



United Nations

OceanDialogue2023



Framework Convention on
Climate Change

Distr.: General
15 September 2023

Original: English

**Subsidiary Body for Scientific and
Technological Advice**

Ocean and climate change dialogue 2023

Informal summary report by the co-facilitators of the Ocean and Climate Change Dialogue 2023–2024

Summary

The ocean dialogue was mandated by the Conference of the Parties at its twenty-sixth session and took place on 13–14 June 2023 in conjunction with the fifty-eighth sessions of the subsidiary bodies (5–15 June 2023), Bonn, Germany. This informal summary report, prepared by the co-facilitators of the ocean dialogue provides a summary of the discussions that took place on the two topics, chosen in consultation with Parties and observers: first, coastal ecosystem restoration, including blue carbon, and second, fisheries and food security.

The ocean dialogue offered a vital space for enhancing collaboration, understanding and building ocean-based climate action, illustrating needs, opportunities and case studies as well as highlighting key messages and ways forward.

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Abbreviations and acronyms

BTR	biennial transparency report
CBA	Cost-benefit analysis
CBD	Convention on Biological Diversity
CMA	Conference of the Parties serving as the Meeting of the Parties to the Paris Agreement
CO ₂	carbon dioxide
CDR	carbon dioxide removal
COP	Conference of the Parties
EEZ	exclusive economic zone
FAO	Food and Agriculture Organization
GCF	Green Climate Fund
GEF	Global Environment Facility
GGA	Global Goal on Adaptation
GHG	greenhouse gas(es)
ICZM	Integrated coastal zone management
IOC-UNESCO	Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization
IPCC	Intergovernmental Panel on Climate Change
IUU fishing	Illegal, Unreported and Unregulated fishing
LCIPP	Local Communities and Indigenous Peoples Platform
LDCs	least developed countries
MPAs	Marine Protected Areas
MSP	Maritime spatial planning
NBSAPs	National Biodiversity Strategy and Action Plans
NAP	national adaptation plan
NbS	Nature-based solutions
NDC	nationally determined contribution
NGO	non-governmental organization
ORRAA	The Ocean Risk and Resilience Action Alliance
PSIDS	Pacific Small Island Developing States
SBSTA	Subsidiary Body for Scientific and Technological Advice
SCF	Standing Committee on Finance
SDG	Sustainable Development Goal
SIDS	Small Island Developing States
The Convention on Wetlands	Convention on Wetlands of International Importance especially as Waterfowl Habitat
TEC	Technology Executive Committee
WEF	World Economic Forum
WIM	Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts
WTO	World Trade Organization

I. Key messages

A. Topic 1 Coastal ecosystem restoration, including blue carbon

1. Integrating mitigation and adaptation action for coastal ecosystems into policies and management practices, at the national and regional levels, including into NDCs and NAPs, is vital to signal government priorities and mobilize finance; and to better streamline national focus areas with other international conventions and agreements, such as the Kunming-Montreal Global Biodiversity Framework.
2. It is essential for Parties to strengthen blue carbon accounting methodologies and tools. Parties must embrace the IPCC Wetlands Supplement in their national GHG inventories. Natural national accounting, ecosystem mapping, and robust indicators must be advanced to support ocean-based climate action, monitoring, and evaluation.
3. Sustainable management of coastal ecosystems and recognition at local, national, and international levels of their direct benefits beyond mitigation is needed, which requires building awareness and advancing a data-driven approach to demonstrate and quantify these benefits. Assessment of blue carbon storage, ocean acidification, and conducting impact assessments, including for CDR technologies, requires further observation and research.

B. Topic 2 Fisheries and food security

4. Integration of aquatic food climate solutions within national processes, as well as at the multilateral level, including in the UNFCCC process, is needed. All Parties must consider linking their national climate policies with their blue food production. To achieve this nexus, Parties should adopt a systems/ecosystems-based approach that considers the whole life cycle value chain.
5. It is vital that fish are managed using an ecosystem approach. It is also necessary to better recognize the role of aquatic food in the carbon cycle and for food security, and to mainstream this into other areas of government, to ensure that food security, ocean sustainability, and conservation efforts are realized.
6. Decarbonizing the entire value chain of aquatic food production, including fishing vessels and aquaculture practices, is integral to the just transition to renewable sources of energy and low carbon practices.

C. Cross-cutting for topics 1 and 2

7. Ocean-based systematic observation, research and data management must be strengthened to improve the understanding of carbon cycling and support science-based decision making, with a focus on first filling knowledge gaps that are preventing the ocean from being more widely and effectively included in the NDCs. Standardized data and knowledge systems are essential to achieve this and must be communicated, coordinated, and openly shared among national and international agencies.
8. Fostering partnerships, strengthening regulatory frameworks, and adopting a whole of society approach with Indigenous Peoples, local communities, vulnerable groups including youth and women, and the private sector is essential to give climate policies social buy-in and stability in their implementation. It is also critical for the co-design and co-implementation of projects, addressing policy barriers, facilitating investments, and ensuring strong leadership, effective conservation efforts and to communicate co-benefits.
9. Indigenous Peoples and coastal communities must be engaged from project inception to build trust, integrate local and traditional knowledge, and to respect their rights and take into account the principle of free and prior informed consent. Indigenous knowledge systems and local practices must be integrated with science and policy, while adopting a rights-based approach.

10. Increasing, scaling up, and ensuring stable and accessible finance flows is crucial to aid the implementation of sustainable fishing practices and management and restoration of coastal ecosystems. Removing barriers for easier access to funds, capacity building, and promoting skill development are vital, especially for developing countries and communities with relatively less capacity. De-risking investments requires long-term finance, conducting cost-benefit analyses, diverse investment schemes, and establishing clear policies and regulations. Mechanisms that channel global and national funding are needed to ensure projects respond to local needs.

D. For COP 28

11. It is crucial that Parties mainstream ocean-related mandates from COP 26 and COP 27/ CMA 4 into their national climate goals and in the implementation of these goals, as well as within UNFCCC processes, including in the global stocktake political outcomes, GGA, and the financial mechanism.

12. The global stocktake is a unique opportunity to highlight the importance of the ocean in the global response to climate change and for the global stocktake political outcomes to promote the establishment of guidelines for Parties to be able to include and strengthen ocean-based measures in their updated NDCs, NAPs, and other national strategies throughout future implementation of the Paris Agreement.

13. Institutional linkages must be strengthened between partners at national and international levels and across UN mandates and processes such as the International legally binding instrument under United Nations Convention of Law of the Sea for the conservation and sustainable use of marine biological diversity beyond national jurisdiction and the Kunming-Montreal Global Biodiversity Framework to enhance global ambition and action for a climate resilient ocean.

14. Secretariat resources should be strengthened to follow-up on Parties' policies and practices to enable the necessary scaling up of ocean-based climate mitigation and adaptation actions.

15. All constituted bodies are encouraged to continue reporting on ocean-related activities in the context of their mandates, and at the Ocean Dialogue.

II. Introduction

16. In [decision 1/CP.27, the Sharm el-Sheikh Implementation Plan](#), Parties decided that the annual ocean and climate change dialogues will, from 2023, be facilitated by two co-facilitators, selected by Parties biennially, who will be responsible for deciding the topics and conducting the dialogue, in consultation with Parties and observers. We, the co-facilitators are responsible for preparing this informal summary report. We will present the messages from the report in conjunction with COP28.

17. As mandated, we selected the topics and conducted the ocean and climate change dialogue 2023 (henceforth referred to in this report as the “ocean dialogue”) in consultation with the SBSTA Chair. We prepared an [information note](#) in advance that provided our choice of two topics, guiding questions and proposed approach based on consultations with Parties and observers, which took place in March 2023. We proposed an action-focused discussion building on the outcomes of the ocean dialogues [2020](#) and [2022](#). Being a multi-annual exercise, a similar consultative approach to identify topics will be applied for the ocean dialogue in 2024.

18. [The ocean dialogue](#) was held over two days on 13–14 June 2023 in conjunction with the fifty-eighth session of the subsidiary bodies (5–15 June 2023), Bonn, Germany. The [agenda](#) consisted of a high level opening, breakout group discussions (see annex I for the list of moderators and rapporteurs who led these discussions) and panel discussions on the two topics, and a final plenary to consider ways forward and messages for COP 28. The two topics addressed were: first, coastal ecosystem restoration, including blue carbon and second, fisheries and food security. The ocean dialogue had 250 participants.

19. Our report focuses on providing a summary of the proceedings of the ocean dialogue, key messages, and ways forward. Chapter III summarises the high-level remarks and scene settings on both days. Chapter IV summarises the breakout groups and panel discussions on topics 1 and 2 with key messages and visual summaries from both groups. Chapter V details the discussions in the final plenary looking at ways forward and messages to COP 28. Over 250 case studies were highlighted by participants during the breakout groups on day 1, whilst day 2 panel discussions provided a deep dive on a number of case studies. All case studies referred to in this summary report are listed in annex II.

20. All information on the ocean dialogue is available from the UNFCCC [webpage](#).

III. Opening

A. High level remarks

21. Parties at COP 26 invited the relevant work programmes and constituted bodies under the UNFCCC to consider how to integrate and strengthen ocean-based action in their existing mandates and workplans and to report on these activities within the existing reporting processes. COP 27 encouraged all Parties to consider, as appropriate, ocean-based action in their national climate goals and in the implementation of these goals.

22. **Simon Stiell, UNFCCC Executive Secretary** noted that countries' current climate actions are not on track to limit global warming to 1.5 °C. Simon Stiell underscored the importance of the ocean to livelihoods and biodiversity. Referring to the [IPCC Climate Change 2023 Synthesis report](#), he noted the substantial damage and increasingly irreversible losses to ocean ecosystems from climate change, and the implications for food security. Simon Stiell further highlighted the enormous potential offered by the ocean not just for its own recovery, but for climate mitigation and adaptation. He stated that the dialogue will deepen the understanding of the climate forces affecting the ocean and inform the response of Parties at COP 28, especially in the context of the global stocktake.

23. **H.E. Razan Al Mubarak, High Level Champion, COP Presidency (virtual)** stated that the COP 28 Presidency was committed to increasing awareness of the importance of the ocean in addressing the climate crisis and would work with all partners to ensure that COP 28 delivers progress on ocean and climate action. She stated that tackling biodiversity loss was critical to achieving the goals of the Paris Agreement.

24. H.E. Razan underscored the importance of the ocean in providing mitigation and adaptation services and solutions for increasing the resilience of coastal communities. She lauded the work of the [Marrakech Partnership's Ocean and Coastal Zones Group](#) and its development of the "Ocean Breakthrough," a set of ocean pathways to accelerate action within governments and non-state actors and drive the transition towards a net-zero world.

25. **Peter Thomson, the United Nations Secretary General's Special Envoy for the Ocean** highlighted the relevance of the topics of the ocean dialogue urging action on the threats to marine ecosystems, such as sea level rise and ocean acidification, and to the aquatic food sector as well as the importance of engaging with local communities and closing the finance gap. He encouraged participants to include the ocean in the outcomes of the global stocktake, and in all relevant UNFCCC workstreams and constituted bodies.

26. He underscored the importance of developing ocean observation and research. In this regard, he commended the work of the [UN Decade of Ocean Science](#) in driving the production of ocean data. He raised concerns about the knowledge gaps around ocean-based CDR at scale. Peter Thomson recommended the establishment of a high commission on CDR, including ocean-based, by the UN General Assembly; a global moratorium on fishing mesopelagic fish; and the establishment of an international carbon market to regulate blue carbon assets.

27. In conclusion, **Simon Stiell** emphasized the importance of using this year's dialogue to build holistic approaches to integrate ocean action in climate action at the national and international level – and vice versa. Noting that there are increasing efforts to develop ocean-

based action, including emission reductions, ecosystem-based adaptation and risk resilience, he urged Parties to continue to blue the Paris Agreement including NDCs, NAPs, BTRs and the global stocktake. He further urged participants to share good practices that provide concrete practical solutions and recommendations to Parties for developing national climate action and goals at the climate/ocean/biodiversity nexus.

