



Annual Project Update 2025

Oceans and Coastal Protection Project in Mexico

Collecting and Upcycling Sargassum Seaweed to Protect and Revive Ecosystems and Support Sustainable, 150+ Women-Led Farms.



→ Project Lead
Grogerics



→ Project Partner
Lomas Hospitality



→ Community Farms
Biol. Manuel Jesús Góngora
Sansores. Director de Fomento
Agropecuario



→ Registry
Gold Standard: [GS13082](#)



→ United Nations SDGs
We align with 7 Sustainable
Development Goals



→ Community Stakeholders
Secretaría Municipal de
Desarrollo Económico y Mejora
Regulatoria



→ Community Stakeholders
Dirección General de Fomento
Agropecuario y Pesquero



El Dorado Royale, Playa del Carmen, Q.R., Mexico
Sargassum | Green Waste | Methane | Biodiversity



Timeline:
2025–2035



Targeted ecosystems:
coastal fish populations | beaches | dunes | soil | microorganisms | sustainable farming

Project Story

El Dorado Royale Resort, a flagship of luxury and sustainability on the Riviera Maya and a proud member of the UN Global Compact, faced a mounting environmental challenge. Rising ocean temperatures and nutrient runoff fueled unprecedented sargassum blooms while increasingly intense hurricanes delivered massive amounts of organic debris onto resort grounds. Beaches were overwhelmed, marine life threatened, and the guest experience disrupted, creating a costly and unsustainable cleanup problem.

Grogenics turned this challenge into an opportunity. On the resort premises, we established the Solidaridad hub, supplying all necessary equipment and training a local team to transform sargassum and organic waste into high-quality compost and biochar. Tailored to seasonal cycles, operations became faster, cleaner, and safer. In the coming months, the first batch of compost will reach 150 women-led farms and plantations nearby, generating tangible social and economic impact.

From unmanageable waste to a fully integrated regenerative project, this initiative restores beaches, supports sustainable agriculture, and generates economic value through its carbon program. A true sea-to-soil-to-table project.



Key challenges in the landscape

MOUNTAINS OF SARGASSUM

STINKING, DECOMPOSING DEBRIS

HURRICANES AND EXTREME STORMS

BEACH EROSION AND SAND LOSS

BIODIVERSITY UNDER THREAT

METHANE AND GREENHOUSE GASES

CONTAMINATED FRESHWATER

NUISANCE FOR GUESTS AND STAFF



Our integrated approach

Improve coastal governance and stewardship through:

- Training and equipping local teams to process sargassum and green waste safely and efficiently.
- Partnering with resorts, municipalities, and environmental agencies to establish long-term coastal management practices.

Conserve and revive coastal ecosystems through:

- Transforming organic waste and sargassum into compost and biochar with minimal sand loss or ecological disturbance.
- Restoring freshwater quality by neutralizing heavy metals contained in sargassum.

Strengthen livelihoods and sustainable value chains through:

- Delivering compost to 150 women-led farms and plantations, cutting chemical fertilizer use and reducing water consumption.
- Generating inclusive economic opportunities through Grogenics' associated carbon program.
- Sharing carbon credit revenues with local NGOs and women-led associations to maximize community impact.

A long-term vision



CLIMATE

The El Dorado project contributes to both climate mitigation and adaptation: reducing methane emissions from decomposing sargassum, sequestering carbon through biochar and compost.



NATURE

By transforming harmful sargassum and organic debris into regenerative inputs, the project restores soil health, safeguards freshwater from contamination, and strengthens coastal ecosystems that sustain biodiversity.



PEOPLE

With compost delivered to 150 women-led farms, direct benefit-sharing from carbon revenues, and inclusive employment opportunities, communities gain resilient livelihoods and long-term economic stability.



Outcomes

By integrating these interventions, the project will:

- **Divert** thousands of cubic meters of biomass from landfills.
- **Reduce** methane emissions and generate measurable carbon credits.
- **Revive** coastal resilience and protect freshwater quality.
- **Support** national and local authorities on sustainable coastal management.
- **Improve** community livelihoods through regenerative farming, market access, and revenue-sharing.

