's written approval.

Indicative schedule (to be confirmed by the Consultant in the Inception Report):

Week	Deliverable / milestone	Due date
2	Inception Report	15 Nov 2026
4	Data Review & Gap Assessment Memo; Assumptions Log; Data Acquisition Plan	29 Nov 2026
9	Technology Options & Screening Report	3 Jan 2027
11	Pilot Site Selection Note + client approval meeting	17 Jan 2027
13	Permitting Roadmap	31 Jan 2027
18	Pilot Engineering Design Package; Environmental, Social and Occupational Health and Safety Package; Emergency Response Plan	7 Mar 2027
21	All authorizations required for installation in hand	28 Mar 2027
22–24	Installation and commissioning of the pilot	by 18 Apr 2027
26	Installation & Commissioning Report + As-Built Package	2 May 2027
29–45	Monthly Monitoring Briefs (monitoring Apr–Sep 2027, min. 3 months)	23 May, 20 Jun, 18 Jul, 15 Aug, 12 Sep 2027
48	Final Pilot Performance & Monitoring Report	3 Oct 2027
50	Final Feasibility & Implementation Roadmap Report + bilingual presentation	17 Oct 2027

Extensions

Any request for extension of the assignment timeline shall require prior written approval from the Client. The Consultant shall provide adequate justification, including the reasons for delay and the proposed revised schedule. Approval of any extension shall be at the sole discretion of the Client and subject to the contractual provisions governing amendments to the implementation schedule.

7. PAYMENTS

Payments for this consultancy will be disbursed according to a deliverable-based schedule, tied to the satisfactory completion of agreed products and milestones. The payment tranches and amounts will be finalized during contract negotiations based on the consultant's financial proposal.

It is emphasized that all payments will be contingent on **MAR Fund's approval** of the corresponding deliverables. The consultant is expected to produce high-quality output; if a deliverable is deemed unsatisfactory or incomplete, MAR Fund will request revisions and adjustments before payments are approved. The consultant's financial proposal should consider all the costs of the consultancy (professional fees, travel, equipment, permits, etc.), as no additional reimbursements will be made outside the agreed contract sum. All payments will be made in US dollars or Mexican pesos (to be specified) and are inclusive of any taxes or obligations that the consultant must fulfill.

Notes: The consultant's price must cover all required costs (insurances, fees, vessels, equipment, travel, shipments and laboratory services). Taxes and legal withholdings will be applied according to applicable laws.

8. PLACE OF WORK

The consultant is not required to be permanently based in Quintana Roo prior to the project; however, full-time physical presence on-site is required throughout the entire installation, testing, and operational phase of the barrier. The consultant must be on the ground at all times during deployment to supervise operations, manage logistics, and immediately respond to any weather events, emergencies, or operational issues. Preference will be given to consultants based in Mexico, particularly those with local knowledge and operational capacity in Quintana Roo. Applicants must account for all necessary travel and extended on-site presence in their proposal.

The consultant must manage their own travel logistics within Mexico, particularly to coastal areas like Cancún, Tulum, or Cozumel. Support from MAR Fund and Carbonwave will be provided for coordination, but the consultant should be prepared to work independently under tropical outdoor conditions with strict safety protocols and appropriate insurances.

Travel & Logistics: appropriate marine and liability insurances required; contractor to provide personal protective equipment and safety gear suitable for marine operations.

9. QUALIFICATIONS AND ATTRIBUTES OF THE CONSULTANTS

Consultant Qualifications

- Demonstrated experience in marine engineering projects (barriers, moorings, coastal/nearshore infrastructure, or analogous systems).
- Proven track record in feasibility studies and pilot deployments in coastal environments.
- Ability to work in Mexico and coordinate with local maritime and environmental requirements; proficiency in English and Spanish.
- Experience with monitoring, interception, or management of floating biomass (e.g., macroalgae, marine debris, or similar materials) in coastal environments is considered an advantage.
- Ability to produce high-quality written materials in both Spanish and English.

Key Personnel (minimum)

- Team Lead / Project Manager ($\geq$ [5] years relevant experience)
- Marine Engineer / Mooring Specialist
- Metocean/Oceanography Specialist
- Environmental, Social and Occupational Health and Safety Specialist (marine/coastal experience)
- Permitting/Regulatory Specialist (Mexico coastal/marine preferred)
- Geographic Information System / Data Specialist

The proposal should include curricula vitae of all team members, role allocation (% time), and relevant project references for each key expert.

General: consultants traveling must have valid insurances.

Consultants/teams located in Quintana Roo and with prior experience in the Caribbean region or similar sargassum management projects will have an advantage. A background in coastal environmental projects, marine debris, or related fields (like marine infrastructure and operations, etc.) can also be beneficial. If the applicant is a firm, a portfolio of similar projects — for example, feasibility studies for waste collection or environmental pilot projects — should also be provided.

