

Sargassum Brainstorming Meeting

Executive Summary

During the last decade the North Atlantic Sea, the Caribbean Sea and the Gulf of Mexico have been experiencing massive blooms of Sargassum brown algae, which intermittently discharge large amounts of decomposing Sargassum in the coasts of Mexico. This phenomenon is negatively affecting the environment and socio-economical livelihood of communities in Mexico.

The Delta Team Mexico has been involved in the topic since 2017, in the beginning with activities focused on integrated coastal zone development, then transitioning to the urgent need of a solution to the management of invasive Sargassum blooms. The involvement in the topic originated from Mexican counterparts focused on integrated coastal zone development. Also, an interest that it has awoken in the Dutch water sector, as organizations in the knowledge, business, government, and NGO realms are eager to support Mexican counterparts on creating a solution together.

To identify current activities and possible future steps, the Partners for Water Delta-Light Team Mexico, held an online Sargassum Brainstorm Meeting on Friday, April 3 to have a sector discussion on the subject.

Meeting Goals

The goals of this meetings included:

- To identify and make an inventory of actors working on Sargassum and open to a collaboration for a pilot on a solution and on long term strategies
- To identify roles for the parties that expressed interest to participate in a collaboration
- To brainstorm on financial implications
- To identify next steps on a possible collaboration

The Delta team established two topics of importance during the meeting:

1. The **need for a pilot** to test an integrated solution, which may lead to a scale-up project in the future
2. Identifying a **long-term strategy** on integrated coastal management for long term environmental goals in the region

Background from Dutch Parties in the Netherlands

During the meeting, Dr. Brigitta van Tussenbroek, from the Universidad Autónoma de Mexico, Institute of Ocean Sciences and Limnology, provided some background on her work on the topic of the Sargassum and the impact that she has witnessed on the coastal ecosystem with long term impacts on the seagrass, mangroves, and corals.

Consul Ms. Ingrid Bosman provided some welcoming words and overview of her experience on the topic. She emphasized the importance of a solution contributing to a long term integrated coastal recovery, to remediate the negative environmental consequences that the invasive Sargassum has caused in the region. Additionally, highlighting that this is an area in which a participation of the Dutch water sector could add value.

Main Discussion

The Delta Team provided an introduction and an overview of the team’s activities in Mexico on regards of coastal affairs in Quintana Roo since it became a Delta-light country under the Partners for Water Program. The Delta team discussed the goals of the meeting, acknowledged the individual work by different organizations in the Netherlands and abroad looking for different ways to contribute towards a solution on Sargassum management.

Sargassum Services Identified

The Delta team acknowledged the different services and solutions (figure A) that organizations in the Dutch water sector and abroad are developing on the topic. The different services were clustered in four main categories:

1. Harvesting (including research, harvesting, sea bottom sargassum dredging, containment equipment, early warning systems, modeling, and monitoring)
2. Processing (including research, stabilization, waste management, and transportation)
3. Circular uses (including research, energy, bioplastics, construction materials, fertilizer, and manufactured goods)
4. Integrated coastal management (including research, restoration, environmental planning)

