

SeaBOS Commitments and the High Level Panel for a Sustainable Ocean Economy

The High Level Panel for a Sustainable Ocean Economy (HLP) consists of 14 heads of state who will be announcing their commitments towards a sustainable ocean economy in December of 2020. A total of 16 Blue Papers (BPs) were produced by a group of over 200 distinguished researchers from nearly 50 countries and with expertise spanning many disciplines. These BPs represent a timely, authoritative and comprehensive overview of the current and anticipated state of the oceans, and of how to optimize their potential as a sustainable source of food and resources. The BPs are in addition to, and provide greater detail than, three 'special reports' which all underscore that a healthy ocean and sustainable ocean economy unlock solutions to the global challenges.*

The focus here is on the role of the seafood-related industry as recommended in the BPs. It is clear that the SeaBOS companies have made commitments to the most pressing issues facing the ocean and that industry leadership is anticipated and necessary. Policy makers, scientists, NGOs and other stakeholders are aligning their priorities in ways that will contribute with important support for implementation of SeaBOS priorities.

Technology, equity and finance represent factors that relate to all of the SeaBOS commitments and underpin all progress. The relevance of innovations in technology and data development and finance are obvious. Equity is a concept that is gaining increasing recognition by society, governments, investors and business. It encapsulates the need for a fairer distribution of access to resources, of development, and of recognition of rights across populations and population groups. The Covid-19 pandemic has highlighted deep societal dependencies within and between countries that make progress towards greater equity even more essential on the grounds of mutual needs and interest.

* Hoegh-Guldberg, O., et al. 2019. The ocean as a solution to climate change_ Five Opportunities for Action, <https://oceanpanel.org/climate>; Konar, M., Ding, H. 2019. A sustainable ocean economy for 2050, <https://oceanpanel.org/economicanalysis>; Northrop, E. et al. 2020. A Sustainable and Equitable Blue Recovery to the COVID-19 Crisis. <https://oceanpanel.org/bluerecovery>

Legality and transparency also represent cross cutting themes in several of the BPs and are directly related to a number of SeaBOS commitments. A number of BPs also focus on *Ocean Stewardship and growth*, while *climate change* represents a critical challenge for the future of marine ecosystems and associated economies. The

SeaBOS Commitments

- Improve transparency and traceability in our own operations, and work together to share information and best practice, building on existing industry partnerships and collaborations.
- Engage in concerted efforts to help reduce IUU fishing and seek to ensure that IUU products and endangered species are not present in our supply chains.
- Engage in science-based efforts to improve fisheries and aquaculture management and productivity, through collaboration with industry, regulators and civil society.
- Engage in concerted efforts to eliminate any form of modern slavery including forced, bonded and child labour in our supply chains.
- Work towards reducing the use of antibiotics in aquaculture.
- Reduce the use of plastics in seafood operations, and encourage global efforts to reduce plastic pollution.
- Reduce our own greenhouse gas emissions.
- Secure new growth in aquaculture, by deploying best practices in preventive health management, including improved regulatory regimes.
- Collaborate and invest in the development and deployment of emerging approaches and technologies for sustainable fisheries and aquaculture.
- Support novel initiatives and innovations for ocean stewardship.

importance of climate-change mitigation and emissions reductions to reduce harmful impacts in the oceans is emphasised in multiple BPs. Other forms of *pollution and environmental harm* are also addressed in several BPs, including the importance of reducing antibiotics.

In conclusion

The HLP has conducted a valuable and very timely service in highlighting, in an authoritative and action-oriented manner, the potential of the oceans as a source for humanity's future needs, and responsible ways of ensuring that this future is realised.

In current policy discussions about the future of food, the role of the oceans continues to receive too little

attention. In high-level discussions about the future of food and nutrition, assessments of land-sourced foods and of ocean-sourced foods, and their ramifications, are siloed from each other. At this very active moment of food-related discussions, the SeaBOS companies could helpfully use the HLP as an independent basis for advocacy on behalf of sustainable food from capture fishing and mariculture during a time of unprecedented change in our planetary habitat.

The SeaBOS commitments are implicitly strongly supported by the HLP's independent analyses, which in turn may provide guidance for future commitments and achievements by SeaBOS.

Summary of key points of relevance to SeaBOS in Blue Papers

Box 1: "Technology, Data and New Models for Sustainably Managing Ocean Resources"

Co-leads: Jim Leape, Mark Abbott and Hide Sakaguchi ([Download](#))

Collaboration is needed in a global effort, possibly via the UN Decade of Ocean Science for Sustainable Development, to create a global data network and data standards that provide broad and automated access to ocean data. All stakeholders have their roles to play. Industry should make the environmental data they collect accessible to scientists, managers and the public, unless there are compelling security, proprietary or other interests.

