Comprehensive Management of Sargassum in the Mexican Caribbean and Gulf of Mexico

*Image credit: El Imparcial

A Policy Framework approach for Investors & Innovators

A presentation by Juan Carlos Aguirre Martínez | Bustamante + Freyre · Administrativando

15th International Seaweed Conference EU
Seagriculture
16 - 18 JUNE 2026
GOTHENBURG, SWEDEN

What is holopelagic sargassum?

Biology & Morphology

Genus sargassum:
brown macroalgae with
aerocysts (gas-filled floats)
enabling open-ocean flotation.

Three morphotypes documented in Mexico

Reproduces vegetatively by fragmentation.
Grows rapidly: biomass can double in 9-20 days.

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*Images credit: Cimar & Ciencia UNAM

Current situation: Environmental & Public Health Impacts

Seagrass Die-Off

2–7 years for partial recovery.

*Image credit: Christian Loader

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Coral Mortality

27% of coral colonies died within 8 months of beaching events.

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*Image credit: Christian Loader

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Cleanup removes sand, seagrass loss increases hurricane vulnerability.

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Public Health

Methane and sulfuric acid emissions, respiratory and skin irritation.

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Current situation: Environmental & Public Health Impacts

Coastal Stability

Seagrass loss undermines sediment stability and shoreline resilience.

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Current Situation: The great Atlantic sargassum belt

Quintana Roo sits at the western terminus of the belt -the first Caribbean coastline in the path of the current

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*Image credit: Business Intriper

Current situation: The scale of the challenge

Recent sargassum arrivals - Mexican Caribbean coast

*Image credit: Grupo Dakatso

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The Scale: Biomass data & projections

63,252 t
Peak biomass on coast (2022)

945,000 t
Annual collection **potential**

Apr–Aug
Peak influx season (highest need)

10 : 1
Wet-to-dry ratio after processing

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*Image credit: Son Playas

From problem to solution: industrial applications of sargassum

945,000 t

Annual collection **potential**

Biofuels:

Sargassum biomass contains polysaccharides that can be converted into biogas and green diesel.

Biopolymers:

Alginates from sargassum are used as biopolymers in food, pharmaceutical, and packaging industries.

Biofertilizers:

The algae contains nitrogen, potassium, proteins, and vitamins that can be used directly in agriculture.

Construction materials:

Sargassum can replace cement and be used for insulation panels.

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*Image credit: mlstudiodesign

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Regulations Timeline: 2015-2026

Five pivotal policy instruments in a decade -
from emergency response to an integrated development/ investment framework.

2015

Technical Guidelines

First SEMARNAT guidelines for beach removal & marine zones.

2018

Emergency Protocol

EIA exemption for removal inside Protected Areas.

2021

SIMSAR Monitoring

National monitoring launched; municipal action plans mandated.

2022

DOF Classification

Sargassum classified as special-handling organic waste.

2025–26

3 New Laws

NFC · Biofuels Law; Circular Economy Law.

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*Images credit: Elizabeth Ruiz - The Ocean Cleaner - Infobae

Mexico's Regulatory Framework: Ready for cooperation

01

National Fisheries Chart / Fisheries and Aquaculture Law

- 3 sargassum species as exploitable fishery resources
- Collection under *Commercial Fishing* - permits available now
- Commercial associated fauna (dorado, jacks, triggerfish)

02

General Circular Economy Law

- Sargassum = organic waste with valorisation potential
- Access to circular economy funds & green procurement
- Generates carbon credits & ESG offset instruments

03

Biofuels Law

- Sargassum biomass = organic renewable matter
- permits for biogas / biofuel production & export
- EIA pathway for processing facilities

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Mexico's Regulatory Framework: Ready for cooperation

04

Climate Change Law

- Transfer of technology and innovation.
- Risk-disaster vulnerability reduction.
- Climate Change Adaptation andMitigation measures.

05

General Law for the Prevention and Comprehensive Management of Waste

- Sargassum classified as a Special Handling Waste = valorization reusage categories.
- Mechanisms for the Prevention of contamination due to mismanagement of sargassum waste.
- Enhancement of technology innovation for sargassum management.

