



2022 United Nations Ocean Conference Side Event

Seaweed: A Revolution to Achieve Goal 14 and More

June 30, 11:30-12:45

Committee Room, Altice Arena

Organized by: Safe Seaweed Coalition (SSC), Australian Seaweed Institute (ASI) and Lloyd's Register Foundation (LRF)

Background on the event (one paragraph)

This side event demonstrated how seaweed contributes to achieving SDG 14, along with many other SDGs, to serve as a thorough reference to document its importance to the Ocean, people, and our planet. Presenters highlighted key partnerships and solutions. High-level interventions underscored the importance of incorporating seaweed more systematically into national and international processes.

Key Issues discussed (5- 8 bullet points)

- Seaweeds contribute to SDG14 in multiple ways. They are an essential component of underwater life, contributing to create marine habitats and providing many other ecosystem services:

14.1 Nitrogen removal – Seaweed aquaculture provides a very large-scale solution to safely soak up excess nitrogen, phosphorus and carbon that is damaging coastal ecosystems and reefs.

14.2 Protect and restore reef ecosystems – Improving water quality supports increased resilience of coral reef ecosystems to resist starfish invasions, reduce outbreaks of harmful microalgal blooms, and reduce acidification. Seaweed aquaculture structures can also block extractive activities that harm coral reefs.

14.3 Reduce Ocean acidification – Globally, ocean acidification has been increasing due to absorption of increasing atmospheric CO₂. Seaweeds can play a key role in ecological resilience and have been demonstrated to buffer seawater acidification locally as they sequester the dissolved CO₂. In addition, the photosynthesis process can assist in improving seawater oxygenation as a net producer of O₂.

14.7 Sustainable economic use from marine resources (producing valuable products) - Seaweed provides sustainable food, animal feed, fertilisers, and bioplastics to further reduce impacts on the Ocean ecosystem. No land clearing, no chemical inputs and no freshwater usage mean the environmental footprint of production is much lower than for terrestrial crops. It has the potential to provide significant economic benefits, including job creation, to small island states and less developed countries.

14A Increase scientific knowledge for ocean health - The industry relies on collaboration between science, industry, government, and community to increase and share knowledge for ocean health.

14B Support small scale fishers/farmers and producers – Seaweed production provides access for small-scale artisanal fishers to marine resources and markets.

- Seaweeds also contribute to many other SDGs, in particular Goals 2, 3, 5, 8, 12, and 13:
 - SDG2.** It is a nutrition-rich food, providing essential vitamins, minerals, micronutrients, long chain fatty acids, proteins, and fibers. Education is needed where there is no culture of seaweed consumption.
 - SDG3.** Linked to SDG5, adding seaweed to daily diets in developing countries brings essential micronutrients, vitamins, and unsaturated fatty acids, improving children’s health and school performance.
 - SDG5.** Seaweeds also provide jobs and revenues for women in coastal communities and allow them to feed their families, thus contributing to social justice. It was proposed to rewrite “seaweed” as “Sheweed”!
 - SDG8.** With the market currently at \$11b and expected to grow to \$85b by 2030, there is significant economic potential. Seaweed contributes to sustainable fisheries and aquaculture, providing revenues for farmers. Sustainable practices should be encouraged and policy gaps remain.
 - SDG12.** Seaweed can be cultivated without pesticides and do not require arable land. It can be used to develop innovative materials and green chemistry, including solutions for food packaging to replace oil-based plastics and other products. Ingredients from bio-refining seaweed could be used in the food system.
 - SDG13.** It mitigates many impacts of climate change, offering possibilities to adapt and to contribute to reduce the increase of GHG emissions by storing carbon in some of the most efficient photosynthetic organisms. Seaweed cultivation also provides coastal protection, alternative livelihoods and helps prevent biodiversity loss by providing food, shelter, and microhabitats, and reducing marine litter pollution.
- Despite seaweed’s significant potential it is not yet taken seriously enough by key actors. Harvest and production systems must be developed to produce the required volume of seaweed. Breeding and genetic selection methods used for millennia on land must be adapted in a few decades.
- **Partnerships & solutions.** The partnership between SSC and Aquatic and Blue Food Coalition is an important development to expand reach, reduce fragmentation, and leverage convergent interests. Partnerships between governments, researchers, foundations, and others help develop solutions, eg: ASI working with GoA and the Great Barrier Reef Foundation to develop seaweed biofilters to improve water quality, increase biodiversity, buffer ocean acidification, reduce emissions and support resilience of the Reef; biodegradable seaweed bioplastics and seaweed biorefineries to increase sustainable use of marine resources; and promising research on a seaweed supplement that could reduce methane emissions from cattle by over 80%. FAO is incorporating seaweed into its school feeding programs.

Key recommendations for action (5 - 6 bullet points)

- Urge countries to **incorporate seaweed into their development planning processes** at all levels, including their NDCs and NAPs, and expand seaweed cultivation, restore degraded kelp forests, and establish new kelp forests. Monitor the diversity of native seaweed in many countries.
- **Harmonize standards globally**, grounded in safety and science, to lift the patchwork of regulations that impedes growth of the sector. Conduct multistakeholder policy dialogues to inform this work.
- Adopt a people-centered approach to **make seaweed part of our everyday diet**, integrate seaweed into aquatic food systems, raise awareness of seaweed’s potential to help achieve SDG2, and educate consumers including via branding and marketing with commercial partners. Conduct research to better understand seaweed’s nutritional value and safety for consumers.
- **Invest in research to hear women’s voices** and understand their place in the seaweed industry.
- **Obtain funding for solution implementation** including at Sharm El Sheikh. Support activities to raise awareness of seaweed and its role in sustainability, including those of the SSC, in partnership with other Coalitions and actors. Encourage FAO’s continued promotion of seaweed.

Voluntary Commitments (one paragraph)

FAO aims to increase the dialogues to develop the seaweed industry.