28. The high level remarks and openings were followed by a pre-recorded [video](#) prepared by the WEF highlighting the five recent achievements in multilateral negotiations in the global race to protect the ocean, including the International legally binding instrument under United Nations Convention of Law of the Sea for the conservation and sustainable use of marine biological diversity beyond national jurisdiction, the Kunming-Montreal Global Biodiversity Framework, negotiations on a treaty to ban plastic, and FAO's Port State Measures Agreement targeting IUU fishing.

B. Setting the scene

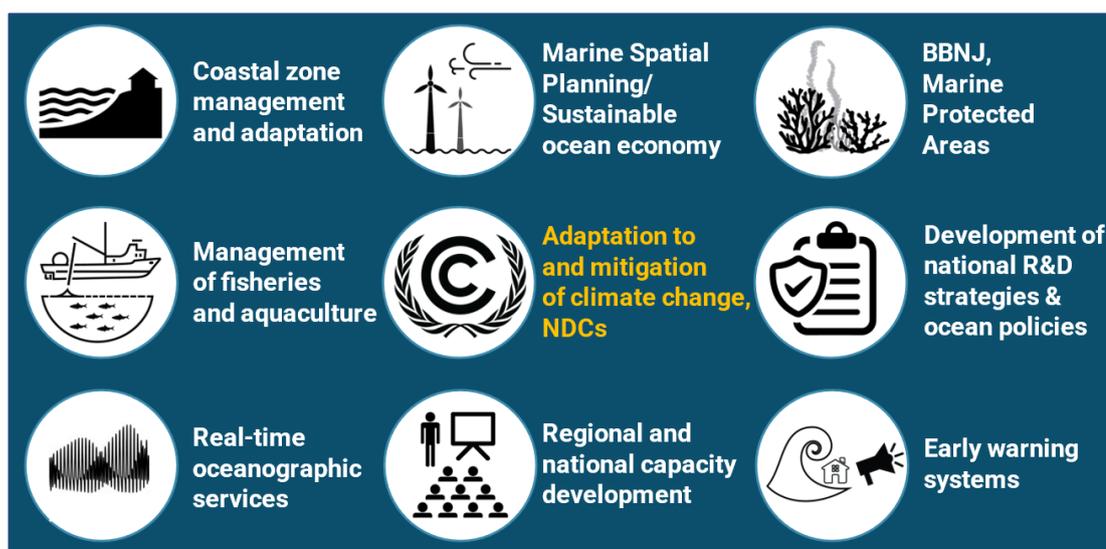
29. **Vladimir Ryabinin, Executive Secretary, UNESCO-IOC** emphasized the importance of using and strengthening ocean science and data and the need for quantitative and qualitative knowledge in informing sustainable climate-resilient coastal and ocean management as well as in informing de-risking of ocean investments.

30. Highlighted was the IOC work on the 'value chain of ocean science' that places ocean observation, data management and capacity development at the heart of ocean management, including through the Global Ocean Observing System and the activities under the [UN Decade of Ocean Science for Sustainable Development](#). The IOC promotes an integrated approach across all ocean management domains (see figure 1) where decision making systems enable the integration of the ocean into the economy and vice versa, leaving no one behind.

31. The IOC has launched the [Blue Carbon Initiative](#) aimed at understanding the scientific background for blue carbon such as assessment of stocks and joined the International Partnership for Blue Carbon. The UN Ocean Decade, amongst other activities, is promoting blue carbon ecosystems in ocean science and developing capacity.

Figure 1

Key ocean management domains



32. **Tristan Tyrrell, Programme Officer, CBD** presented on the [Kunming-Montreal Global Biodiversity Framework Agreement](#) adopted in December 2022. Tristan Tyrrell highlighted the relevance of ocean-based action to meet the four goals and 23 action-oriented targets, including the goal of at least 30 per cent of marine and coastal areas effectively conserved and managed by 2030.

33. On the implementation of the framework, Tristan Tyrrell stressed the need to recognize a “whole of society” and a “whole of governments” approach (this was also referred to in discussions at the Ocean Dialogue 2022). Additionally, he emphasized the need to engage with and include Indigenous Peoples, youth and women in decision-making processes, adopting a human-centred approach by recognizing the economic, social and cultural value systems of Indigenous Peoples and the intergenerational rights of youth. He also highlighted the need to address the climate finance gap. Capacity building was highlighted as a crucial enabler.

34. Tristan Tyrrell also noted the overlap between nature, ocean and climate change, and stressed the need to adopt a holistic approach at all levels. He emphasized that NBSAPs are not standalone documents, and that they should be designed and implemented in synergy with other systems, processes and policies.

35. **Tarub Bahri, Programme Officer, FAO**, presented on the importance of aquatic food for addressing global food insecurity and malnourishment. Climate change is impacting the entire aquatic food value chain. The decline of catch potential, particularly in tropical regions, and shifting of stocks have implications for governance of national and international fisheries. There is a growing need to recognize the importance and specificity of aquatic food in the climate agenda to increase food security. In addition to health benefits, aquatic food has a lower environmental footprint as compared to on-land protein sources.

36. Aquaculture is the fastest growing food production sector. It is an important source of livelihoods to 600 million people. Tarub Bahri outlined the [FAO Blue Transformation initiative](#) with the three objectives:

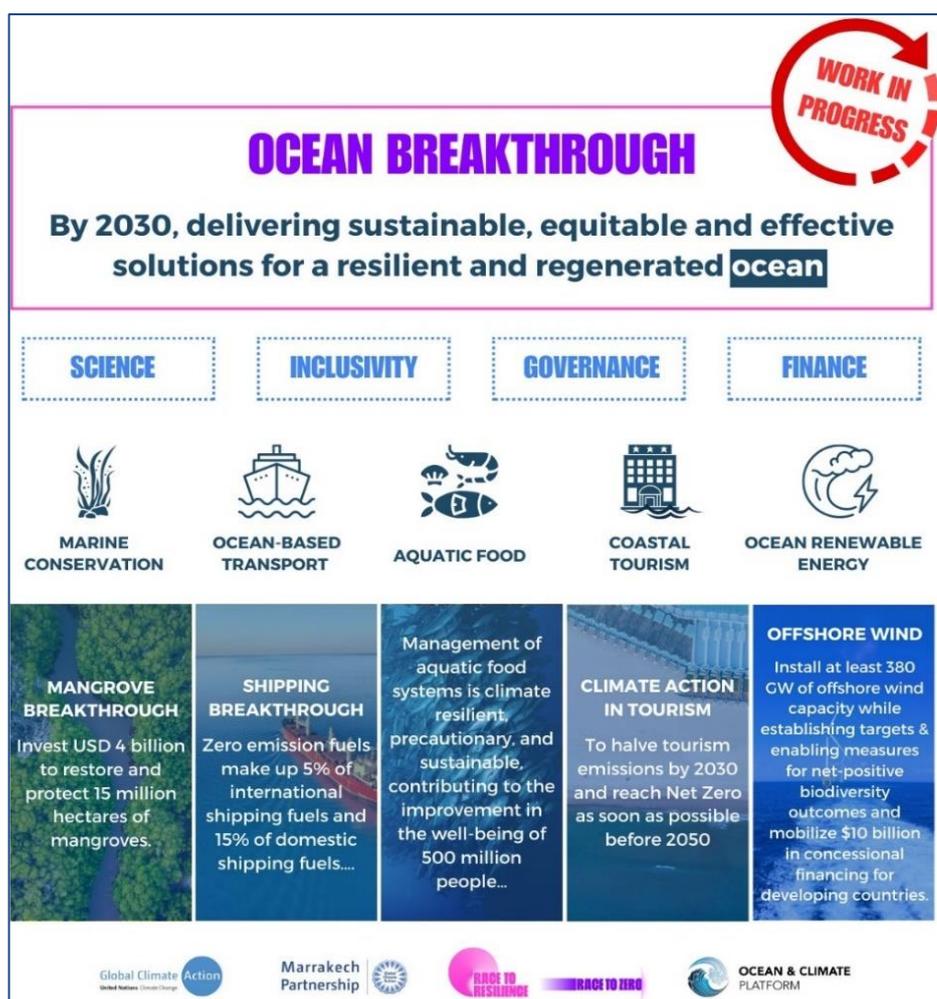
- (a) Develop sustainable aquaculture, especially in food deficient regions;
- (b) Ensure the effective management of sustainable fisheries;
- (c) Upgrade sustainable value chains to ensure the social, economic and environmental viability of aquatic food systems.

37. All speakers underscored the need for synergies across the ocean-related UN processes and international initiatives, which UN-Oceans is well placed to help coordinate. Vladimir Ryabinin emphasized that it is critical to collaborate and use the best available science for climate-smart, ecosystem-focused, ethical and equitable ocean management for a sustainable blue economy. Tristan Tyrrell called for linking agendas, policies and processes such as the NBSAPs with NDCs. He emphasized the need to apply the precautionary approach principles for any efforts on ocean-based CDR, whilst also recognizing the interconnectedness of ecosystems. Tarub Bahri concluded her presentation by emphasizing the need to upscale solutions and good practices, foster partnerships, and mobilize adequate investments, as well as the need to define the costs of adaptation and of inaction.

38. On day 2 of the dialogue, Loreley Picourt, focal point for the Ocean and Coastal zones group of the Marrakech Partnership for Global Climate Action (MP-GCA) set the scene for the panel discussions on good practices. She provided a brief overview on progress on the “Ocean Breakthrough,” a set of five ocean pathways (see figure 2) being led by the MP-GCA, with the support of the High-Level Champions. Two of the ocean pathways are directly related to the topics of the ocean dialogue. This breakthrough is currently being refined in advance of COP 28 to include concrete and quantified targets, as well as enablers to achieve the targets, based on a scientific and inclusive approach.

Figure 2

Marrakech Partnership for Global Climate Action Ocean Breakthroughs



IV. Breakout groups and panel discussions

39. This chapter summarizes the outcomes from the breakout group discussions on the two topics of the dialogue, which took place on day 1, linking in the many examples of good practice that were identified (listed in annex II). It also summarizes the in-depth case studies and other information presented during the panel discussions on day 2 of the dialogue.

40. The visual summaries were coordinated in discussion with the co-facilitators, moderators and rapporteurs to illustrate some of the key discussion points and messages. Figure 3 provides a visual summary of topic 1 breakout group discussions. Figure 4 provides a visual summary of topic 2 breakout group discussions. Figure 5 provides a visual overview of the case studies presented during the panel discussions as well as the messages to COP 28 (see chapter V for further detail of the discussions on the latter).

