



**Sustainable  
Ocean Business**  
Action Platform

# **OUTCOME DOCUMENT OF THE 2020 CEO ROUNDTABLES ON OCEAN** OCEAN STEWARDSHIP ANNUAL REVIEW

WITH THE OBJECTIVE TO DELIVER ON THE DECADE OF ACTION, PARTICIPANTS FOCUSED  
ON IDENTIFYING BARRIERS AND KEY ACTIONS FOR BUSINESSES AND GOVERNMENTS TO  
REACH THE AMBITIONS HIGHLIGHTED IN THE *OCEAN STEWARDSHIP 2030* REPORT.  
THE CEO ROUNDTABLES WERE FOLLOWED BY WORKING MEETINGS WITH THE  
OBJECTIVE TO DEFINE ACTION PLANS



# ROADMAP OVERVIEW

On track to achieve critical ambitions

Some encouraging trends but more needs to be done

Need more action now - not moving on the right path

## FOCUS AREAS

## AMBITIONS

### SUSTAINABLE SEAFOOD

Ensure fully traceable seafood

Bridge food production and dietary needs

#### IDENTIFIED AREAS FOR ACTION IN 2020-2021

1. Contribute to standardize traceability data, harmonize standards and promote interoperability of traceability platforms through the seafood value chain
2. Increase the recognition of seafood in the climate and food agendas

### SET SAIL FOR DECARBONIZED SHIPPING

Apply international regulations to limit greenhouse gases from shipping

Set up an international maritime research and development fund

#### IDENTIFIED AREAS FOR ACTION IN 2020-2021

1. Develop key incentives for the decarbonization of shipping to develop, scale and take up low-zero carbon fuels, support transparency and financeability
2. Engage with government and IMO in setting up a global R&D Fund
3. Share best practices on technology

### HARNESSING OCEAN ELECTRICITY

Align policy with clear and targeted strategies

Target market conditions and economic incentives

#### IDENTIFIED AREAS FOR ACTION IN 2020-2021

1. Develop framework for global strategic planning by governments - in dialogue with relevant stakeholders
2. Increase standardization of the industry and set up global certifications and KPIs

### END WASTE ENTERING THE OCEAN

End plastic waste entering the ocean

End excessive nutrients entering the ocean

#### IDENTIFIED AREAS FOR ACTION IN 2020-2021

1. A call to define the "rules of the game" for greater public-private collaboration to end ocean plastic
2. Determine the institutions that are needed to rapidly scale solutions across nations

### MAPPING THE OCEAN

Collect ocean data

Share and manage ocean data

#### IDENTIFIED AREAS FOR ACTION IN 2020-2021

1. A gap analysis to take stock on on-going ocean data initiatives, and data and information needs
2. Identify enabling factors and the necessary means to implement them, including support for developing countries, in collecting sharing, and using ocean data

**Note:** This is a working document to inform the work of the Sustainable Ocean Business Action Platform. Input is welcome from all stakeholders. Please email [ocean@unglobalcompact.org](mailto:ocean@unglobalcompact.org) to contribute.

# KEY TAKEAWAYS FROM THE DISCUSSIONS OPENING PANEL

THE ESTEEMED SPEAKERS IN THE INTRODUCTORY PLENARY SESSION ECHOED THE VITAL IMPORTANCE OF THE OCEAN IN ACHIEVING THE **"FUTURE WE WANT."**

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**H.E. Erna Solberg, Prime Minister of Norway**, outlined the critical role the ocean plays in the economy and the need to recover from the pandemic not only better but “bluer”. Further, Prime Minister Erna Solberg said: “Investing in a sustainable ocean economy has a very high positive impact on our ability to achieve the Sustainable Development Goals (SDGs). Whilst investment will be needed, I commend you for showing through the UN Global Compact Action Platform for Sustainable Ocean Business how you intend to play your part.”