Coordinated efforts by industry, researchers and governments can create advanced sensor networks that provide high-resolution, real-time information about the ocean to anyone who needs it. The private sector should work with governments and researchers to ensure that sensors are interoperable and data are generated in standardised formats.

Governments should expand use of dynamic management and, where possible, automate

management with smart contracts. These solutions are particularly promising in fisheries management, where stock limits, fishing areas and allowable gear types can be automatically updated based on changing conditions.

Companies should require full transparency and traceability in their operations and supply chains – to spur both better management of resources and innovation in technology, and enable consumers to hold producers accountable and reward better management. Governments and companies should collaborate to create mechanisms for data-based proof of compliance. A voluntary "global entry" system for fishing vessels, for instance, could allow expedited access to ports for vessels that provide information on their ownership, permits and activities to managers – creating incentives for transparency and compliance.

Box 2: "Towards Ocean Equity"

Co-leads: Henrik Österblom, Colette C.C. Wabnitz, Dire Tladi ([Download](#))

"The Ocean Genome"

Co-leads: Robert Blasiak, Rachel Wynberg, Kirsten Grorud-Colvert, Siva Thambisetty ([Download](#))

Inequity manifests, for example, in unfair distribution of commercial fish catches; limited political power of small-scale fishers, particularly women and other minority groups; limited engagement of developing nations in high-seas activities and associated decision-making; and consolidated interests of global supply chains in

a few transnational corporations, with evidence of poor transparency and human rights abuses. Climate change will exacerbate inequities. A recent survey among private corporations illustrates that 88 percent of chief executives believe our economic system needs to refocus on equitable growth (Global Compact 2019).

Whereas ecosystem sustainability is evidently important for corporations whose activities depend on a functioning planet, the case for equity is not as straightforward. Increased attention to global inequalities, in science, among policymakers, and within established, mainstream economic institutions indicates that addressing inequality is likely to be an important aspect of major corporations' future legitimacy and their continued license to operate.

A wide range of voluntary environmental programs have engaged multiple ocean-based industries in sustainability. While most focus on environmental and legal concerns rather than equity, these

initiatives indicate that platforms exist for engaging corporations in equity. The UN Global Compact represents an important platform for corporate sustainability, with its 10 principles focusing on human rights, labour, environment and anti-corruption.

Companies should support a transparent, interactive process by which societal actors, innovators and scientists become mutually and socially responsive to each other with a view to the ethical acceptability, environmental sustainability and societal desirability of the innovation process and its marketable products.

Box 3: "The human relationship with our ocean planet"

Co-leads: Edward Allison, John Kurien, Yoshitaka Ota ([Download](#))

Companies should humanize the new ocean narrative by focusing economic development on the objective of increasing human wellbeing;

Foster diversity and inclusion in the sustainable ocean economy;

Engage in partnerships with a broad constituency of ocean supporters, including small-scale fisherfolk, community elders and next-generation social and

environmental activists, Indigenous Peoples, and women who work in the maritime economy and who steward marine environments;

Build capacity of meso-level institutions and above the level of the individual citizen-consumer;

Ensure that responses to covid-19 include consideration of the wellbeing of ocean-dependent people and economic sectors.

Box 4: "Ocean finance"

Co-leads: Rashid Sumaila, Melissa Walsh, Anthony Cox ([Download](#))

Several barriers are preventing the growth in financing of the sustainable ocean economy. Capacity constraints, data challenges, regulatory gaps and a lack of transparency all create a riskier enabling environment and negatively affect large-scale private sector finance. Most notably, complicated tenure and ownership and a lack of monitoring and enforcement increase the risk profile.

Harmful government fisheries subsidies prop up fishing operations which would otherwise be unprofitable, thereby facilitating excessive fishing capacity which perpetuate the overexploitation of fisheries resources and undermine small-scale fishing fleets which collectively are equally important to the sustainable ocean economy.

Institutional investors can use their influence to promote transparency and best practices in seafood

and other ocean sectors, such as those implemented by the Fisheries Transparency Initiative. Supply chain traceability is fundamental to the ability of any investor to exercise due diligence. Investors should demand that companies show demonstrable efforts at achieving full-chain traceability, and that they fully declare their product mix and sourcing (including area and supplier). Furthermore, investors should insist on the systematic disclosure of metrics such as biomass produced, amount of antibiotics used, and percentage of eco-certified products.

Corporate debt also provides a powerful source of influence for banks to promote sustainability in all ocean sectors. By regulating the actions of the borrower, covenants can be important mechanisms through which banks can incentivize and steer companies towards implementation of improved sustainability measures.