Figure 3
 Visual summary of topic 1 breakout group discussions

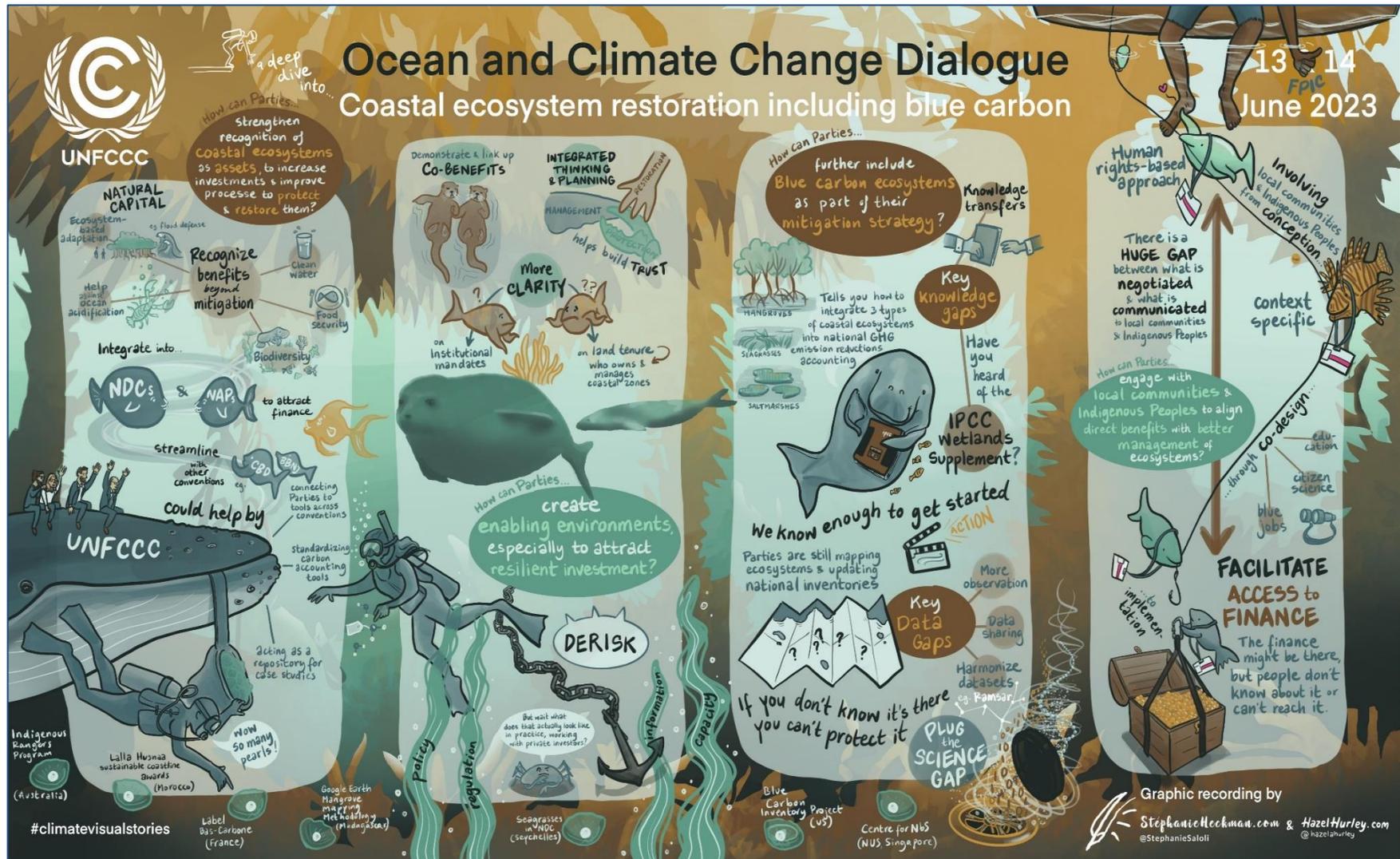


Figure 4
 Visual summary of topic 2 breakout group discussions

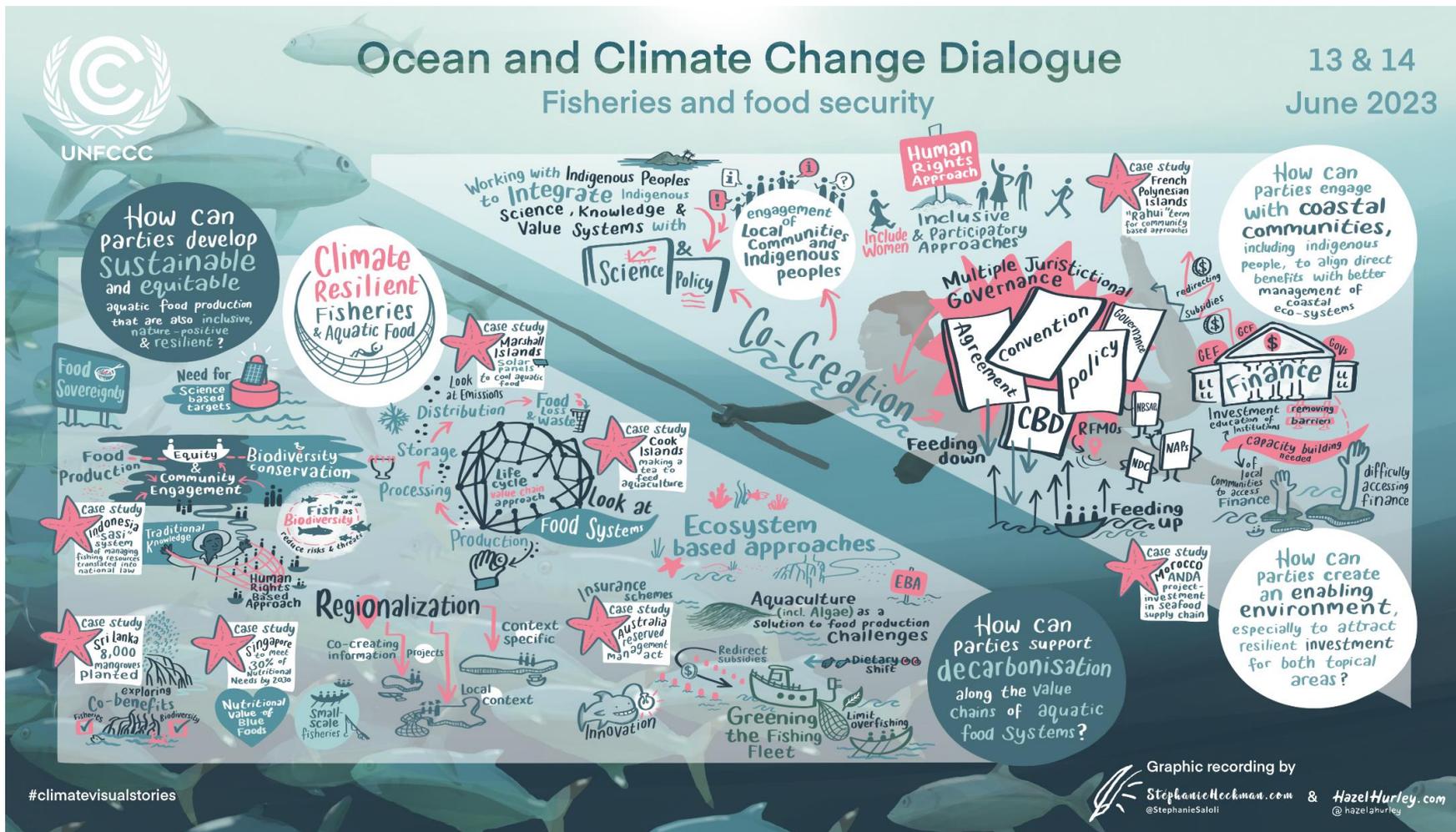


Figure 5
 Visual summary of good practices and messages for COP28



A. Topic 1 coastal ecosystem restoration, including blue carbon

1. How can Parties strengthen recognition of coastal ecosystems as assets, to increase investments, and improve processes to protect and restore them?

41. Coastal blue carbon ecosystems include mangroves, tidal and salt marshes, and seagrasses, as well as kelp forests and macroalgae. **Participants recognized the role of blue carbon ecosystems for both their mitigation and adaptation potential.** The discussions emphasized that the **mitigation potential of blue carbon ecosystems should not be an alternative to emissions reductions.** These ecosystems are thereby considered a key component of NbS to climate change and can offer mitigation benefits, along with other resilience and adaptation benefits.

42. Participants recognized the need for **a holistic approach to 100 per cent sustainably manage coastal ecosystems, emphasizing conservation is preferable to restoration.** Ecosystem services should not be seen in isolation – but rather collectively as part of a functioning ecosystem. For example, [Sri Lanka](#) is uplifting marginalized coastal communities through a holistic approach to mangrove conservation, restoration, and rehabilitation in partnership with SLYCAN Trust. This initiative tackles issues of climate change and biodiversity conservation in conjunction with social justice, and gender and youth empowerment. [The Action Platform for Source-to-Sea Management \(S2S Platform\)](#) takes a further step to provide a holistic approach in considering interconnections between land and ocean.

43. **Parties must recognize and value coastal ecosystems and their services within the decision-making processes,** such as loss and damage strategies and the development of national action plans and maps. For example, [Morocco](#) is expanding its coastal protection and restoration actions to include laws specifically on coastline conservation, sustainable management and beach cleaning initiatives in conjunction with the Lalla Hasnaa Sustainable Coast Trophies. [The EU has developed its Biodiversity Strategy for 2030](#) and [Nature Restoration Law](#) in line with the Kunming-Montreal Global Biodiversity Framework. The [US-Caribbean PACC2030](#) collaboration established a regulatory framework to support climate adaptation, strengthen energy security, and build resilience of critical infrastructure and local economies to climate change.

44. **Participants noted a lack of public awareness about coastal ecosystems,** such as [seagrass](#), and the importance of communicating the multiple co-benefits and adaptation potential of coastal ecosystems, including the benefits of nature-based solutions to policymakers. In this regard, the importance of clear messaging to advocate for the conservation of blue carbon ecosystems was emphasized.

45. **Collaboration was identified as a critical component in addressing research and knowledge gaps related to blue carbon ecosystems.** Establishment of a consortium of experts and organizations was recommended to advance scientific knowledge, for informing government policies and enhancing understanding of blue carbon ecosystems. As an example, [Singapore](#)'s new carbon market integrity research and development programme leverages satellite data and existing datasets to map out potential nature-based projects in Southeast Asia as sources of high-quality carbon credits. This research requires collaboration and information sharing between academics, government agencies and the private sector.

46. **Coordination among the government agencies is essential.** Participants identified challenges in coordination amongst the government agencies, whilst advocating for open data and information sharing practices. It was further observed that there remains a big gap at national levels between those working on “ocean” and those working on “climate”. Additionally, the importance of integrating coastal ecosystems into sectoral development policies was highlighted to ensure comprehensive and coordinated conservation efforts.

47. **Emphasizing science and knowledge is crucial to inform decision-making.** Strengthening and coordination of maritime observations is vital. [The Blue Carbon Initiative](#) was also referenced by participants. This programme aims to protect and restore coastal blue carbon ecosystems (mangroves, tidal marshes, and seagrass) by enhancing scientific

knowledge through the [International Blue Carbon Scientific Working Group](#). Furthermore, [the Global Mangrove Alliance](#) has developed mangrove restoration guidelines, that can guide inclusive science-based and best practices for mangrove interventions.

48. Coastal ecosystems hold immense ecological and economic value, necessitating their recognition as critical assets for conservation and restoration efforts. To achieve this goal, participants emphasized the significance of **implementing natural national accounting systems and identification of concrete and robust indicators to support monitoring and evaluations systems**. For example, [the Wealth Accounting and the Valuation of Ecosystem Services](#) partnership, led by the World Bank, completed a report valuing the ecosystem services of coastal mangroves in the Philippines to inform decision-making. The [Natural Capital Accounting and Valuation of Ecosystem Services Project](#), a pilot-test of the SEEA-EEA framework in Mexico assesses and accounts for the natural capital and coastal protection services of the country's mangroves.

49. **Systematic observation and data is needed to provide the basis of ecosystem extent and to map these systems** so as to understand the scale and state of coastal ecosystems. [The Tahiry Honko Project](#) utilizes the Google Earth Engine Mangrove Mapping Methodology (GEEMMM) to map Madagascar's mangroves, visualize climate change effects, and provide both quantitative and qualitative accuracy assessments. This data then serves to build community resilience through mangrove restoration and protection efforts. [The Global Mangrove Watch](#) platform was mentioned by participants as a tool to facilitate mangrove restoration and protection.

50. **Identification of the most important biodiversity and blue carbon sinks at national or regional level**, and the use of spatial tools to manage coastline and human uses (for eg: ICZM, MSP) was recommended. Participants referred to the [EU Marine Strategy Framework Directive](#) adopted in 2008 to maintain healthy, productive and resilient marine ecosystems while ensuring sustainable use of marine resources. In support of this objective, [the EU Maritime Spatial Planning Directive](#) applies an ecosystem approach to promoting sustainable use of marine and coastal space.