The need for integrated ocean management to balance both economic development and protection was also emphasized by several speakers. Multilateral and international cooperation is inherently necessary as the ocean is one of the world's greatest common goods. **H.E. Annick Girardin, Minister of Marine Affairs of the Republic of France**, said, “Stakeholders must reconcile environmental, economic and social objectives with ‘pragmatism and ambition’. Companies have a duty to use the ocean responsibly; they also have the responsibility to provide a decent life for the men and women who depend on it.”



For many communities, the ocean is a major source of economic development, employment and income. **Sanda Ojiambo, CEO and Executive Director of the UN Global Compact**, said that the ocean plays a critical role in many economies, including the economy in her home country of Kenya. On the roadmap set by the *Ocean Stewardship 2030* report, Ms. Ojiambo said, “Given the central importance of the ocean, all stakeholders must take robust and ambitious actions to transform these aspirations into a reality.”



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**The UN Secretary-General's Special Envoy on the Ocean, Ambassador Peter Thomson**, noted the need to build momentum towards the UN Ocean Conference. “We know that when we gather in Lisbon next year for the UN Ocean Conference, that science, innovation, solutions and partnerships will be infused into the conference,” said Ambassador Thomson.



Speakers in the plenary emphasized that nothing less than the future of the ocean and the planet is at stake. “The world would be a better place if we were able to truly understand, embrace and utilize the fact that we are living on the blue planet. The ocean has shaped our history and the contemporary world and it will determine our future,” said **Sturla Henriksen, Special Advisor, Ocean, UN Global Compact**.



The finance sector and investment are key enablers for reaching the *5 Tipping Points for a Healthy and Productive Ocean*. Strong partnerships across all stakeholders, sectors and geographies will be critical. “I think we must be mindful of the sheer scale of the ocean business changes we see in the next 30 years” said **Remi Eriksen, CEO of DNV GL**, co-collaborator on the *Ocean Stewardship 2030* report. “Strong partnerships across sectors and geographies will be critical. This forum today, which gathers so many important stakeholders, gives me optimism. This is the Decade of Action, where we simply have to make progress”.



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# CEO ROUNDTABLES

## SUSTAINABLE SEAFOOD

Moderated by Robert Blasiak, Researcher, Stockholm Resilience Center

**Take stock verdict** Some encouraging trends but more needs to be done

- The seafood industry comprises particularly complex supply chains. Yet members of the industry have recognized a collective responsibility for effective management and transparency to ensure traceability, safety, and accountability. Companies with long, complicated and non-transparent supply chains have been some of the hardest hit in the global pandemic. Investors have now placed a greater emphasis on ESG performance, sustainability and traceability, as it has been proven to strengthen resilience.
- Seafood has a central role to play in feeding a growing world population, yet most food policy discussions focus mainly on agriculture or they discuss food production on land and sea separately. Aquaculture and fisheries need to be an integrated part of food system dialogues to enable the development of a future food system answering to the needs of the 2030 Agenda for Sustainable Development.
- The social aspects of sustainability are intrinsically linked with traceability. There is a clear expectation for companies to prevent human rights violations within their supply chain and eliminate IUU fishing and instances of forced and child labour and other human rights issues, for example related to community impacts. Equally, there is an understanding that without regulations in place or enforced, traceability is one important solution available to responsible companies enabling them to reduce their sourcing risks and bring responsible products to the market.
- A growing number of initiatives have formed strong partnerships for sustainability and traceability in the seafood industry, including with leading actors in science, technology and NGOs.
- Climate action is a growing trend among leading seafood companies, which see blue food as a key contributor to bring the food sector on the path to meet the Paris Agreement goals.