The **long-term impact** of our work benefits people, nature, and climate, proving that regenerative solutions can turn today's waste crisis into tomorrow's opportunity.

2025 Collection Update

BEFORE GROGENICS

- Manual, exhausting cleaning with limited coverage
- Inability to remove daily landings in time
- High operational costs and inefficient logistics
- No sorting at the source, plastics mixed with organics
- Excessive sand removal and accelerated erosion
- Piles of rotting sargassum harming marine life and ecosystems
- Loud, disruptive machinery affecting the tourist experience

AFTER GROGENICS

- Efficient, quiet collection with electric carts and tools
- 27X faster operation rate, reducing beach exposure time
- Lighter physical workload for workers, improving safety and morale
- Minimal sand disturbance and cleaner coastlines
- Materials are sorted at the source: plastics removed, organics separated for upcycling
- Enhanced guest experience and restored natural beauty

Metric	Before	After
Workforce	28 operators	7 operators
Total Harvest Volume	28 m ³ /day	76 m ³ in 4 hours
Time Spent	10-hour shifts	4 hours
Per Operator Productivity	0.1 m ³ /hour	2.7 m ³ /hour
Efficiency Gain	Baseline	27x productivity increase



2025 Upcycling Update

BEFORE GROGENICS

- There was no awareness or strategy to manage green waste or sargassum.
- All organic material, including sargassum, was sent straight into landfill.
- Plastics and debris were tangled with organic matter at collection, making any upcycling impossible.
- Sand was lost with no recovery efforts or coastal protection in place.
- No circular economy existed: no local benefits, no resource reuse, and no sustainable solutions or output.

AFTER GROGENICS

- A clear strategy enables effective on-site processing (windrow, turner, chipper, bioremediation, and more) of green waste and sargassum.
- Organic materials are processed locally, slashing the need for landfill disposal.
- Recovered sand is repurposed to protect coastlines and reduce erosion.
- A thriving local circular economy produces high-quality compost and biochar, both sustainable products that support the farming community.

Metric	Value	Notes
Biomass Avoided from Landfill	5,000 m ³	Accumulated on two sites instead of landfilled
Biomass Processed by Pyrolysis ¹	1,100 m ³	Completed in just 6 days during initial trial
Current Pyrolysis Rate	200 m ³ /day	With potential to scale further
Trips to Landfill Avoided	~78	Based on 14 m ³ /trip (1,100 m ³)
Compost Preparation	2 windrows	Sargassum staged for composting





2025 Challenges

The project faced a few early hurdles that offered valuable lessons for scaling. Delays in equipment shipping and customs clearance required careful coordination, while identifying and training the right on-site team to manage sargassum and organic waste took longer than expected, highlighting the importance of a skilled local workforce.

This year, sargassum arrived earlier and in unprecedented quantities, overwhelming beaches and operations alike. To put it in perspective, the bloom reached over 38 million tons — a scale never seen before.

We explored producing the carts locally in Mexico to reduce costs and improve efficiency, but no local company could match the quality and design of our original model, so we continued sourcing them from the US. Tackling these challenges head-on strengthened our logistics, enhanced team training, and built operational resilience, laying a solid foundation for smooth scaling and long-term impact.

Looking ahead to 2026

By 2026, Grogenics will complete the full circle of upcycling, delivering finished compost to 150 women-led farms and plantations in partnership with the Municipal Secretariat for Economic Development and Regulatory Improvement (Secretaría Municipal de Desarrollo Económico y Mejora Regulatoria) and the General Directorate of Agricultural and Fisheries Promotion (Dirección General de Fomento Agropecuario y Pesquero), driving regenerative agriculture across the region.

The next years will focus on rigorous monitoring, tracking improvements in water quality, biodiversity, and coastal resilience, while measuring community benefits such as market access, training, and awareness.

Meanwhile, Grogenics will prepare for the first third-party verification of its carbon program, ensuring international-standard credits that unlock new economic opportunities. With pre-sales already underway, revenues will fuel expansion to additional Lomas Hospitality resorts and beyond, establishing Grogenics as the leading blueprint for regenerative coastal management in the Riviera Maya.

For more information



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