10. APPLICATION PROCEDURE

Proposal Submission Requirements

Proposals shall include:

1. Technical approach and methodology aligned to Tasks 0–8
2. Workplan and schedule (Gantt) with resourcing plan
3. Team composition and curricula vitae
4. Relevant project experience with client references
5. Environmental, social and occupational health and safety approach and risk management method
6. Assumptions and dependencies (data availability, vessels, permits)
7. Financial proposal with breakdown by task (fees, travel, surveys, equipment, contingencies if permitted)

Submission format: PDF (and editable files upon request).

Eligibility: the call is open to individual consultants, firms, and consortia legally able to contract and invoice in Mexico, whether Mexican or foreign. A consortium shall nominate a lead entity responsible for contract performance and shall identify the role of each member.

Conflict of interest: applicants shall disclose any actual or potential conflict of interest, including any current or previous engagement with MAR Fund or Carbonwave, and any commercial relationship with suppliers of the technologies to be assessed. An undisclosed conflict of interest, misrepresentation in the proposal, or any attempt to influence the evaluation shall result in disqualification.

Evaluation Criteria

Technical scoring:

- Methodology and understanding of scope – 25%
- Team qualifications and relevance – 25%
- Relevant experience and references – 20%
- Workplan realism and deliverables quality – 15%

- Environmental, social, occupational health and safety, and permitting approach – 15%

Standards and Compliance

The Consultant shall apply Good International Industry Practice and align deliverables with:

- Applicable Mexican maritime/environmental requirements and local authority guidance
- International Finance Corporation Performance Standards principles (as relevant to pilot risk profile)
- Marine navigation safety and marking requirements applicable to the pilot location

11. DELIVERABLES, FORMAT, AND ACCEPTANCE CRITERIA

Deliverables List (minimum)

1. Inception Report — due end of Week 2 (15 November 2026)
2. Data Review & Gap Assessment Memo + Assumptions Log + Data Acquisition Plan (if needed) — due end of Week 4 (29 November 2026)
3. Technology Options & Screening Report (with decision matrix) — due end of Week 9 (3 January 2027)
4. Pilot Site Selection Note + geographic information system and map package - meeting with client to validate selection — due end of Week 11 (17 January 2027)
5. Pilot Engineering Design Package (3 mooring/anchoring alternatives + selected configuration) — due end of Week 18 (7 March 2027)
6. Environmental, Social and Occupational Health and Safety Package + Emergency Response Plan + Permitting Roadmap — Permitting Roadmap due end of Week 13 (31 January 2027); Environmental, Social and Occupational Health and Safety Package and Emergency Response Plan due end of Week 18 (7 March 2027); all authorizations required for installation in hand by end of Week 21 (28 March 2027)
7. Installation & Commissioning Report + As-Built Package — installation beginning in the first week of April 2027, installation and commissioning completed by end of Week 24 (18 April 2027); report due end of Week 26 (2 May 2027)
8. Monthly Monitoring Briefs (5) — due end of Weeks 29, 33, 37, 41 and 45 (23 May, 20 June, 18 July, 15 August and 12 September 2027)
9. Final Pilot Performance & Monitoring Report — due end of Week 48 (3 October 2027)
10. Final Feasibility & Implementation Roadmap Report — due end of Week 50 (17 October 2027)
11. Presentation: bilingual (English and Spanish) summary deck of key findings and decisions — due end of Week 50 (17 October 2027)

File formats (mandatory)

- Text reports: PDF + editable (Word)
- Presentations: PowerPoint (editable) + PDF

- Data: CSV/Excel
- Figures and photos: PNG/JPG
- Drawings: PDF + editable source (CAD or equivalent)

Review and acceptance

- The Client will provide consolidated comments within **10 business days** of each submission (unless otherwise agreed).
- Deliverables are accepted when they meet the requirements of these Terms of Reference and address consolidated comments to the Client's satisfaction.

CONSIDERATIONS:

MAR Fund is an organization committed to equity and diversity in the workplace. Our employment policy ensures that all decisions—from recruitment to professional development—are based on merit and individual qualifications. We have a zero-tolerance policy on any form of discrimination or harassment. As an organization working toward the conservation, restoration, and sustainable use of marine and coastal ecosystems in the Mesoamerican Reef, we seek to integrate diverse perspectives and encourage applications from candidates of all backgrounds and sectors to strengthen our mission.

Proponents are responsible for all costs associated with the preparation and presentation of proposals submitted to MAR Fund for evaluation on the framework of this request for proposals, and therefore there is no obligation on behalf of MAR Fund to cover such costs – either in whole or in part – or to provide any advance or compensation if their proposal is not selected.