## IDENTIFIED AREAS OF ACTION

### 1. CONTRIBUTE TO STANDARDIZE TRACEABILITY DATA, HARMONIZE STANDARDS AND PROMOTE INTEROPERABILITY OF TRACEABILITY PLATFORMS THROUGH THE SEAFOOD VALUE CHAIN

Strong multi-stakeholder partnerships and collaboration to harmonize standards and promote interoperability will be key to achieving seafood traceability in the absence of adequate regulations. Across the complex value chains in the seafood industry, all actors need to agree on common standards, but there have been positive developments, and multi-stakeholder collaborations are on the rise. With increasingly clear expectations for companies to prevent human rights violations in their own operations and in their supply chains, more and more Governments are also holding businesses legally accountable for practicing proper due diligence. The regional dimensions of traceability need to be assessed further, as markets differ in their appreciation of and demand for traceable seafood. Furthermore, biodiversity is a topic that is of increasing importance and relevance with updates of global biodiversity protocols currently underway.

## 2. INCREASE THE RECOGNITION OF SEAFOOD IN THE CLIMATE AND FOOD AGENDAS

The promotion of sustainable and traceable seafood should be framed within a wider context that includes supporting healthy diets, climate change adaptation and meeting the targets of the 2030 Agenda for Sustainable Development. Policy discussions related to seafood should therefore extend beyond sustainable fisheries management to focus more prominently on how seafood contributes to the food agenda and meeting nutritional needs. Aquaculture in particular will be central to the upcoming UN Food Systems Summit 2021 and COP26 is of high relevance for the seafood sector as a whole.

### SELECTED QUOTES FROM PARTICIPANTS



**“It is a complex value chain but we have to work together in and across organizations to only use sustainably sourced fisheries.”**

Therese Log Bergjord, CEO, Skretting -named “person of the year” for the seafood sector by Intrafish

**“If companies cannot follow the fish from catch through processing to marketing, there is no way that they can ensure that they are operating with the right human rights due diligence.”**

Birgitte Feiring, Department director for Human Rights and Development, Danish Institute for Human Rights

**“Aquaculture is in a good position to develop towards providing carbon-neutral protein as a substantial part of meeting global food demand. The industry is currently setting climate targets and working hard to address its main challenges.”**

Axel Gustavsen, Chief Legal Officer, Germaq

**“There is no sustainability without traceability. Traceability is key to monitor companies’ sustainability commitments which have to be considered from a global, scientific and multistakeholder point of view. As an example of how Bolton Food is dealing with it, I have to highlight our transformational agreement with WWF and the partnership with the International Seafood Sustainability Foundation- ISSF.”**

Luciano Pirovano, Global Sustainable Development Director at Bolton Food

**“If companies are able to communicate to investors in a transparent way from start to finish their supply chain, they will capture the hearts and minds of the investment community, and will then galvanize capital. This becomes a virtuous circle.”**

Marisa Drew, Chief Sustainability Officer, Credit Suisse



## SET SAIL FOR DECARBONIZED SHIPPING

Moderated by Erik Giercksky, Head, Action Platform for Sustainable Ocean Business, UN Global Compact

### Take stock verdict

Need more action now – not moving on the right path

- The International Maritime Organization (IMO), Governments and the industry are in close dialogue to implement the targets and deliver on the roadmap for the decarbonization of shipping. However, decarbonizing shipping is a broader challenge than the ship itself. Solutions need to take into account land-based infrastructure and the broader supply chain. Zero emission vessels will be ready soon but there is not sufficient clarity that new fuels will be available on the market at the same time. Additionally, standards and clear regulations need to come together to support the transition. This includes the emergence of a common standard to measure emissions.
- First movers, who will take on extra cost and risk, need to be incentivized to purchase the vessels and build the fuel and supply chains. It is too much for an individual company or a group of players to take on. Solving the access and affordability for zero emissions vessels needs to be institutionalized. A solution is the suggested IMO R&D Fund. Other initiatives taking into account the broader ecosystem and supply chain also need to be part of the conversation.