Box 5: "Organized Crime in the Fisheries Sector"

Co-leads: Emma Witbooi, Kamal-Deen Ali, Mas Achmad ([Download](#))

"Illegal, Unreported and Unregulated Fishing and Associated Drivers"

Co-leads: Sjarief Widjaja, Tony Long, Hassan Wirajuda ([Download](#))

Although the majority of recommendations are for governments, there are also a number of identified priorities for industries:

1. Make fisheries transparency and traceability conditions of contracts.
2. Ensure the accuracy of ownership information to avoid the use of shell companies.
3. Be aware not to deal with flag states that fall short of their duties under the UN Convention on the Law of the Sea.
4. Place the use of PSMA-ratified ports as a condition of contracts or insurance.

5. Provide assurance to consumers on the traceability and quality of the fish products (e.g., provide such information on the packaging).

In response to increasing public demand for sustainable fisheries products and a transparent value chain, the global fisheries industry is increasingly harnessing CSR practices, which, in turn, help minimise the risk of criminal activities in the fisheries value and supply chain. Engaging with civil society can help these developments.

Box 6: "The Ocean Transition: What to Learn from System Transitions"

Co-leads: Mark Swilling, Mary Ruckelshaus, Tanya Brodie Rudolph ([Download](#))

Companies should use the advances in informational technologies now available to encourage creation of an ocean knowledge commons through mobilising the funds required to build a new open-source, 'wiki-type' ocean knowledge commons that collates crowdsourced and satellite data, and creates a clearing house for shared strategies that amplify best practices and viable

working alternatives; ensuring that the transparent open data-sharing platform consolidates all relevant knowledge and research as a basis for creating a system which pools and transmits information, and can facilitate the design of solutions capable of responding to changing landscape pressures and new transitional dynamics through diverse scales and institutions.

Box 7: "Integrated Ocean Management"

Co-leads: Jan-Gunnar Winther, Minhan Dai ([Download](#))

Within the sustainable ocean economy framework, Marine Spatial Planning should ideally be a means of creating an optimal investment climate for maritime sectors and give operators more certainty as to what

opportunities for economic development are possible. A key theme of MSP is the adoption of an ecosystem-based approach to ocean management.

Box 8: "Critical Habitats and Biodiversity: Inventory, Thresholds and Governance"

Co-leads: Alex D. Rogers, Octavio Aburto-Oropeza ([Download](#))

Maintenance of genetic diversity needs more explicit consideration and planning in food systems policies and management, including for wild capture fisheries and mariculture. In addition to legal and policy instruments, industry collaboration is also needed to prevent genetic erosion, prevent and manage marine invasive species and increase the benefits from genetic diversity through inclusive and responsible research and innovation. Mainstreaming may also include strategies through which activities in production sectors may actually benefit biodiversity. For example, mariculture could relieve pressure on commonly harvested wild species if undertaken in a sustainable and responsible manner (FAO 2016).

The BBNJ (Biodiversity Beyond National Jurisdictions) process is now debating the declaration and functioning of MPAs in ABNJ (Areas Beyond National Jurisdictions) as a tool for area-based management. There are divergent views on whether MPAs could be used to achieve long-term biodiversity conservation and sustainable use, and whether decision-making related to MPAs should be informed by strategic environmental assessments (SEAs) (High Seas Alliance 2019). This would include broader factors relating to social and economic considerations, traditional knowledge and cultural values.

Box 9: "National accounting for the ocean and ocean economy"

Co-leads: *Eli P. Fenichel, Ben Milligan, Ina Porras* ([Download](#))

There is no specific discussion of industry's role, but since proper national accounting will help their interests, industry can help lobby for it. Also, they can

provide possibly sensitive data to agencies for national accounting.

Box 10: "The Future of Food from the Sea"

Co-leads: *Christopher Costello, Ling Cao and Stefan Gelcich* ([Download](#))

This BP presents a broad overview, backed by specific analysis of current knowledge and by new modelling, of the potential of the oceans to supply food. It does not focus on the roles of industry, but rather examines the frameworks in which stakeholders can work sustainably within a future of major growth of seafood output, as well as growth of demand.