51. Participants discussed the need to **advance scientific understanding and guidance on marine blue carbon, blue carbon ecosystems and lateral movement of carbon within marine systems**. Participants also noted the knowledge gaps around the role of macroalgae and other coastal ecosystems for valuation.

52. For example, participants noted that [National University of Singapore](#) has established the Centre for Nature-Based Solutions to produce credible, salient, and legitimate science that informs nature-based climate strategies and actions. [The ICEF's 2023 Blue Carbon Roadmap considers](#) existing scientific knowledge of blue carbon ecosystems and their contribution to climate mitigation and adaptation, current and future technologies to protect and use blue carbon ecosystems and the potential developments of Blue Carbon Credit projects.

53. **Participants highlighted that the restoration and coastal ecosystem management must consider broader environmental conditions that might affect integrity and carbon capacity such as [ocean acidification](#)**. One opportunity identified towards meeting this objective, would be to integrate ecological restoration methods and citizen science initiatives to contribute valuable baseline knowledge for effective coastal ecosystem management and restoration.

54. **The importance of communication of science was recognized.** Communication of scientific findings and cross-calibration between different knowledge systems were emphasized as important to mobilize climate action and funding.

55. Participants also recommended a global research framework for CDR research and conducting **comprehensive social and environmental impact assessments before the deployment of CDR technologies** to prevent adverse impact on ecosystems, and in line with the CBD mandates.

2. **How can Parties further include blue carbon ecosystems (i.e., mangroves, seagrass and saltmarshes, among others) as part of their mitigation strategy and what are the key data/knowledge gaps that prevent Parties from doing so?**

56. Participants underscored the importance of including the multiple benefits of coastal ecosystems and blue carbon in Parties' commitments across the UNFCCC, including in NDCs and NAPs. This inclusion also signals government priorities and channels finance for their restoration and protection. For example, as part of the [Belize Blue Carbon project](#), the Smithsonian Environmental Research Center collaborated with government agencies and NGOs in assessing and estimating the national carbon stock of Belize's mangrove ecosystems and ecotypes. This data was used to update Belize's NDC and to inform the country's mangrove protection and restoration commitments.

57. Participants discussed the importance of **incorporation of coastal data into domestic statistics**. [The United Kingdom's Natural Capital and Ecosystem Assessment \(NCEA\)](#) science and transformation innovation programme demonstrate the importance of domestic data. NCEA aims to collect data on the extent, condition, and temporal changes on England's terrestrial and marine environments, natural capital, and benefits to society for the purpose of informing management schemes and policymaking.

58. **Blue carbon accounting emerged as a pivotal aspect**. In this regard, participants recognized the value of France's high-quality and science-based methodologies for blue carbon accounting which draw from the latest scientific literature and local data collection. [The "Prométhée-Med" research project](#) has resulted in the first low-carbon labelling methodology (Label Bas Carbone) dedicated to the effective protection and preservation of the marine environment and key habitats, like the Posidonia meadows and seagrass beds.

59. **Blue ambition in NDCs must include other habitats beyond mangroves**. For example, [Mexico](#) and the [Bahamas](#) are among a handful of countries to reference seagrass protection.

60. **Absence of data is a challenge to assess blue carbon potential**. [In Peru](#), MPAs are viewed as a key part of the blue economy. However, implementation of MPAs has been slow and data gaps remain on the contribution of MPA designation to the protection of marine ecosystem services and to local communities. Participants identified data gaps, particularly concerning the land use, land use change and forestry sector. They also noted that reporting remains non-mandatory in GHG inventories.

61. **Parties must strengthen their blue carbon accounting methodologies and reflect them in national GHG inventories**. Participants stressed the need for a common understanding of the different blue carbon accounting methodologies, including the establishment of baselines, observations and monitoring systems. It was noted that the IPCC Wetlands Supplement is not well known. Case studies for inclusion of blue carbon in national GHG inventories include [Japan](#), which has included mangroves and intends to incorporate all blue carbon ecosystems in their inventories in the future. In the [United States](#), the National GHG Inventory accounts for many coastal wetlands, including mangroves and tidal marshes, and efforts are underway to assess the feasibility of including seagrass in future reports.

62. On the interlinkages across the NDCs and The Convention on Wetlands, participants discussed how more Parties should develop national wetlands inventories to support their reporting requirements.

63. It was also pointed out that **ocean and coastal accounting methodologies should be country specific**. For example, [Australia](#) has released its first National Ocean Ecosystem Account in 2022 on mangroves, saltmarshes and seagrass. This accounting exercise considers the location, condition, and benefits of blue carbon ecosystems for biodiversity and people to inform sustainable management decisions. [Indonesia](#) is taking steps to remap their seagrass system and better account for their contribution to carbon storage and sequestration as part of the "Blue Carbon Ecosystem as Critical Natural Capital: Blue Carbon Ecosystem Governance in Indonesia" study.

64. **Participants recognized the necessity of high integrity methodologies to help build trust across multiple stakeholders**. Questions were raised about the equity of blue carbon accounting and credit schemes. The need to strengthen capacity on blue carbon

accounting methodologies and the potential of other blue carbon systems, such as macro algae and the need for further research was stressed.

65. Countries are gathering baseline data (extent of habitats, natural capital and biodiversity) but **face particular challenges to map underwater habitats** (for example, for some seagrass). In this regard, the importance of systematic observations as a verification tool was emphasized. [India's](#) mangrove initiative for shoreline habitats and tangible outcomes showcased government-led efforts to restore and protect mangrove ecosystems, with an educational component to raise public awareness and inform conservation efforts.

3. **How can Parties engage with coastal communities, including Indigenous Peoples, to align direct benefits with better management of coastal ecosystems?**

66. **Partnerships play a pivotal role in driving effective conservation endeavors.** Partnerships between governments, civil society, local communities, and Indigenous Peoples were recognized as critical for the success of conservation efforts. Adopting a holistic approach by involving all stakeholders and enhancing partnerships can further support sustainable investments and restoration endeavours for these vital habitats. [Examples such as the Mangrove Breakthrough](#) and [the High-Level Panel for a Sustainable Ocean Economy](#) showcased successful collaborations of governments and civil society for fostering action in the ocean space in protecting ecosystems and developing an ocean-based action agenda for building a sustainable ocean economy. [Additionally, UN Decade of Ocean Science for Sustainable Development](#) is a convening framework for a wide range of global stakeholders to engage and collaborate outside of their traditional communities and jurisdictions to produce the knowledge and data needed to create the “science we need for the ocean we want”. [The Programme for Blue Carbon](#) gives policymakers and scientists a space to jointly engage the role of blue carbon ecosystems in addressing climate change mitigation and adaptation. The crucial role of partnerships in mobilizing finance, particularly private finance, was also highlighted.

67. **It is crucial to strengthen governance mechanisms and enhance ministerial coordination.** Participants discussed the silos that exist among national government ministries and entities. It was recommended to adopt a systems-based approach for ministries to be able to communicate and work more seamlessly across the different government departments. For example, the [UK Blue Carbon Evidence Partnership](#) facilitates coordination across UK administrations in progressing the evidence base on blue carbon habitats and understanding the contributions of blue carbon habitats to climate adaptation benefits. The [Blue Carbon Mapping Project](#) is mapping out the carbon stored in coastal and marine ecosystems to inform conservation and adaptation decision-making.

68. There is a need to **enhance synergies between land and offshore activities and their impacts on coastal ecosystems** (for example for pollution resulting in degradation of coastal ecosystems and their carbon capacity), and offshore activities (such as CDR) was also discussed. Conducting environmental and social impact assessments before deploying coastal proposals was proposed. [The Sabin Center for Climate Change Law at Columbia University](#), with support from Ocean Visions, released the report “Developing Model Federal Legislation to Advance Safe and Responsible Ocean Carbon Dioxide Removal Research in the United States”. This report provides guidance to improve legislative frameworks for CDR research in the USA which participants believe could also serve other countries in efforts on this matter.

69. Participants emphasized the significance of bottom-up approaches, where projects are co-developed and co-implemented with the active engagement of coastal communities and Indigenous Peoples, as well as the need to find intermediaries within communities, such as local chiefs to act as a bridge to connect the coastal communities with governments and other stakeholders fostering mutual understanding and cooperation. For example, [through the America the Beautiful](#) initiative, the USA has committed to conserve, connect and restore 30 per cent of US lands and waters by 2030. This initiative now includes the oceans within the American EEZ and strives to engage Indigenous Peoples, communities and territorial governments as the established stewards and owners of ocean resources. [Australia's](#) Indigenous Ranger Programme is a national project that supports Indigenous Peoples in combining their traditional knowledge with conservation training to protect and manage their

land, sea, and cultures. This programme empowers Indigenous Peoples to manage their traditional coastal and marine environments as well as terrestrial range lands. [In Portugal](#), the Biophysical Interest Zone of Avencas was reclassified as an MPA in 2016 with a bottom-up approach that relied on strong engagement from the community.

70. **A whole of society approach was emphasized to foster understanding and support for conservation efforts** (as referred to in the ocean dialogue 2022). It was emphasized that the meaningful participation of, and collaboration with, communities can align direct benefits with better management of blue carbon ecosystems, thereby ensuring long-term sustainability and resilience. The [LIFE/VIMINE project](#) in Venice, aims to restore and conserve intertidal salt marshes as part of climate change and land erosion mitigation, with an emphasis on involving local communities and stakeholders for informed conservation practices.

71. Furthermore, the importance of adopting an intercultural rights-based approach for the valuation of the various ecosystems; and including equity as a principle for co-benefits in NDCs was emphasized. It was pointed out that local communities need to be aware of the assets/benefits of the coastal ecosystems as they will ultimately be responsible for carrying out these projects. Highlighting the importance of having a rights-based approach, it was observed that only 31 of the communicated NDCs include equity as a principle for co-benefits to both people and nature. Consequently, it was recommended to also expand the rights-based approach to include coastal ecosystems.

72. Access to data, training, and capacity-building opportunities were discussed as crucial tools to empower participation from Indigenous Peoples and local communities. Participants discussed a variety of tools for their engagement, including - providing coastal communities with more access to data, training and capacity building, and co-development of projects. For example, [the Center for Empowerment and Resource Development](#) worked to support fisherfolk in the Philippines to conserve coastal and marine resources while protecting their livelihoods. Another recommendation for ownership to communities was to establish “Citizen science through schools”.

4. **How can Parties create an enabling environment (e.g. policy, regulation, information, capacity), especially to attract resilient investments?**

73. Participants emphasized the need to adopt a **bottom-up approach to developing and mainstreaming policy mechanisms** to balance the requirements of the multilateral processes with specific local and regional necessities. That is, participants discussed having **standardized approaches and common guidelines for addressing transboundary aspects, while agreeing that policymakers must adopt a bottom-up approach to align policy decisions with local realities**. It was stated that by ensuring that global decisions and policy directions are effectively disseminated to local communities and NGOs, the same can facilitate better alignment with government priorities and enhance access to additional funding.

74. For example, [Fishing for Climate Resilience](#) is a noteworthy case that exemplifies successful collaboration. This is a partnership between Germany's International Climate Initiative, Rare, and partners from the Philippines, Indonesia, Federated States of Micronesia, and Palau to empower small-scale fishing communities to adapt to climate change, enhance coastal resilience, and restore critical habitats through ecosystem-based approaches. This collaboration with partner networks ensured that the identified and applied solutions were mainstreamed into community practice, relevant national strategies, and international processes.

75. **Building trust and promoting inclusive and equitable collaboration** between governments, international organizations, scientific institutions, the private sector, and local communities ensures that all stakeholders contribute to and benefit from blue carbon initiatives. Following good practices and principles ensures transparency and accountability, thereby fostering positive relationships. For example, [the Blue Carbon Accelerator Fund](#), from Australia and the International Union for the Conservation of Nature supports blue carbon restoration and conservation projects in developing countries and helps projects to secure future funding from the private sector.