## IDENTIFIED AREAS OF ACTION

### 1. DEVELOP KEY INCENTIVES FOR THE DECARBONIZATION OF SHIPPING TO DEVELOP, SCALE AND TAKE UP LOW-ZERO CARBON FUELS SUPPORT TRANSPARENCY AND FINANCEABILITY

The market faces uncertainty about the low-zero carbon fuels of the future, not only the ships which are required to run on this but also the supply chains that can deliver zero-carbon fuels in sufficient volumes in sufficient locations. In order to develop fuels and technology, commercialise and implement it at scale, it requires a large amount of investment – from a range of stakeholders in the value chain, which includes financiers, fuel producers, suppliers & distributors, ports, OEMs and shipping customers. To accelerate the transition, the adoption of incentives can help unlock investments. A combination of customer pull, climate resilient investment and global policy are needed to set the “the rules of the game” for a level playing field.

### 2. ENGAGE WITH GOVERNMENTS AND THE IMO IN SETTING UP A GLOBAL R&D FUND AND CALLING FOR FURTHER CRITICAL POLICY ACTION

As part of the solution, industry is supporting the development of a global R&D Fund - submitted to the IMO MEPC as a proposal for an International Maritime Research and Development Board (IMRB) by BIMCO, CLIA, ICS, INTERCARGO, INTERFERRY, INTERTANKO, IPTA, and WSC to help reduce emissions from shipping, with financing by way of a bunker levy. Under the auspices of IMO, the \$5bn funding over 10 years would come from shipping companies across the globe for such a new non-governmental Research & Development organisation to pave the way for decarbonization of shipping. Its aim would be to accelerate the development of zero emission vessels by the early 2030's, in line with the IMO's targets for CO2 emission reductions from shipping. A significant milestone is the IMO Marine Environment Protection Committee (MEPC) meeting in November. Participants highlighted that all engaged stakeholders should call upon governments to support the proposal. Additionally, there is a need to engage with the entire value chain in order to push supply and pull demand for zero emission shipping. Contributions from further stakeholders will be an enabler to decarbonizing global trade.

### 3. SHARE BEST PRACTICES ON TECHNOLOGY

Technology for zero emission vessels exists. Industry players should share knowledge and best practices to learn from each other. This dialogue will support the implementation of the technology at the needed scale.

#### SELECTED QUOTES FROM PARTICIPANTS



**“In addition to the current short-term measures to reduce GHG emissions from shipping, IMO will start to discuss any other emission reduction mechanisms including market-based measures to incentivize the uptake of renewable fuels.”**

Hiroyuki Yamada, Director, Marine Environment Division, International Maritime Organization

**“If we and the industry are to deliver the decarbonisation of shipping, we need to bring new fuels into operation. We see IMO as having a very important part of this journey. The transition will not happen without a strong regulatory framework.”**

Henriette Hallberg Thygesen, EVP, CEO Fleet and Strategic Brands, A.P. Møller – Mærsk

**“It is hugely positive that so many in the maritime industry are moving forward with decarbonisation initiatives, and we expect to see deep sea Zero Carbon Emission Vessels technically ready to be in the water by 2024. However, there is a real possibility landside infrastructure and fuels will not be ready by then, therefore this calls for greater international government policy and incentives and cross industry collaboration.”**

Nick Brown, CEO Designate, Lloyd's Register

**“From 2030, our members aim only to order vessels with Zero Emission technology.”**

Harold Solberg, CEO, Norwegian Shipping Association

**“It is still unclear how this shipping transition is going to be measured. The sooner we can get clear global policies the better.”**

Kristian Mørch, CEO, Odfjell

**“We need to incentivise first movers and bring stakeholders across the value chain together.”**

Quah Ley Hoon, Chief Executive, Maritime Port Authority of Singapore

**“We have seen with IMO 2020 how the industry was able to react when they were subjected to some powerful regulatory pressure. The technology and the fuel supply need to be set up now.”**

Søren Andersen, CEO, StormGeo

**“Expanding beyond the shipping sector to include contributions from stakeholders across the value chain would accelerate progress towards decarbonizing global trade.”**

Michael Parker, Chairman, Global Shipping, Logistics & Offshore, Citi and Director, Global Maritime Forum





## HARNESSING OCEAN ENERGY

Moderated by Jennifer States, Director for Blue Economy, Energy & Maritime Americas, DNV GL

### Take stock verdict

Some encouraging trends but more needs to be done

- Making ocean renewable energy a key part of energy policy will support the GHG emission reductions needed by 2030 to meet the Paris Agreement targets towards achieving net-zero carbon by 2050. Awareness among stakeholders is increasing but more needs to be done, in particular in developing countries.
- Four common barriers - acceptability and social licensing, financing, infrastructure, technology - have been recognized as critical to enable the sustainable development of ocean renewable energy.

