

# Brief for Blue Food Companies



\*Blue foods include aquatic animals, plants and algae cultivated and captured in freshwater and marine environments.

Demands for food system transformation are growing, as are openings for blue food\* companies to play central roles in tackling sustainability, health and development challenges. Blue food producers have already made strides toward environmental sustainability, indicating the potential for industry leadership on key issues. By adopting best practices, producing nutritious underutilized species, investing in R&D and tech transfers, and enacting sustainability commitments, they can make real differences for the health and well-being of billions of people, for marine and freshwater ecosystems and for the planet itself.



## Key Facts & Findings

- 1. Blue foods generally have a lower environmental footprint than many land-based animal-sourced foods, with enormous opportunities to improve performance.**

Fed aquaculture of commonly farmed species – carp, trout, salmon, catfish, tilapia – has environmental footprints on par with chicken, the most efficient land-based source of animal protein. Producers can reduce their environmental footprints by improving practices. Reducing the use of feed and switching to deforestation-free inputs, for instance, can reduce aquaculture CO<sub>2</sub> emissions by half. As there are large differences between systems, shifting to lower-impact species can also create big gains. Unfed aquaculture – of bivalves and seaweed – produces negligible emissions and can even improve water quality. The CO<sub>2</sub> emissions associated with catching herring are one-fourth those of catching flounder.

- 2. Climate change, pollution and overfishing threaten the viability and expansion of blue food production.**

Although the blue food sector is more sustainable than many others, practices such as overfishing

and excessive use of antibiotics and freshwater threaten productivity. Through warming waters, ocean acidification, sea level rise, storm surges and rainfall changes, climate change poses a growing threat to nearly all blue food systems. Significant investments, better management and flexibility are needed to adapt blue food production to an ever-changing environment.

- 3. Most blue foods are dense in protein and other essential nutrients,** including Vitamin A, Vitamin B-12, calcium, iodine, iron, zinc and omega-3 fatty acids. Many have higher concentrations of these nutrients than chicken, beef or pork. Blue foods can therefore play a vital role in ensuring that people get the nutrients they need and reducing the incidence of diet-related diseases. Not all blue foods are the same, however: Small pelagic fish, for example, have about eight times more iron, five times more omega-3 fatty acids and four times more Vitamin B-12 than tilapia. Selling the right fish, therefore, makes a big difference.

- 4. Small actors are the engine of blue food systems but are often neglected by policymakers and markets.**

Small-scale production accounts for about 90% of jobs in fisheries and two-thirds of all blue foods consumed, contributing to local economies and health. Small-scale actors vary widely in their assets and capacities, degree of specialization and the challenges they face.



**5. Like other sectors, the blue food sector is beset by inequities.**

Blue food value chains employ roughly equal numbers of men and women, but influence, voice and access to benefits are often highly unequal. Some fisheries use forced labor. Policymakers and industry often undermine or overlook the practices, knowledge and rights of Indigenous Peoples and traditional small-scale fishers.



## Recommendations for Action

All actors – governments, the private sector and civil society – have roles to play at multiple scales, ranging from local initiatives to international agreements.

Blue food companies might consider the following actions to realize the potential of blue foods:

**1. Adopt an ambitious vision of social and environmental responsibility.**

Blue foods offer enormous potential to meet demand for foods that improve health and advance both environmental and social sustainability. Commitments to environmental sustainability – such as securing third-party certification – are already driving progress by assuring best practices. Industry shifts to lower-impact species could advance progress further. Producers could implement traceability practices to assure supply chain transparency and make commitments that embrace human rights and support small-scale producers.

**2. Embrace the diversity of blue foods.**

Large blue food companies typically target a handful of well-known species, leaving untapped potential to produce hundreds of other highly nutritious fish, shellfish and algae. Investing in production methods that can sustainably harvest a diversity of nutrient-dense species adds flexibility, which is important in a changing climate. Producers could work with retailers, chefs and other consumer-facing partners to create demand for lesser-known sustainable and nutritious species.

**3. Foster innovation in production and processing practices.**

Innovations in gear types, breeding, aquaculture feeds, antibiotics use and integrative and recirculating systems can significantly improve environmental outcomes and help producers meet the terms of international climate and development agreements while sustaining the resources upon which they depend. Innovations in cold-chain continuity and processing can reduce food loss and waste. Such investments can also make blue foods more affordable, accessible and appealing for a growing number of consumers.

**4. Invest in the capabilities of small-scale producers.**

Consumers are increasingly interested in equitable, sustainable and storied products. Large companies can extend financial services to small-scale supply chain partners or support the development of new processing or cold-chain infrastructure to facilitate more sustainable and efficient operations. Where sourcing from individual fishers is expensive or impractical, large companies can work with cooperatives of producers that offer supply chain stability and support local livelihoods.

**5. Work with partners to help transform the sector and the policies that govern it.**

Working with civil society, government and value chain partners, producers can demonstrate leadership by adopting rigorous standards for measuring impacts and disclosing data to facilitate transparency and better management. Public-private partnerships like the Science Based Targets initiative can facilitate goal setting and disclosure on sustainability targets. Producers can also use their position to advocate for policies like the Agreement on Port State Measures, the first binding international agreement to target illegal, unreported and unregulated fishing.

The Blue Food Assessment is an international initiative led by the Stockholm Resilience Centre at Stockholm University, the Center for Ocean Solutions and the Center on Food Security and the Environment at Stanford University and EAT.