76. Participants highlighted that “financializing” of blue carbon is a complex and multi-faceted process. To respond to local needs, participants further highlighted the necessity to establish appropriate financing mechanisms for locally channelling the global and national funding, and for accessing private sector finance. For example, [the Seychelles](#) launched the world’s first sovereign blue bond in 2018 to support sustainable marine fisheries projects and the expansion on MPAs while building up the national blue economy. The [Seychelles](#) have also undertaken a debt for nature swap by converting over USD 20 million to financing for its Blue Economy. [The Gulbenkian Blue Carbon](#) project was another example highlighted by participants. Designed to boost investment in blue carbon ecosystems in Portugal, this initiative aims to map and characterize coastal ecosystems in Portugal and their potential to sequester carbon dioxide to then enable private actors to support a portfolio of conservation and restoration actions.

77. Participants noted that to attract resilient investments for blue carbon projects, **a holistic approach must be undertaken**. This involves integrating multiple dimensions, such as adaptation, resilience, biodiversity conservation, livelihoods, relevant financing, carbon markets, non-carbon market approaches, and blue carbon actions. The adoption of Sustainable Ocean Plans as a more holistic and integrated framework for management was recommended. For example, [Ghana](#) is seeking to develop a Sustainable Ocean Plan by 2025 to ensure sustainable management of the ocean within its national jurisdiction.

78. The need for **tools for policymakers and decision makers to de-risk investments**, such as CBA were emphasized. CBA was noted as an important tool to highlight the costs and benefits of protecting mangroves rather than versus building grey infrastructure.

79. **Clear policies and regulations are needed to facilitate finance flow and de-risk investments**. Clarity on land tenure, carbon rights, resilient investment and benefit sharing to instil investor confidence was further discussed. Governments can facilitate investments by providing clear policy signals and aligning funding streams with project priorities. [The High-Quality Blue Carbon Principles and Guidance](#) report offers guidance on the development and financing of high-quality blue carbon projects and credit programmes to ensure optimized results for people, nature and climate.

80. Participants noted that exploring alternative payment mechanisms beyond carbon markets that not only focus on climate mitigation and carbon but broader ecosystem services and benefits, can help attracting a diverse range of investors. For example, the blue carbon market in [Japan](#) demonstrates how corporate carbon credit usage can support local fisheries while promoting climate mitigation efforts. Part of the proceeds gained from the selling of these carbon credits go towards local fishery operations and other concerns.

81. **Having diverse investments** especially for the initial stages of projects to be able to get them off the ground was also discussed. For example, [Costa Rica](#) has begun the Payments for Environmental Services Program where landowners receive direct payments, additional to their income from product sales, for the ecological services their land produces.

82. **Creating blue economy jobs** in conservation and restoration projects, such as mangrove restoration, can offer better economic prospects (sustainable tourism) for coastal communities while promoting the sustainable blue economy. Effective communication efforts that highlight the values of mangroves in sustainable coastal tourism and entrepreneurship initiatives can reinforce the benefits of protecting wetlands for both nature and local communities. [In Costa Rica](#), for example, a mangrove restoration pilot project in Térraba Sierpe National Wetland has proven to be economically beneficial to local communities who received USD 1,500 per hectare of wetland restored. The importance of communication tools such as storytelling to communicate globally the critical role of local communities and Indigenous Peoples was highlighted.

83. Noting the **challenges that SIDS face to access financial resources**, participants emphasized the need to consider the scale and the size of the countries. There was a difference in the amount of carbon which SIDS can sequester out of nature-based adaptation projects versus that can be sequestered by non-SIDS countries. Participants recognized the importance of the GCF and other financial entities as being an important source of financing for SIDS.

84. Participants highlighted that **training on ocean and climate across the UNFCCC process** and in national reporting would support capacity building, including for national focal points and other relevant stakeholders.

B. Topic 1 panel discussion on best practices for adaptation and mitigation

85. To deep dive into the wide range of case studies and opportunities available to strengthen ocean-based action, speakers from Parties, non-Party stakeholders and constituted bodies highlighted relevant adaptation and mitigation efforts, and cross-cutting/over-arching issues.

86. **Muhammad Yusuf, Director of Coastal and Small Islands Utilization, Ministry of Marine Affairs and Fisheries, Republic of Indonesia** highlighted several case studies that demonstrated the efforts of the government of Indonesia to protect and restore coastal ecosystems. The ['Building with Nature'](#) Initiative has helped to restore mangrove forests. The government has passed several legislations and utilized an array of policy tools to protect the mangroves, ranging from strict protection to utilization under certain economic activities.

87. Indonesia is currently in the process of pre-mapping its' other blue carbon ecosystems, primarily seagrass beds. It has requested for enhancing the seagrass carbon research so as to better account for these carbon ecosystems in its GHG inventories, and further to be able to include the GHG emissions reduction in its next NDC target.

88. Indonesia is conducting many Indigenous Peoples and local communities-based restoration projects. An example is the [mangrove restoration project](#) in Central Java with Wetland International and EcoShape that was recognized as a UN World Restoration Flagship during the CBD COP 15.

89. **Muna Ahmad Alamoodi, Director, Climate Change Department at the Ministry of Climate Change and Environment, UAE (with technical inputs from Emirates Nature-WWF)**. In her [presentation](#), Muna Ahmad Alamoodi presented on how the UAE is advancing its ['Nature-based Solutions for climate, biodiversity and society' initiative](#). This initiative is convening multi-stakeholder partnerships for a holistic approach to evaluate blue carbon and its co-benefits in multiple coastal habitats (such as mangroves, seagrass, saltmarshes, mudflats). She further explained that this initiative aims to protect and restore coastal ecosystems for biodiversity and climate benefits while increasing financial flows towards conservation.

90. The UAE is updating its NBSAP to incorporate blue carbon ecosystem components in its climate plans and targets to reach net zero by 2050. These projects have identified several avenues to incorporate carbon sequestration within their national policy strategies and coastal management planning.

91. **Susana Sousa Gonçalves, director of Civil Protection and the Resilience Hub, Municipality of Matosinhos, Portugal** presented on the municipality's Resilience Hub on Disaster Risk Reduction which is creating space for blue economy growth through community partnerships and education. This hub raises awareness and strengthens awareness-building capacity, including about coastal risks and disaster protection strategies, for youth in school and local businesses.

92. Additionally, Susana Gonçalves described how the city is working with its blue economy stakeholders and community on sustainable development. She highlighted that building awareness of disaster risk and prevention through the Resilience Hub advances adaptation, mitigation and sustainable development of the municipality's blue economy to the benefit of local businesses and community.

93. **Chris Lilyblad, Head of Strategy and Policy Unit, a.i. UNDP, Cabo Verde** [presented](#) on the [Blue X Platform](#) which was launched in collaboration with the Cabo Verde Stock Exchange to finance its updated NDC during this period of considerable public debt. The platform issues sustainable bonds, including blue, green, social and sustainability-linked bonds, and provides the necessary digital infrastructures to boost global and domestic

investments in Cabo Verde's blue economy aligned with SDGs accelerators (innovation, green and circular economy, sustainable tourism and culture, and human capital).

94. Chris Lilyblad further highlighted that the Blue X platform profits are being directed by various entities to provide loans to small-scale fisheries and entrepreneurial projects in Cabo Verde. This platform thus exemplifies how self-funding can further the blue mitigation, adaptation, and sustainable development endeavours.

95. **Stephen Minas, ocean activity co-lead and member of the TEC** [listed](#) several TEC projects and publications on the topic of the ocean, technology and climate action. The examples clearly demonstrated the crucial role of constituted bodies under UNFCCC process to integrate and strengthen ocean-based action in their existing mandates and workplans and to report on these activities within the existing reporting processes.

96. Stephen Minas highlighted the [Policy Brief: Technologies for Averting, Minimizing and Addressing Loss and Damages in Coastal Zones](#), a collaboration of TEC with the WIM Executive Committee to provide information on available technologies to address coastal climate change impacts. The TEC continues to assist developing countries with coastal ecosystem protection and restoration. For example, [the Solomon Islands](#) is receiving technical support in establishing an Integrated Coastal Zone Management Plan to protect mangroves through ecosystem-based adaptation solutions, where science and other forms of knowledge are combined to inform conservation action.

97. The TEC also published [Innovative Approaches to Ocean and Coastal Adaptation](#), released in 2022 in partnership with IUCN and the Nairobi Work Programme. This policy brief explores innovative adaptation approaches that combine technology and nature to enhance resilience in coastal and ocean-dependent communities including ecosystem-based adaptation, coastal flood mapping and early warning systems and highlights case studies from around the world. For example, [Rebuild by Design](#) is a competition model to generate innovative hybrid adaptation solutions like the “living breakwater” in New York that provides both habitat to marine species and a buffer against extreme weather.

C. Topic 2 fisheries and food security

1. How can Parties develop sustainable and equitable aquatic food production that are also inclusive, nature-positive and resilient?

98. Participants emphasized the need to **integrate aquatic food climate solutions within the UNFCCC and other relevant UN bodies and processes**. Under the UNFCCC process, participants identified the: (i) SCF, (ii) global stocktake; (iii) Nairobi Work Programme; (iv) the GGA work programme; and (v) the Sharm el-Sheikh joint work on implementation of climate action on agriculture and food security, with a specific proposal on a dedicated workshop on fisheries. Parties were urged to commit to incorporating the aquatic food sector in their NDCs, NAPs and BTRs.

99. **The need for integrated approaches across the different national government ministries was emphasized**. For example, the [Blue Coast Agreements 2030](#) has brought together 11 Fishers Local Action Groups across seven regions of Italy to implement global goals related to the blue economy and sustainable coastal development within a national and local framework. [Fiji](#) has established the Ministry of Waterways and Environment to secure a clean and healthy environment and waterways management for a sustainable and resilient Fiji. The department oversees a broad range of files from coastal and flood protection to biodiversity conservation in recognition that waterways and environment are intrinsically interlinked and connected to economic development, social wellbeing and climate change.

100. Participants stressed the **systems/ecosystems-based approach, which includes reducing and/or eliminating additional threats and pressures to marine and coastal ecosystems, for aquatic food systems that considers the whole life cycle value chain**. This approach must be informed by best available science and aligned with marine environment health. Strengthening institutions and policies for ecosystem and marine life protection was considered crucial for adaptive sustainable fisheries management practices and strategies. Participants called for mainstreaming food security into other integrated ecosystem

management approaches (such as source- to- sea) and into other government sectors, including health and tourism.

101. Several examples of the ecosystem-based approach were highlighted by participants. The [Flagship Food Systems Programme](#) launched by the Secretariat of the Pacific Community embraces a **long-term holistic approach to building a resilient and sustainable Pacific Food System to ensure food security for people in the region**. The Western and Central Pacific Fisheries Commission was also referenced: the [CPFC adopted a 2019 resolution](#) to consider climate change and its potential impacts on fish stocks and further develop the science on the relationship between climate change and fisheries. [The 2020 UK Fisheries Act](#) on adaptive fisheries management in the face of climate change provides legislation to minimize the adverse effects of climate change on fish and aquaculture activities while supporting their adaptation.

102. **Climate-smart planning for the ocean was advocated to facilitate food security and for ocean sustainability**. This included climate-resilient marine spatial planning, considering climate monitoring, and incorporating local knowledge to ensure that planning includes mitigation and adaptation activities and co-benefits.

103. Participants highlighted the vital importance of **protecting all coastal ecosystems, such as mangroves and coral reefs**, as they are also providers of nurseries. For example, [Australia's Coral Reef Resilience Initiative](#) adopts an ecosystem-based approach to coral restoration, which studies the potential for fish husbandry and herbivory to promote coral recovery.

104. Participants stressed the need for the **adoption of a precautionary approach for preserving ecosystems by eliminating additional risks, including bottom trawling, deep sea-bed mining and mangrove deforestation**.