## IDENTIFIED AREAS OF ACTION

### 1. DEVELOP FRAMEWORK FOR GLOBAL STRATEGIC PLANNING BY GOVERNMENTS – IN DIALOGUE WITH RELEVANT STAKEHOLDERS

Broad-scale development of ORE requires supportive governmental and regulatory policies and appropriate market drivers to provide certainty, de-risk investment and accelerate industrialization for sustainable development. Speakers highlighted the importance of visibility into long term plans, to develop both offshore and onshore infrastructure including connection to the grid. Concepts such as Integrated Ocean Management<sup>1</sup> (IOM) and Marine Spatial Planning (MSP) can support these purposes. They have been proposed as potential pathways to create linkages that can enable solutions. Additionally, collaboration with other Blue Economy players across common power, data and science needs is increased but should strengthen. Collaborative data and knowledge sharing is essential if we want to develop Ocean Renewable Energy at a larger scale.

### 2. INCREASE STANDARDIZATION OF THE INDUSTRY AND SET UP GLOBAL CERTIFICATIONS AND KPIS

Ocean Renewable Energy development requires large investments. Financial mechanisms, such as blue bonds can support filling the financial gaps. Investors recognize the business opportunities of offshore wind in order to align their investments with the objectives with the Paris Agreement. However, the industry needs to mature and develop stronger standards/certifications to attract long term investors. This aspect is even more important to support the development of "bankable" ocean energy projects in developing countries.

1. <https://oceanpanel.org/sites/default/files/2020-05/BP14%20IOM%20Full%20Paper%20Final%20Web.pdf>

## SELECTED QUOTES FROM PARTICIPANTS



**“The rapid climate change combined with a more intensive use of the ocean space, including new industries such as offshore wind, requires ocean management to be more dynamic.”**

Jan-Gunnar Winther, Director, Centre for the Ocean and the Arctic

**“In order for offshore renewable energy to fulfil its potential, it will be vitally important to strategically plan the transmission system, in order to remove barriers to deployment and to allow a more resilient, reliable and environmentally sustainable system.”**

Jonathan Cole, Managing Director, Iberdrola Renewables Offshore Wind Division

**“One of the main solutions is to encourage governments to set up strategic marine planning. If you give visibility to the people, you can start a dialogue upfront and it will help the industry, and the society as a whole, to better engage.”**

Patrick Pouyanne, CEO, Total

**“Blue bonds should support the development of offshore renewable energy projects ensuring their sustainability and maximising their socio-economic impact. For that, it is important that the Blue Bonds scheme considers that different types of offshore renewable technologies are at different stages of development, therefore requiring a specific area of intervention.”**

Roland Roesch, Deputy Director at the Innovation and Technology Center of the International Renewable Energy Agency (IRENA)



## END WASTE ENTERING THE OCEAN

Moderated by Martin Stuchtey, Founder and Managing Partner, SYSTEMIQ

### Take stock verdict

Need more action now – not moving on the right path

Today, the rate of plastic leakage is growing faster than our ability to solve it. In a business as usual scenario, the rate of plastic production is expected to grow 2x, the rate in plastic leakage is expected to grow 3x and the amount of plastic in the ocean is expected to grow 4x by 2040.<sup>2</sup> The CEO Roundtable identified several underlying challenges and as well as concrete actions to reduce global leakage levels including:

