



Sargassum mat on a Florida beach (file image via social media)

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Dutch shipbuilder Damen is working with waste processing company Maris Projects to tackle the issue of invasive sargassum seaweed in the Caribbean region. The partners are working on a bioprocessing solution to gather the seaweed and turn it into energy, delivering both environmental and socioeconomic benefits.

A significant rise in the quantity of sargassum seaweed in Caribbean waters has been observed since 2011, and the [cause is unknown](#). The weed causes considerable problems: Aside from the foul-smelling, hazardous hydrogen sulfide it gives off when decomposing, the seaweed also clogs the engines and nets of fishing vessels. It also smothers sea grasses and coral reefs, and it releases greenhouse gases as it decomposes.

Maris Projects has experience in biomass processing and anaerobic digestion, and Damen has extensive knowledge of workboat technology and marine operations. Together, the firms are looking at the viability of turning the sargassum into methane for energy purposes. Damen is working on adapting their Multicat workboat design for collecting and transporting the seaweed, while Maris is designing the processing and conversion technology.

The two partners have identified a local operating partner – CMC – which can harvest the seaweed in Martinique and Guadeloupe. Currently, the partners are discussing a contract that will create the consortium to be known as Blue Caribbean Energy Solutions.

The consortium aims to collect and purify the sargassum, then turn it into biogas using anaerobic digestion in a two-step process. The result will be usable methane. The fundamental process is a mature technology: various forms of anaerobic digestion are already in use for sewage solids, manure, algae, leather processing waste and other unwanted biological byproducts.

“Currently, the solutions to the Sargassum challenge only go as far as removing the weed from the sea. Often it is brought onto land and left to decompose, where it gives off damaging greenhouse emissions,” says Damen Green Solutions director Marcel Karsijns. “What we are attempting to do is develop a holistic, circular solution that turns a negative into a positive. As well as offering clean energy, the aim of the project is also to deliver sustainable benefit to local economies.”

The partnership will also consider the economic viability of turning the harvest into fertilizer or agricultural feedstock. The consortium will present the initial developments of their solution at the world's first international trade show for the sargasso management industry - The Decade SARG'EXPO, held from October 24-26 in Guadeloupe.

source: [www.maritime-executive.com](http://www.maritime-executive.com)