105. Participants noted an increasing interest **shifting away from fish towards algae-based foods**. Participants also called for the recognition of the diversity of blue food systems to ensure sustainable and equitable aquatic food production, and for realizing the multiple benefits. For example, in [Latin America and South East Asia](#), the production of micro and macroalgae in combination with shrimp aquaculture can help treat wastewater, ensure nutrient cycling and achieve a circular system.

106. Participants discussed the need to **address policy barriers including preventing competition with the small-scale fishers** who were considered informal traders, to ensure they had access to funding. The need for stronger leadership from policy makers and strengthened governance by having more ambitious standards and policies, was emphasized to ensure the sustenance of fish stocks.

107. Participants also stressed the importance of considering integration from a geographical perspective, such as across maritime borders, EEZs, and high-seas boundaries. In this regard, **linking with the International legally binding instrument under United Nations Convention of Law of the Sea for the conservation and sustainable use of marine biological diversity beyond national jurisdiction** was emphasized as crucial. Furthermore, a call was made for a more robust and globally uniform implementation of MPAs, including those in the high seas.

108. The need for **coordination across jurisdictional boundaries and capacity-building for governments** and fisheries on best practices was highlighted. Information sharing and a dedicated space for knowledge exchange were advocated, along with global collaboration to ensure that the LDCs were not undermined in the global market. A replicable model is a project underway in Namibia by [Friends of Ocean Action](#) to repurpose seafood loss and waste. This initiative centres on bringing together policymakers, businesses and civil society to develop replicable models to maximize by-product utilization in the seafood business and reduce waste.

109. Participants emphasized the **need to involve the private sector in sustainable blue food production** given the linkages between tropical coastlines and the terrestrial space. For example, [Suriname's](#) seabob fishery is the first credibly certified sustainable shrimp fishery in the region thanks to collaboration between government, industry and the Marine Stewardship Council. [A new mangrove conservation and restoration project](#) in Suriname's

Bigi Pan Multiple Use Management Area has also recently received funding from the Inter-American Development Bank to protect coastal ecosystems while establishing sustainable harvesting incentives and sustainable livelihood programs in cooperation with public and private actors.

110. **Science and data are vital in the design for equitable and sustainable food production.** Participants emphasized the need for scientific advancement to inter-alia understand the consumption of fossil fuels by fisheries and for the adaptation of fishing practices through cross sectoral and integrated approaches. Participants also emphasized that fisheries policies and decision-making should be based upon the best available science (including maximum sustainable yields/total allowable catch).

111. Several examples were showcased on science for improved decision-making and sustainable food production. [Singapore](#) has set a national target of 30 by 30 aiming to meet 30 per cent of nutritional needs from sustainable sources by 2030, including through fisheries and aquaculture. To achieve this, Singapore has developed the Aquaculture Plan, which focuses on research and technological advancements to improve sustainability and productivity in aquaculture. By leveraging science and data-driven approaches, Singapore aims to ensure the sustainable production of aquatic food. [The Marshall Islands](#) uses solar powered refrigerators to limit food loss and improve infrastructure. These sustainable freezers allow community members to freeze their fish and other food for long-term storage. [Peru, Ecuador and Chile](#) have developed the Observation, Prediction and Early Warning System for the Humboldt Current fisheries to allow scientific institutions to share data, collaborate on ecosystem modelling and establish early warning indicators for adaptive management of key fisheries.

112. **Access to data and information for all stakeholders was identified as crucial.** [Participants highlighted the Pacific Community Centre for Ocean Science](#) and the [Climate and Ocean Support Programme in the Pacific](#) as useful community hubs for advancing science, technology and innovation for sustainable development. To promote better understanding of the value of marine ecosystem services, there was a call for organized forums with youth inclusion. These forums could equip coastal communities with the necessary information to make informed decisions about coastal management and its benefits.

2. **How can Parties support decarbonization along the value chains of aquatic food systems (e.g., technology efficiency, replacement of fish-based feed ingredients, production closer to the final market, reduced reliance on fossil fuel)?**

113. Participants emphasized the need for **decarbonization across the entire fisheries value chain**. In this context, participants urged the setting of ambitious targets for reducing fishing fleet emissions and for sharing information on seafood emissions. This was especially recommended for the smaller fleets where implementing such targets is easier.

114. Several case studies were shared of decarbonizing fishing vessels, including through alternative fuels, cold storage, electrification, and hybrid vessels. [The Government of South Korea](#) announced its “2050 Carbon Neutrality Roadmap for Marine and Fishing Sectors” which includes plans to transition all government-owned ships to low carbon vessels by 2050 and to mobilize funds to assist national shipping companies in their shift to green vessels. [In the UK, the Seafood Fund](#) has an ongoing funding round dedicated to supporting small-scale coastal fishing fleets in replacing their engines with more environmentally friendly alternatives. [Participants highlighted Canada’s Fisheries and Aquaculture Clean Technology Adoption Program \(FACTAP\)](#) that assists the fisheries and aquaculture industry in improving environmental performance. This fund has notably supported fishing companies in transitioning their vessels to environmentally friendly engines that produce fewer emissions. [Australia’s National Fisheries Plan](#) includes adaptation targets to achieve by 2030 to ensure the resilience of the fisheries, aquaculture and seafood sector to the changing climate.

115. Participants also recognized the need to **decarbonize aquaculture practices**, including “greening” the fish feeds and systems. For example, [the European Commission](#) released an action plan to decarbonize fisheries and aquaculture by 2050, notably by retrofitting marine aquaculture service vessels or pursuing sustainable feed alternatives. [In](#)

[the United States, the Alternative Feeds Initiative](#) run by the National Atmospheric and Oceanic Administration and the Department of Agriculture aims to accelerate the development of alternative fish feeds in aquaculture and reduce the use of fishmeal and fish oil.

116. **Management and stewardship are crucial to minimize the carbon footprints of fish fleets.** Participants discussed the importance of managing fishing activities to decrease negative impacts on fisheries and to minimize the carbon footprint of fish fleets. Participants further emphasized acknowledging shrimping as the largest cause of mangrove deforestation. [Participants referenced the research article](#), “Overfishing Increase the Carbon Footprint of Seafood Production From Small-Scale Fisheries”, where results indicated rebuilding fishing stocks and minimizing intensive fishing practices can contribute to decreasing the carbon emissions from motorized wild-catch fishing.

117. Participants urged **reducing overfishing by industrial fishing fleets and removing harmful fisheries subsidies**, including fuel subsidies for industrial fishing fleets, by ensuring the entry into force of the WTO’s Fisheries Subsidy agreement.

3. How can Parties engage with coastal communities, including indigenous peoples, to align direct benefits with better management of coastal ecosystems?

118. Participants emphasized the critical need to **value and include traditional and indigenous knowledge, voices of [small-scale fishers](#), youth, women, and other vulnerable local groups**. Participants emphasized the adoption of participatory approach principles to ensure the inclusion of all stakeholders throughout the design and implementation of any project, policy or plan. Participants also acknowledged the need for cultural sensitivity and respecting traditional customs and practices.

119. It was urged that **Parties respect, protect, and uphold the internationally recognized human rights of the small-scale artisanal fisheries, indigenous fishing communities and local communities when taking any measures**. [Peru recently approved a new “Five Mile law”](#) that protects traditional artisanal fishing rights within five nautical miles of the coastline. By establishing a protection zone, this law is intended to support better living conditions for fisher people as well as coastal and ocean biodiversity. [In Madagascar, the Velondriake](#) community of traditional fisher people are testing and scaling community models using locally managed marine areas. [An Australian initiative](#) is also underway to scale up community-based fisheries management in Kiribati, Solomon Islands and Vanuatu and support resilient coastal communities.

120. Participants emphasized the **importance of integrating indigenous knowledge systems and local practices with science and policy, adopting a rights-based approach, and recognizing the human right to a clean, healthy, and sustainable environment**. For example, [New Zealand](#) designated 50 per cent of its fisheries to Indigenous Peoples (Māori) in its Regional Comprehensive Economic Partnership. This action boosted the business opportunities of the Māori, while protecting their traditional knowledge and using it for land and marine management. [In French Polynesia, Rāhui](#), the Tahitian term for integrated community-based natural resource conservation involves strategic closure of an area to extractive activities of one or more species to protect and manage fisheries.

121. Participants emphasized the need for **inclusive consultations both during the development of policies, as a mechanism to monitor the effectiveness of these policies and to share the best practices**. The importance of utilizing voices and knowledge of vulnerable people within communities and the importance of considering different gender roles of men and women fishers within different communities into management, policy, and science processes was stressed, as it enhances their role as custodians of the land and promotes food sovereignty. [In Colombia](#), fishermen, local leaders and fisheries experts were the primary sources in a study identifying priority issues for small-scale fisheries management.

122. It was recognized that some communities may lack awareness of how to engage with decision-making processes related to fisheries and marine management. To address this, participants stressed the importance of **empowering Indigenous Peoples and local communities through capacity building**. Participants highlighted [sasi](#), a traditional

institution for resource management in the Maluku islands, Indonesia, which prohibits harvesting to protect scarce resources and maintain ecological balance. These customary rules apply both to terrestrial and marine environments, including to fisheries in coastal waters and estuaries.

4. How can Parties create an enabling environment (e.g. policy, regulation, information, capacity), especially to attract resilient investments for both topical areas?

123. Participants emphasized the lack of adequate funding for the implementation of SDG 14 and the urgent need to increase financial support for sustainable fisheries and aquaculture, especially for small-scale fisheries that often face barriers to accessing funding. ORRAA provided a number of examples as part of their panel presentation (see below paras 139–140). [The UK’s Fisheries Industry Science Partnership \(FISP\) scheme](#) aims to foster collaboration between the seafood industry and research institutions to improve knowledge and data for species protection. [The European Maritime, Fisheries and Aquaculture Fund](#) provides support for innovative projects advancing sustainable fisheries and management of marine biological resources in the EU.

124. **Recommendations to the SCF to include blended finance in its workplan and to financing entities (GCF and GEF) to increase ocean-related investments were urged.** The GCF and GEF were urged to increase ocean-related investments. The funding gap for SDG 14 was specifically pointed out, urging the SCF to consider the topic of blended finance for ocean. Additionally, there was a call to build awareness and capacity of funding institutions, including the GEF and the GCF, to better facilitate access to funds for small-scale producers. GEF was specifically highlighted as needing guidance on ocean-related investment for climate-resilient fisheries.

125. Participants also called for Parties to consider how to address ocean acidification under the UNFCCC process, including to understand the impacts on food security and coastal ecosystems.

126. Participants emphasized the importance of access to cutting-edge technology and technology transfer, and allocation of funding for new technologies. This includes for areas pertaining to mesopelagic fisheries, deep-sea fishing and aquaculture systems, including closed system aquaculture, that can significantly reduce fossil fuel intensity and CO₂ emissions. For example, [Japan](#) has developed a strategy for sustainable food systems or “Midori” which aims to achieve zero CO₂ emissions from fossil fuels in fisheries by 2050 through innovation and community engagement.

127. Participants noted the use of multi-trophic aquaculture and its potential to aid food security. For example, 3D Ocean Farming is a novel approach to multi-trophic aquaculture. This model consists of farming shellfish alongside seaweed to cut required inputs and produce high yields. [Thimble Island Ocean Farm](#) is one of the first community supported fishery in the USA to adopt this method of aquaculture.

128. Participants emphasized the crucial role of and collaboration with Indigenous Peoples to advance technology and transition away from fossil fuels in fisheries. Additionally, participants stressed that the principles of just transition, food security, and poverty eradication should be at the forefront of all decarbonization efforts, ensuring that no one is left behind in the pursuit of sustainability. [Senegalese women](#), for example, who play a vital role in the processing/cooking of fish products, have replaced traditional ovens that posed risks to environment and health with modern efficient technologies. This shift has reduced the deforestation and natural degradation that resulted from firewood harvest and contributed to empowering female fishers and limiting waste and overfishing.