Proponents acknowledge and accept that the preparation of the proposal(s) does not constitute a financial obligation on behalf of MAR Fund, and therefore the economic and financial responsibility for the preparation of the proposal(s) is exclusive of the proponent(s), regardless of the selection process outcome.

The selection process will be carried out in accordance with MAR Fund's internal evaluation guidelines and the result will be final. Only applicants who advance to the next stage of the selection process will be contacted, and due to the number of applications, MAR Fund will not provide feedback to applicants.

The consultant (if selected) must be willing to enter into a consultancy agreement with MAR Fund under the terms set out in these Terms of Reference. Any exceptions or reservations should be clearly stated in the proposal. MAR Fund's standard contract includes provisions on confidentiality, intellectual property (with MAR Fund retaining rights to all deliverables), and compliance with policies (including the environmental and social management system and code of ethics). The consultant will be expected to sign and adhere to these conditions. In addition, MAR Fund conducts a due diligence process for all contract signatories and will request the submission of appropriate documentation.

The Consultant shall bear all costs, fines, and penalties arising from the improper handling of equipment, shipments, the importation of materials, or the failure to obtain and maintain any necessary permits, licenses, and approvals required by local regulations. The Client shall not be liable for any additional charges or expenses related to such non-compliance.

12. DEADLINE AND CONTACT

Interested consultants should submit their proposals (technical + financial) **no later than October 7, 2026** at 23:59 hrs (GMT-5, Cancún local time). Late submissions will not be considered.

Proposals and any inquiries regarding these Terms of Reference should be sent via email to the following contacts:

- **Amy Jones, MAR+Invest Coordinator – MAR Fund** (Email: ajones@marfund.org)
- **Sebastián Aguilar, Research and Development Scientist – Carbonwave** (Email: saguilar@carbonwave.com)

Please include both contacts in all correspondence. The email should have the subject line: **“Proposal for Sargassum Offshore Collection Feasibility – [Your Name/Company]”**. If files are large, you may send a download link. You should receive an acknowledgment of receipt within 2 business days; if not, please follow up to ensure your submission is received.

Timeline Summary: The deadline for questions or clarification requests is one week before the proposal submission deadline. Answers to all queries will be compiled and shared (via email) to all who posed questions or expressed interest, to ensure fairness.

We thank all applicants for their interest in this important initiative. Through this consultancy, MAR Fund, MAR+Invest, and Carbonwave aim to develop a sustainable solution to the sargassum influx that will safeguard the precious Mesoamerican Reef and the well-being of Quintana Roo’s coastal communities. We look forward to your proposals and to partnering on this innovative pilot project.

13. REFERENCES

Core regulatory & permitting (Mexico)

- LGEEPA – Ley General del Equilibrio Ecológico y la Protección al Ambiente (marco para evaluación de impacto y regulación ambiental). Diario Oficial de la Federación (texto vigente). URL: <https://www.dof.gob.mx/>
- Reglamento en Materia de Evaluación del Impacto Ambiental (procedimientos y modalidades de la MIA). Diario Oficial de la Federación. URL: <https://www.dof.gob.mx/>
- SEMARNAT – Guía para la elaboración de la Manifestación de Impacto Ambiental (MIA). URL: <https://www.gob.mx/semarnat>

- Secretaría de Marina (SEMAR) / Capitanía de Puerto – Autoridad Marítima Nacional (permisos y seguridad de la navegación). URL: <https://www.gob.mx/semar>
- Comisión Nacional de Áreas Naturales Protegidas (CONANP) – Programas de Manejo y reglas específicas por Área Natural Protegida (ANP). URL: <https://www.gob.mx/conanp>

Scientific basis: Sargassum dynamics & health

- Wang, M., et al. (2019). The great Atlantic Sargassum belt. *Science*, 365(6448), 83–87. <https://doi.org/10.1126/science.aaw7912>
- University of South Florida (USF) Optical Oceanography Lab – Sargassum Watch System (SaWS): productos y archivos. URL: <https://optics.marine.usf.edu/projects/saws.html>
- Vázquez-Delfín, E., et al. (2024). Temporal and spatial variation in hydrogen sulfide emissions from decomposing Sargassum. *Environmental Research*. <https://doi.org/10.1016/j.envres.2024.117325>
- U.S. EPA – Información sobre eventos de arribazón de Sargassum y consideraciones de exposición (H₂S/NH₃). URL: <https://www.epa.gov/>
- Florida Department of Health – Sargassum & Hydrogen Sulfide exposure factsheets. URL: <https://www.floridahealth.gov/>