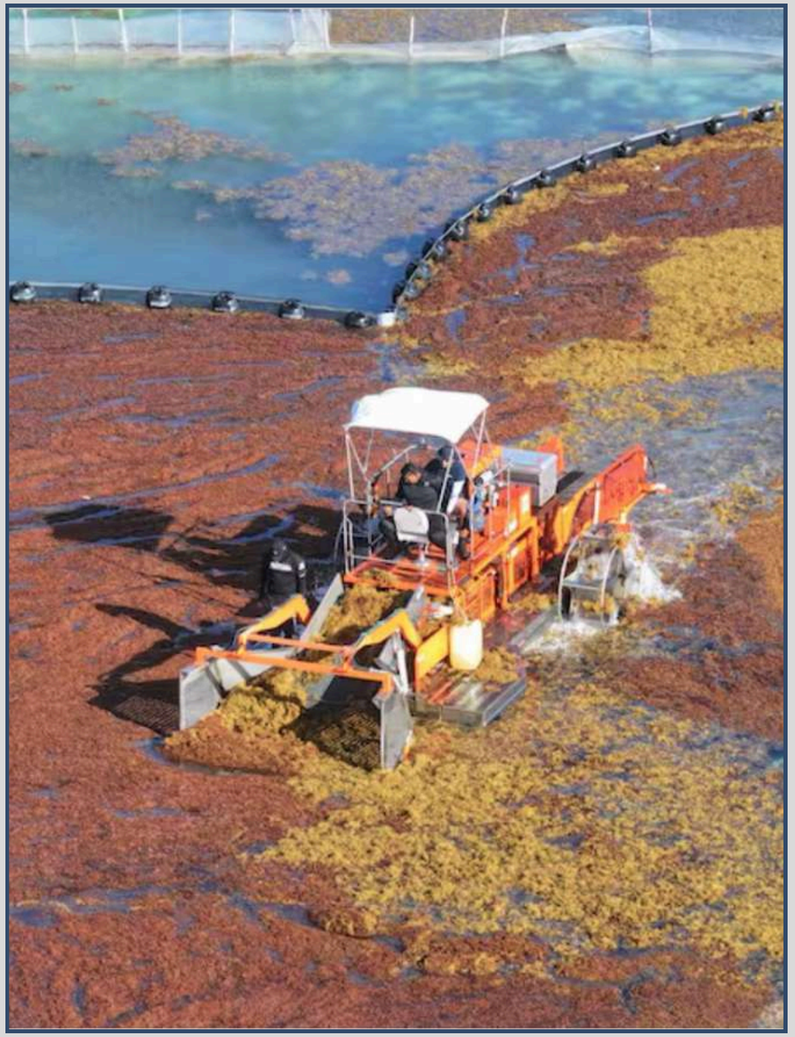

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*Image credit: SEMAR

Investment & Cooperation Opportunities

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Regulatory diagnosis: Responsible parties, & pending items

ACTOR	MANDATE / TOOL	GAPS / PENDING ✗
Navy / SADER	Offshore interception · SIMSAR Fishing permits	No open-sea permits · quota undefined · protocols incomplete
SEMARNAT	EIA procedure · waste classification · preservation of coastal zones	No CEL regulations · lack of interinstitutional coordination
Gov. Quintana Roo	Emergency decrees · beach cleanup local guidelines	No permanent fund · lack of coordination with other relevant stakeholders
Hotel / Industry sectors	Beach cleaning · management of maritime and beach concessions	No industry plan · no traceability · no valorisation investment programs
NGOs / UNAM	Citizen monitoring · scientific data · circular economy advocacy	No link to permitting · lack of funding schemes

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EU - Mexico Framework

EU–Mexico Modernised Agreement · Art. 26.10(1)(b)

Facilitates trade and investment in environmental goods and services - explicitly covering best available technologies for climate mitigation. Sargassum management technology qualifies directly.

Circular Economy Alignment

Mexico's CEL mirrors EU circular economy regulations.

Green Growth Investment Vehicle

EU algae-sector firms can leverage Mexico's Biofuels Law.

SDG & ESG Reporting Value

Framework sets forth SDG compliance obligations.

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Conclusions & Call to action

1

The Framework exists

Three complementary laws create a comprehensive regulatory ecosystem: ocean collection and valorisation; biomaterials and bioenergy production.

2

The resource is massive

945,000tns. estimated annual collection potential, clearly defined fishing permits. Predictable, scalable supply for industrial investment.

3

The EU–Mexico channel is open

The updated Global Agreement mandates compliance with SDG, inclusive Green Growth and Circular Economy objectives. It grants active bilateral momentum, not a future aspiration.

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*Image credit: pinpinpenguin

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Your Single Point of Contact for sargassum projects in Mexico & EU

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Environmental Law & Regulatory Compliance Mexico–EU Cross-Border Practice

BUSTAMANTE + FREYRE

Mexico

ādministrativando abogados

Spain

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