129. Capacity building is essential for both governments and fisheries to ensure effective communication and sharing of knowledge for best practices amongst stakeholders was highlighted. Skill development and training for fishing communities were underscored, enabling them to embrace sustainable practices and operate more efficiently while preserving their traditional livelihoods.

130. Development of regulatory frameworks and social-legal safeguards were highlighted as essential for facilitating access to investment and funds in the context of sustainable

fisheries and aquaculture and ecosystem-based solutions. Concerns were raised about fossil fuel finance to larger fisheries, which could put small-scale fisheries at risk due to increased competition. Participants referred to the [implementation of the FAO “Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries”](#) as a valuable step in enhancing the resilience of small-scale fishing communities against the impacts of climate change.

131. Ensuring access to finance for small-scale producers emerged as a key concern. Participants stressed the importance of removing unnecessary barriers to facilitate easier access to funds. Participants also emphasized considering more innovative approaches to finance such as life insurance for fishers. To address this, participants emphasized the importance of providing training and education.

132. Participants further stressed prioritizing the implementation of port State measures and enhancing monitoring and enforcement against IUU fishing. Participants also called for greater formalization of the small-scale fisheries sector. For example, within [the Singapore Aquaculture Plan](#), the Singapore Food Agency is launching a new long-term lease for sea spaces to provide farmers with certainty of their tenure.

133. The importance of partnerships in bringing together stakeholders and ensuring community engagement throughout financing processes was underlined. Participants emphasized the need for capacity-building programmes and educational initiatives. This included focusing on knowledge-brokering and establishing networking platforms to support coastal communities. For example, [the Blue Food Partnership](#), led by Friends of Ocean Action, fosters collaboration between governments, NGOs, the private sector, intergovernmental organizations and scientists in improving and scaling up the blue foods sector. [The USA has also partnered with the Ocean Risk and Resilience Action Alliance](#) to support the Coastal Risk Index, a modelling tool capable of mapping flooding risks and the protective benefits of mangroves and coral reefs. The USA is specifically supporting the application of the Coastal Risk Index to inform local resilience stakeholders as showcased by a case study in the Dominican Republic.

134. Participants stressed the importance of establishing conflict resolution and mediation mechanisms across the entire chain of financing and policy making. Towards this end, the importance of considering governance arrangements between Indigenous Peoples and the non-Indigenous Peoples was emphasized to address resource conflicts and ensure inclusive decision-making processes.

135. Some participants mentioned the need for a formal compensation mechanism to protect the fishers, especially under the 30 by 30 initiative (protecting 30 per cent of the world's ocean by 2030). Compensation at both the national and international levels, for fishers who have lost fisheries due to climate change (e.g., shifting fish stocks) or for protecting fish stocks through good behaviour incentives, was emphasized.

D. Topic 2 panel discussion on best practices for adaptation and mitigation

136. Several speakers presented on solutions emerging out of aquatic food systems and sustainable fisheries and aquaculture for enhancing ocean-climate action and national ambition.

137. **Gwen Sisior, Ocean Advisor to the PSIDS Chair, Palau** presented on how Palau has protected fish nurseries, including mangrove habitats by instituting moratoriums in line with local and traditional cultural practices. Palau has also introduced multi-trophic aquaculture with fish, clams and sea cucumbers to meet the population's demand for subsistence despite limited access to fisheries.

138. Gwen Sisior shared that community involvement and the integration of local traditions and culture has been vital throughout the process of developing a sustainable aquatic food system in Palau. This approach has helped reduce pressure on fish stocks and balance both community and environmental concerns.

139. **Ariane Steinsmeier, Director Innovation and Scaling, ORRAA** showed how the alliance is supporting the development of micro credit and saving schemes to upgrade deep-

water tubular nets for seaweed fishing in coastal Tanzania. She further shared that the project aims to build capacity for women to produce seaweed-derived products and to improve financial literacy. The project is thereby successfully showcasing how environmental protection can be tied to social advancement for marginalized communities.

140. Ariane Steinsmeier also presented on ‘Strengthening the Financial Resilience of Small-Scale Fishers’ project that was being led by Rare and supported by the alliance. This initiative aims to help small-scale fishers in the Philippines and Indonesia access insurance products to protect livelihoods and assist coastal communities in recovering from climate-related events.

141. **German Velasquez, Director, Division of Mitigation and Adaptation, GCF** highlighted how the GCF is supporting several ocean initiatives. GCF has invested USD 25 million to introduce technology improvements to diversify livelihoods and increase resilience of fishing infrastructure in the face of climate change in Gambia.

142. Additionally, German Velasquez shared that the GCF has globally invested USD 780 million, corresponding to 6 per cent of GCF investments, into ocean projects such as coastal zone protection, livelihood protection, marine fisheries, reef protection, agriculture, and hydroponics. He also presented on the Blue Halo project in Indonesia, a blended finance model that incorporates more advanced technology into local fisheries to produce higher yields and reduce losses.

143. **Tiana Carter, Co-Chair, Facilitative Working Group of the LCIPP** brought attention to the various ways in which traditional and indigenous knowledge can be harmonized with modern methods of climate change mitigation and adaptation. One such example are the Hawaiian fishponds, a traditional aquaculture system that is being restored to provide sustainable protein production for communities and additionally counter climate change effects like coral bleaching, beach erosion, and reef loss. This example represents the harmonization of tradition with modern methods of climate mitigation and adaptation.

144. Tiana Carter further presented another case study from the Pacific region where the Māori have a rich tradition of restricting food gathering or access to certain areas of water or land to protect traditional food resources and maintain ecological balance in response to declining fish stocks.

V. Ways forward

145. For the closing plenary session of the dialogue, we invited Parties and non-Party stakeholders to discuss the key messages moving forward for Parties as well as messages for COP 28. We shared three guiding questions. This chapter summarizes the oral and written statements provided in response to the guiding questions. Annex III contains a list of the Parties and observer organizations that made oral and written submissions.

A. Key Messages for COP 28

146. It is crucial that Parties mainstream ocean-related mandates from COP 26 and COP 27/ CMA 4 into their national climate goals and in the implementation of these goals, as well as within UNFCCC processes, including in the global stocktake political outcomes, GGA, and the financial mechanism.

147. The global stocktake is a unique opportunity to highlight the importance of the ocean in the global response to climate change and for the global stocktake political outcomes to promote the establishment of guidelines for Parties to be able to include and strengthen ocean-based measures in their updated NDCs, NAPs, and other national strategies throughout future implementation of the Paris Agreement.

148. Institutional linkages must be strengthened between partners at national and international levels and across UN mandates and processes such as the International legally binding instrument under United Nations Convention of Law of the Sea for the conservation and sustainable use of marine biological diversity beyond national jurisdiction and the

Kunming-Montreal Global Biodiversity Framework to enhance global ambition and action for a climate resilient ocean.

149. Secretariat resources should be strengthened to follow up on Parties' policies and practices to enable the necessary scaling up of ocean-based climate mitigation and adaptation actions.

150. All constituted bodies should be encouraged to continue reporting on ocean-related activities in the context of their mandates, and at the Ocean Dialogue.

B. Responses to guiding questions

1. What is needed to further centralize the role of the ocean in climate change mitigation and adaptation through UNFCCC processes, including the global stocktake?

151. With a total of 252 positive case examples shared by 141 participants of the dialogue, it is clear that the ocean is a space for specific climate ambition. There is an increasing recognition of the fact that the ocean should not just be seen as a victim of climate change impacts, but that it is a place where urgent climate action is needed, and it can provide significant positive potential. Consequently, as this dialogue has made it clear- there is an urgent need to place the ocean within the solution space under the UNFCCC, especially coming out of the global stocktake.

152. Submissions, inter alia, called for:

(a) Stronger integration of the ocean within the [global stocktake](#) outcomes and decision;

(b) Parties to respond to the mandates of COP 25 [Chile Madrid Time for Action](#), [Glasgow Climate Pact 2021](#), the [COP Sharm el-Sheikh Implementation Plan](#) (decision 1/CP.27 para. 50) and [CMA Sharm el-Sheikh Implementation Plan](#) (decision 1/CMA.4 para. 79);

(c) Increasing national climate ambition by incorporating ocean in the NDCs, BTRs and NAPs;

(d) Building partnerships and guidance to support interested Parties in integrating blue carbon ecosystems and aquatic food in their national plans;

(e) Identifying quantifiable targets in NDCs to reflect ocean-based action;

(f) Leveraging the SCF to explore links between existing climate finance programmes and ocean monitoring, science, and adaptation needs outlined through NDCs, NAPs, and national adaptation projects and for the SCF to include ocean-related finance in its annual work programme;

(g) Addressing the topic of aquatic food within discussions on the implementation of climate action on agriculture and food security;

(h) Building synergies for coastal and marine NbS and biodiversity and blue carbon ecosystem-based management across international policy processes, including with Kunming-Montreal Global Biodiversity Framework, The Convention on Wetlands, the 2030 Agenda for Sustainable Development, and the International legally binding instrument under United Nations Convention of Law of the Sea for the conservation and sustainable use of marine biological diversity beyond national jurisdiction;

(i) Communicating to inform the public and stakeholders about the value of blue carbon ecosystems and aquatic food and embedding these values into policy and action, including through an officer-level policy and program information exchange.

2. How can the discussions from day 1 be translated into actionable recommendations that can lead towards more climate action in the ocean?

153. The plenary discussions and submissions identified a number of opportunities to translate the discussions into further action:

(a) Parties should use the summary report and case studies to help identify opportunities for ocean-based action in their national climate goals, NDCs, long-term strategies, and adaptation communications/ plans;

(b) Direct contact between experts through officer-to-officer engagement could help build capacity to scale up ocean-based climate mitigation and adaptation actions;

(c) Guiding principles could be structured at local, domestic and international levels to facilitate effective ocean climate action for Parties and stakeholders, based on their diverse circumstances;

(d) Recommendations to communicate the importance and value of different ecosystem services provided by the ocean, including provisioning, regulating, supporting, and cultural services could be developed;

(e) Technical guidelines could be developed for the two topics as well as for strengthening finance, capacity building and technology;

(f) Synergies in finance, technology, adaptation, and capacity building could be further explored to integrate and strengthen ocean-based action within mandates and work plans;

(g) Parties should support observation, research and data management to build greater understanding of the ocean carbon cycle.

3. How can the dialogue be further strengthened in the future to provide more concrete actions and messages for COP?

154. Submissions and discussions highlighted a number of points to strengthen the work moving forward:

(a) Maintaining this year's approach and breakout group structure was highly recommended and the dialogue should remain action oriented, multistakeholder, consultative and focused in its agenda;

(b) Participants asked to receive the topics and information note sufficiently early in advance to allow for better engagement;

(c) The dialogue could help identifying synergies and gaps across various sectors, programs, and agencies, whilst avoiding duplication of processes;

(d) Discussions could be linked to areas of relevance such as the global stocktake and the GGA work programme, and how the UNFCCC processes can be used to help address key barriers to ocean action;

(e) Include a focus on filling knowledge gaps that prevent the ocean from being effectively included in NDCs. Gaps identified included: knowledge of land use change since 1990 and the impact of the various management practices on blue carbon ecosystems, organic carbon, and soil; including in the high seas and deep sea; including drivers of loss and change in ocean and marine ecosystems and habitats; including the diversity of aquatic food systems; and highlighting the importance of regional risk and vulnerability assessments to identify the combined impacts of ocean warming, acidification, and deoxygenation;

(f) **Future topics could** incorporate gender-responsive and human-rights based approaches; integrate a stronger ocean mitigation focus (particularly "green shipping" and "responsible development of offshore wind and other marine renewable energy"); and cover topics including sea level rise, ocean acidification, and synergies that consider deep ocean and marine areas beyond national jurisdiction;

(g) **Outcomes should also be recognized within other discourses** including means of financing and implementation related to existing funds, science, adaptation needs, technologies; sustainable development; inclusion; information sharing; strengthening the skills of the workforce; improving the business environment; access to financial opportunities; and focusing on solutions;

155. Parties could consider requesting the IPCC provide a follow-up report on methodologies for measuring blue carbon, with a focus on kelp forests.