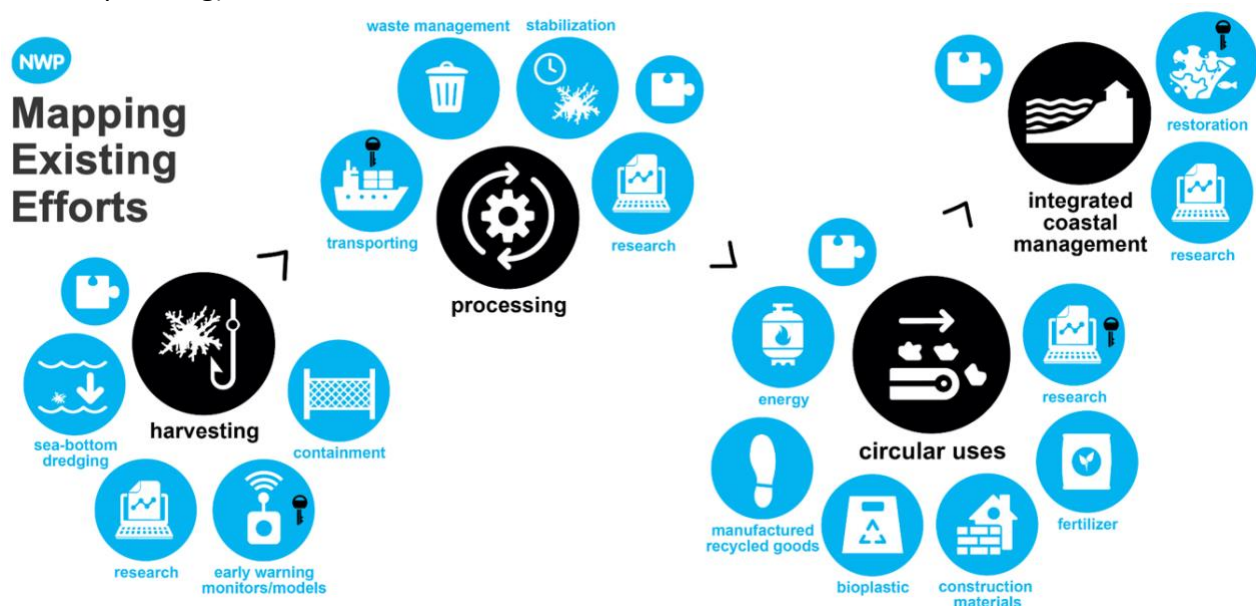


Figure A. Sargassum services provided by the Dutch water sector and participant international organizations.

The delta team also invited the sector to provide feedback on other services and solutions not yet included on this list.

Participants

The meeting counted with the participation of 18 Dutch organizations in Netherlands and 8 international organizations in Mexico and Norway. Additionally, a representative of the Embassy of the Kingdom of the Netherlands in Mexico and the Netherlands Consulate in Cancun joined the online call, with the Honorary Consul of the Netherlands in Cancun, Consul Ingrid Bosman.

Participants (Netherlands)

52 Impact	KWR
Afmitech	LG Sonic
Arcadis	NIOZ
Beccan Davila Urbanism	Radboud University
Boskalis	Red Global MX
Deltares	Royal IHC
Damen Shipyards	Space4Good
Ellipsis Earth Intelligence	TNO Energy Transition
IHE Delft Institute for Water Education	Wageningen Research
Innovation Quarter	Waste Transformers
Intake Works	Witteveen + Bos

Participants (Abroad)

Manufacturas Industriales (Harvesting) Mexico	Abaplas (Bioplastics) Mexico
3Global Green Inc (Bioplastics) Mexico	TMM (Biofuels) Mexico
Alquimar (Nutraceuticals) Mexico	Renovare (Sargassum Shoes) Mexico
Julio Sheinbaum (Monitoring) Mexico	Environor (Harvesting) Norway

Participating organizations introduced through a brief pitch their services and solutions being developed on the topic and also expressed the roles in which they were interested to collaborate.

This resulted in the following clusters of organizations expressing interest in the following roles:

Harvesting – Dredging – Research – Early Warning – Monitoring - Modeling

Royal IHC, Damen, 52 Impact, Seaweed Paddock, Environor (Norway), Red Global MX, Deltares, Witteveen + Bos, Space 4Good, Ellipsis Earth, Manufacturas Industriales (MX), Boskalis, Julio Sheinbaum (MX)

Processing – Waste management – Sargassum– Research – Transporting

Waste Transformers, Environor (Norway), KWR, Royal IHC, Red Global MX, Seaweed Paddock, TNO

Circular Uses: Energy, Manufactured Recycled Goods, Bioplastic, Construction Materials, Fertilizer, Research

Aquaminerals KWR, Red Global MX, NIOZ, TNO, Wageningen Research, Alquimar (MX), Abaplas (MX), TMM (MX), Renovare (MX).

Integrated Coastal Management

Witteveen + Bos, Ellipsis Earth, Space 4Good, Deltares, Red Global MX, IHE Delft, Arcadis, Radboud NIOZ UNAM, Beccan Davila Urbanismo

The Delta Team will be seeking to understand the commitment by the interested organizations and the willingness to move forward with a pilot project to define a core group to move on to next stages.

Financial Considerations

The meeting included a discussion on financial considerations led by Mr. Marcel Ham from Rebel Group, a contribution by the Partners for Water NWP Finance for Water team. During the financial considerations discussion Mr. Ham discussed the importance during these first project development phases, to establish a good funding strategy, in order to arrive at a robust financial business case. It was discussed that in-kind and financial contributions would be necessary to develop a business case that showed a financially sustainable project.

Next Steps

The next step proposed by the Delta Team Mexico is to identify a core team interested to collaborate together in a pilot, with some ability to secure financial and/or in-kind contributions towards the development of such a project. Additionally, the Delta Team Mexico would like to identify an organization in the Netherlands and in Mexico wishing to take a leading role for the pilot activities. The Delta Team Mexico has established Monday, May 18 as the date for the Second Sargassum Brainstorm meeting and wishes to extend an invitation to the organizations that wish to express their interest on this next step.