- Governments need to “frame the rules of the game” (e.g., dependable regulations for the private sector to follow). There needs to be a dollar value to waste management and a decision on how the burden is shared between communities, the private sector and government.
- Funding - at the appropriate scale - is a key enabler. Even with the largest current private sector funds (e.g., AEPW's \$1-1.5 billion), it won't bridge the waste management funding gap of hundreds of billions, yet public government money is also not enough to finance it. Blue bonds could be an asset class used for waste management. To support the investment, new economic models should be developed for both investable (recycling and net cost (waste collection) activities. In addition, there is a lack of institutions that can take the funding and solve the challenge at the needed scale.
- We're lacking solutions that are scalable and institutions that can take funding and solve the challenge on the frontline.
- There needs to be greater transparency about the volumes of plastic sold into markets by the private sector. At the same time, the private sector needs financial and waste flow transparency to feel comfortable investing in waste and recycling solutions.
- There needs to be a simplification and harmonization of the vast number of materials used by the private sector, and then have the different circular systems coming together to close the loop.

## IDENTIFIED AREAS OF ACTION

### 1. A CALL TO DEFINE THE “RULES OF THE GAME” FOR GREATER PUBLIC-PRIVATE COLLABORATION TO END OCEAN PLASTIC

Government is called by the private sector to frame the rules of the game (e.g., dependable regulations for the private sector to follow) so the private sector as a whole has the mandate and boundaries to participate in solving plastic pollution (and minimise the free-ridership of voluntary commitments).

#### Framing the rules of the game would need to consider several regulatory topics:

- Requirements for industry plastic footprint transparency
- Regulations for industry co-funding of national waste and recycling operations (e.g., EPR)
- National import/export regulations for waste and recyclable materials
- Regulations for the safety and welfare of those working in waste and recycling
- Material labelling, reduction of plastic types, material recyclability and other material dynamics
- Limitations on selling plastic products into markets without the infrastructure to handle product end-of-life

To determine the global regulations to be put in place we (government, the private sector and civil society) would first need to agree on several inputs first.

We would need a better understanding of and reach agreement on the numbers including the cost of setting up and operating waste systems (and recycling different material types), the value of waste picker's work and the true cost of a tonne of plastic once the impact of plastic pollution on ecosystems and biodiversity is included. We would also need to determine how to share the financial burden of waste and recycling between government, the private sector and communities, how economic models can work for both investable (e.g., high-value material recycling) and net cost (e.g., waste collection) activities and on what private sector funding can be spent, e.g., setting up new waste collection, plugging the gap of net loss recycling activities, investing in new innovation to offset plastics. A nuanced view on regulations needs to be taken (e.g., well intentioned waste export bans can close market opportunities for recyclers exporting clean plastics in Timor).

The taskforce could follow the example of the Montreal protocol which started with a global protocol and brought together governments, the private sector and civil society for swift and decisive change. Such an effort would need to work at global (UN Global Compact and others), regional (ASEAN, etc.), national economies simultaneously.

## 2. DETERMINE THE INSTITUTIONS THAT ARE NEEDED TO RAPIDLY SCALE SOLUTIONS ACROSS NATIONS

### This workstream/sprint might include:

- Determining the institutions that are needed to rapidly scale plastic pollution solutions across nations
- How might forming these institutions be funded and implemented
- In areas without institutional reach, a plan to make sure that frontline organisations and businesses who want to establish waste programs have the resources they need

## SELECTED QUOTES FROM PARTICIPANTS



**“At least hundreds of billions of dollars are needed to finance waste management infrastructure globally.”**

Jacob Duer, CEO, Alliance to End Plastic Waste

**“Private investments are critical. Public government money is also not enough to finance it”**

Hilen Meirovich, Head of Climate Change, IDB Invest

**“The void in waste management systems needs to be addressed through a collective effort between the public sector, communities and the private sector. Governments have a key role to play in defining the framework.”**