Key messages include:

- Improved management and judicious conservation of exploited wild fisheries result in more biomass in the ocean, higher profits for fishers and an increase in food provision (over 40 percent more production compared to future production under 'business as usual' and 20 percent more than what is currently produced). The major threat to improved capture fisheries outcomes is overfishing. Other important threats include climate change, environmental variability, habitat degradation and pollution.
- Sustainably expanding unfed mariculture (i.e. mariculture of species that do not depend on feed inputs for nutrition, such as bivalves and seaweed) can substantially increase nutritious food and feed with a lower impact on the marine environment, and may in some cases enhance wild fisheries by creating artificial habitats.
- Significantly expanding fed mariculture (i.e. mariculture of species that rely on feed inputs for nutrition, such as finfish and crustaceans) in a sustainable way is possible but will require major innovations in feed so production is not limited by capture fisheries.
- Under optimistic projections regarding alternative mariculture feed innovations and uptake, the ocean could supply over six times more food than it does today (364 million metric tons of animal protein). This represents more than two-thirds of the edible meat that the FAO estimates will be needed to feed the future global population.
- While the supply of food from the sea can expand significantly, demand for these products will depend on prices, consumer preferences, income and national and local capacities to implement novel management approaches.
- Low-income and food-deficit countries, as defined by FAO, depend more heavily on fish for their animal protein. Fish are particularly important in small island developing states in tropical regions, which are most vulnerable to climate change and suffer from weak fishery management and unsustainable mariculture development. Improving fisheries management and mariculture sustainability can pay large dividends to these countries in the form of food from the sea.
- The potential for increased production and consumption of food from the sea will depend on physical factors (such as ocean warming and pollution), policy (such as fishery and climate policy), technology (such as advances in aquaculture feed and offshore mariculture technology and farming systems) and institutions (such as property rights and trade).
- While some policy interventions can result in win-win situations, many policies that enhance ocean food provision come with trade-offs. Policymakers should carefully consider the pros and cons associated with different policy options, including inaction, and how different stakeholders may be affected by them.
- Effective policy interventions regarding the future of food from the sea will vary by country depending on each country's objectives and constraints. Therefore, there is not a one-size-fits-all policy for enhancing food from the sea. We outline a framework that policymakers and scientists can use to inform regional decision-making regarding the future of food from the sea given their unique contexts.

Box 11: “The expected impacts of climate change on the ocean economy”

Co-leads: Steve Gaines, Reniel Cabral, Christopher M. Free, Yimnang Golbuu ([Download](#))

On Fisheries:

The wider implementation of best practices in fisheries management will mitigate many of the negative impacts of climate change. In higher-capacity systems, best practices include scientifically informed catch limits, accountability measures, regional flexibility in policy practices and the protection of essential fish habitats. In lower-capacity systems, best practices include implementing ‘primary fisheries management’—which uses the best available science and precautionary principles to manage data-poor and capacity-limited fisheries—and establishing local, rights-based management to incentivise sustainable stewardship.

Adapting to climate change will require dynamic, flexible and forward-looking management. This can be achieved by aligning management policies with the spatiotemporal scales of climate change, ecosystem change and socioeconomic responses. New or strengthened international institutions and agreements will be necessary to ensure that management remains sustainable as stocks shift between jurisdictions.

Developing equitable solutions can help uncover and target the underlying drivers of both existing inequities and climate change itself, thereby allowing for wholesale system transformation when it is necessary to create equitable resilience. Thus, equity

is not just a valuable goal of management and policy reform; it is also a critical input into these decisions as it serves as a functional driver of climate resilience.

On Mariculture:

Although there are no global-scale estimates of how climate change is likely to impact mariculture profitability and productivity, recent studies collectively suggest that the potential for sustainable and profitable mariculture is likely to remain high under climate change.

Adapting marine aquaculture to climate change: Selective breeding for fast growth, selective breeding for temperature tolerance, risk-based site planning and environmental monitoring systems, access to affordable credit and insurance, and innovations under way in reducing feed limitations for fed mariculture.

Expanding mariculture will require preventing, reducing and accepting the environmental trade-offs of mariculture. Mariculture poses risks to marine ecosystems and capture fisheries and its expansion has frequently been impeded by these concerns. Expanding mariculture will depend on preventing and reducing these risks and establishing clear best practices that will help ease the regulatory burden.

Box 12: “Leveraging Multi-Target Strategies to Address Plastic Pollution in the Context of an Already Stressed Ocean”

Co-leads: Jenna Jambeck, Ellie Moss, Brajesh Dubey ([Download](#))

Actions for Maritime sector:

- Use new materials for fishing gear, e.g. biodegradable components
- Encourage industry voluntary contributions to reduce fossil-fuel-based plastics
- Require fishing gear tracking
- Implement Fishing for Litter programmes
- Provide for sediment/dredge material removal and treatment
- Conduct sediment remediation with in situ mats
- Improve wastewater and solid waste management on ships
- Build ships and rigs to prevent and minimise oil spills
- Improve infrastructure at ports to manage waste generated from ships, including making waste management affordable.

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