Véronique Cremades-Mathis, Global Head of Sustainable Packaging, Nestle



## MAPPING THE OCEAN

*Moderated by Hiroko Muraki Gottlieb, Associate, Department of Organismic and Evolutionary Biology, Harvard University and Representative for the Ocean; International Council of Environmental Law*

### Take stock verdict

Some encouraging trends but more needs to be done

The trajectory is positive—various multi-stakeholder initiatives are underway, such as the Seabed2030 project which aims to map the entire seafloor by 2030. That said, ocean data is not limited to mapping the seafloor. In fact, ocean data is incredibly diverse and critical to ensure the health and stewardship of the ocean. More work is needed because of the complexity of the challenges in maximizing the collection and sharing of diverse ocean data to ensure that there is reliable access to high quality data, information and services tailored to user needs. Through increased collaboration, use of cutting-edge technology, and knowledge supported by adequate and sustained funding as well as capacity building, we can move further towards achieving the ambitions identified in the *Ocean Stewardship 2030* Report.

The UN Decade of Ocean Science for Sustainable Development (2021-2030) ("the Ocean Decade") provides a convening framework for an international stakeholder dialogue on creating synergies and systems to enable collection and sharing of ocean data and information. This could include the development of new open data access norms, standards harmonization, and revenue models. One of the Decade challenges is to generate "a digital twin" of the ocean.

## IDENTIFIED AREAS OF ACTION

### 1. A GAP ANALYSIS TO TAKE STOCK ON-GOING OCEAN DATA INITIATIVES, AND DATA AND INFORMATION NEEDS

Today, we are experiencing an exponential increase in the quality and the amount of data collected. This momentum, driven by the emergence of new economic opportunities and supported by the development of new technology and many initiatives, could greatly advance our understanding and stewardship of the ocean. However, significant barriers exist to maximize the collection, sharing, and application of data. One such barrier is data siloing, and lack of interoperability amongst data repositories and databases. Information on the following would contribute to innovative solutions: 1. Who are the stakeholders and what are their data needs? (i.e. contributors and beneficiaries of ocean data--the private sector, academic institutions, research institutions, NGOs, both developed and developing countries, in particular, Small Island Developing States, traditional knowledge holders, etc.); 2. What are the on-going ocean data initiatives? 3. How can we align initiatives with stakeholders needs? 4. How to maximize benefits accruing from the on-going initiatives on ocean data and generating new initiatives to address the gaps?

Conducting an assessment to identify the stakeholders and on-going initiatives on ocean data collection and sharing can lead to a better understanding of what is known collectively, identify critical gaps, and develop innovative solutions to increase the collection and sharing of ocean data.

### 2. IDENTIFY ENABLING FACTORS AND THE NECESSARY MEANS TO IMPLEMENT THEM, INCLUDING SUPPORT FOR DEVELOPING COUNTRIES, IN COLLECTING SHARING, AND USING OCEAN DATA

Building on the gap analysis, the key enabling factors and the means to implement them to foster the collection and sharing of data can be identified. To that end, the following question could be addressed: How can the identified needs be met leveraging innovative and transformative approaches (e.g. Internet of Ocean Things, digital twin of the ocean, capacity development, technology transfer, incentives, funding, partnerships, etc.)?



## SELECTED QUOTES FROM PARTICIPANTS



**“The Ocean Decade aims to build the science we need for the ocean we want, but in practical sense this calls for a well-designed and resourceful effort to generate a “digital twin of the ocean” and enable, through resultant data services, informed and much more efficient integrated ocean management.”**

Vladimir Ryabinin, Executive Secretary, IOC-UNESCO

**“Deep Data provides a unique platform to facilitate the gathering, transmission, and sharing of data collected in the Area for the benefit of all humanity”**

Michael Lodge, Secretary General, International Seabed Authority (ISA)

**“If we can manage to increase data sharing, all nations and the ocean itself will benefit.”**

Geir Haoy, CEO, Kongsberg Gruppen ASA

**“Unlocking ocean data is critical for everyone, not just for a group of scientists.”**

Mark Heine, CEO, Fugro