Annex I

Moderators and rapporteurs of breakout groups

	Moderator	Rapporteur
Topic 1		
1	Loreley Picourt, Ocean and Climate Platform	Tom Hickey, Pew
2	Kilaparti Ramakrishna, Woods Hole Oceanographic Institution	Marina Antonopoulou, World Wide Fund for Nature, UAE
3	Martin Sommerkorn, World Wide Fund for Nature, Arctic	Jill Hamilton, Conservation International
4	Lisa Schindler Murray, Rare	Beatriz Marchado Granziera, The Nature Conservancy
5	Ambrosio Yobanolo del Real, Co-chair of the TEC	Luz Gil, The Nature Conservancy
Topic 2		
1	Tarub Bahri, Food and Agriculture Organization of the UN	Marine Lecerf, Ocean & Climate Platform
2	Pauli Merriman, World Wide Fund for Nature	Matt Frost, Plymouth Marine Laboratory
3	Jessie Turner, Ocean Acidification Alliance	Mitchell Lennan, One Ocean Hub
4	Mark Haver, Blue Green Generation	Whitney Berry, Ocean Conservancy
5	Karly Kelso, Environment Defense Fund	Katie Thiessen, YOUNGO

Annex II

List of best practices and case studies from breakout groups

1. A total of 252 case studies and practices were provided by 141 participants. 158 case studies were provided for topic 1 by 98 participants. 98 case studies were provided for topic 2 by 94 participants. 31 case studies from topic 2 overlapped with topic 1 case studies. Owing to the large number of cases provided, this annex lists the cases and best practices that have been referred to in this summary report. A complete list is available on the ocean [webpage](#).

Table 1

Topic 1 breakout group case studies and best practices

<i>Case study, collaboration, resource tool, methodology</i>	<i>Implementing country, agency, or organization</i>
1 Accounting for natural capital and ecosystem services	Philippines
2 Action Platform for Source-to-Sea Management (S2S Platform)	Stockholm International Water Institute
3 Addressing Climate Change and Uplifting Marginalized Coastal Communities through Mangrove Conservation	SLYCAN Trust; Sri Lanka
4 America the Beautiful Initiative	United States of America
5 Avenca MPA	Portugal
6 Belize Blue Carbon Project	Smithsonian Environmental Research Center
7 Blue Carbon Accelerator Fund	Blue Natural Capital, International Union for Conservation of Nature
8 Blue Carbon Ecosystem as Critical Natural Capital: Blue Carbon Ecosystem Governance	Indonesia
9 Blue Carbon Initiative	Blue Carbon Initiative
10 Blue Carbon Offset Crediting Market	Japan
11 Blue Carbon Roadmap: Carbon Captured by the World's Coastal and Ocean Ecosystems	Innovation for Cool Earth Forum
12 Carbon Market Integrity Research and Development Programme	National University of Singapore, Singapore's National Research Foundation
13 Centre for Nature-based Climate Solutions	National University of Singapore, Singapore
14 Coastal Risk Index (CRI)	Ocean Risk and Resilience Action Alliance
15 Community-based coastal and resource management in the Philippines	Center for Empowerment and Resource Development
16 Developing Model Federal Legislation to Advance Safe and Responsible Ocean Carbon Dioxide Removal Research in the United States	Sabin Center for Climate Change Law at Columbia University with support from Ocean Visions
17 EU Biodiversity Strategy for 2030	European Union
18 EU Marine Strategy Framework Directive	European Union
19 EU Maritime Spatial Planning Directive	European Union
20 EU Nature Restoration Law	European Union

<i>Case study, collaboration, resource tool, methodology</i>	<i>Implementing country, agency, or organization</i>
21 UK Blue Carbon Evidence Partnership	United Kingdom
22 Fishing for Climate Resilience projects in the Philippines, Indonesia, Federal States of Micronesia, and Palau	Rare
23 Global Mangrove Alliance	Global Mangrove Alliance
24 Global Mangrove Watch	Global Mangrove Alliance
25 Global Ocean Decade	United Nations Educational, Scientific and Cultural Organization
26 Global Ocean Decade Programme for Blue Carbon	United Nations Educational, Scientific and Cultural Organization
27 Gulbenkian Blue Carbon project	Calouste Gulbenkian Foundation in Portugal
28 High Level Panel for a Sustainable Ocean Economy	World Resources Institute
29 High Quality Blue Carbon Principles and Guidelines	Conservation International, Friends of Ocean Action, Ocean Risk and Resilience Action Alliance et al.
30 Indigenous Rangers Program	Australia
31 International Blue Carbon Scientific Working Group	Blue Carbon Initiative
32 Lack of public awareness about seagrass	
33 Lalla Hosnaa Sustainable Coast Trophies	Morocco
34 LIFE/VIMINE Project in Venice	Italy
35 Mangrove Breakthrough	Global Mangrove Alliance
36 Mangrove Initiative for Shoreline Habitats and Tangible Incomes (MISHTI)	India
37 Mangrove restoration pilot project Térraba Sierpe National Wetland	Costa Rica
38 MPAs and blue carbon	Peru
39 National GHG Inventory Report includes mangroves	Japan
40 National GHG Inventory includes coastal wetlands	United States of America
41 National Ocean Ecosystem Account	Australia
42 Natural Capital Accounting and Valuation of Ecosystem Services (NCAVES) Project	UN and System of Environmental Economic Accounting in Mexico
43 NDC Mexico	Mexico
44 NDC Bahamas	The Bahamas
45 Payments for Environmental Services Program	Costa Rica
46 Prométhée-Med project (Label Bas Carbone)	France
47 Seychelles debt for nature swap and blue bond	Seychelles
48 Sustainable Ocean Plan	Ghana
49 The Tahiry Honko Project	Blue Ventures and Madagascar
50 U.S.-Caribbean Partnership to Address the Climate Crisis 2023 (PACC2030)	United States of America and the Caribbean (Dominican

<i>Case study, collaboration, resource tool, methodology</i>	<i>Implementing country, agency, or organization</i>
	Republic, Barbados, Jamaica, Guyana, Antigua and Baruba, Dominica, Suriname, St. Lucia)
51 UK Blue Carbon Evidence Partnership	United Kingdom's Centre for Environment, Fisheries, and Aquaculture Science
52 UK Natural Capital and Ecosystem Assessment (NCEA)	United Kingdom

Table 2
Topic 1 panel case studies and best practices

<i>Case study, collaboration, resource tool, methodology</i>	<i>Implementing country, agency, or organization</i>
53 Blue-X Platform	Cabo Verde
54 Building with Nature Initiative	Indonesia
55 Innovative Approaches for Strengthening Coastal and Ocean Adaptation	International Union for Conservation of Nature and TEC
56 Multi-habitat carbon-stock assessment	United Arab Emirates
57 Municipality of Matosinhos' work with blue economy and community stakeholders	Portugal
58 Nature-based Solutions for Climate, Biodiversity, and Society Initiative	United Arab Emirates
59 Oceans and Coastal Zones	International Union for Conservation of Nature and Technology Executive Committee
60 Pre-Mapping Blue Carbon Ecosystems	Indonesia
61 Resilience Hub on Disaster Risk reduction	Portugal

Table 3
Topic 2 breakout group case studies and best practices

<i>Case study, collaboration, resource tool, methodology</i>	<i>Implementing country, agency, or organization</i>
62 2050 Carbon Neutrality Roadmap for Marine and Fishing Sectors	Republic of Korea
63 3D Ocean Farming	Thimble Island Ocean Farm
64 Alternative Feeds Initiative	National Atmospheric and Oceanic Administration and the Department of Agriculture, USA
65 Blue Coast Agreements 2030	Italy
66 Blue Food Partnership	Friends of Ocean Action, World Economic Forum and World Resources Institute
67 Certification sustainable shrimp farming	Suriname
68 Climate and Ocean Support Programme in the Pacific (COSPPAC)	Pacific Community

<i>Case study, collaboration, resource tool, methodology</i>	<i>Implementing country, agency, or organization</i>
69 Community-based Fisheries Management in Kiribati, Solomon Islands and Vanuatu	Australia
70 Coral Reef Resilience Initiative	Australia
71 Efficiency improvements in fish processing technology for women	Senegal
72 EU Action Plan on Energy Transition in Fisheries and Aquaculture	European Union
73 European Maritime, Fisheries and Aquaculture Fund	European Union
74 Five Mile Law	Peru
75 Fisheries and Aquaculture Clean Technology Adoption Program (FACTAP)	Canada
76 Flagship Food Systems Programme	Pacific Community
77 Improving circular economy in brackish shrimp aquaculture	Latin America and South East Asia
78 Local involvement in setting priorities for small-scale fisheries management	Colombia
79 Mangrove Conservation in Bigi Pan Multiple Use Management Area	Suriname
80 Ministry of Waterways and Environment	Fiji
81 National Fisheries Plan	Australia
82 Observation, Prediction and Early Warning System (SAPO) for Humboldt Current fisheries	Environmental Defense Fund, Peru and Chile
83 Opportunities for Māori businesses in the Regional Comprehensive Economic Partnership	New Zealand
84 Overfishing Increases the Carbon Footprint of Seafood Production From Small-Scale Fisheries	Erica M. Ferrer, Alfredo Giron-Nava and Octavio Aburto-Oropeza
85 Pacific Community Centre for Ocean Science (PCCOS)	Pacific Community
86 Rāhui Indigenous Fisheries Management	Tahiti and French Polynesia
87 Resolution 2019-01 - Resolution on Climate Change	The Western and Central Pacific Fisheries Commission
88 Sasi Indigenous Fisheries Management	Indonesia
89 Seafood Fund	United Kingdom
90 Seafood project – repurposing loss and waste in Namibia	Friends of Ocean Action
91 Singapore's 30 x 30 pledge to sustainably produce 30% of their nutritional needs by 2030	Singapore Food Agency
92 Singapore Aquaculture Plan	Singapore
93 Solar powered refrigerators	The Marshall Islands
94 Strategy for Sustainable Food Systems (Midori)	Japan Ministry of Agriculture, Forestry and Fisheries
95 UK Fisheries Act	United Kingdom
96 UK Fisheries Industry Science Partnership (FISP) scheme	United Kingdom
97 Velondriake Locally-Managed Marine Area (LMMA)	Madagascar

	<i>Case study, collaboration, resource tool, methodology</i>	<i>Implementing country, agency, or organization</i>
98	Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication	Food and Agriculture Organization of the United Nations

Table 4

Topic 2 panel case studies and best practices

	<i>Case study, collaboration, resource tool, methodology</i>	<i>Implementing country, agency, or organization</i>
99	Multi-trophic aquaculture based on tradition and culture	Palau
100	Microcredit and saving schemes to upgrade deep-water tubular nets for seaweed fishing in Tanzania	Ocean Risk and Resilience Action Alliance
101	Strengthening the Financial Resilience of Small-Scale Fishers in the Philippines and Indonesia	Ocean Risk and Resilience Action Alliance, Rare, Philippines and Indonesia
102	Blue Halo project	Indonesia, GCF
103	Climate resilient fishing infrastructure and technology project	Gambia, GCF
104	Fishponds as traditional aquaculture system	Hawaii
105	Māori traditional fisheries practices including harvest restrictions	Pacific Indigenous Peoples, Māori

Annex III

List of Parties and non-Party stakeholders who provided oral and/or written statements for the plenary session on ways forward and messages for COP 28

<i>Parties and groups of Parties</i>	<i>UN organizations, observers and non-Party stakeholders</i>
AOSIS (Solomon Islands on behalf of AOSIS)	Aquatic Blue Food Coalition
Argentina	Center for Ocean Solutions, Stanford University
Australia	Climate Action Network
Canada	Deep Ocean Stewardship Initiative
Chile	IUCN
Costa Rica	Ocean & Climate Platform
Contribution and Intervention by Sweden and the European Commission on behalf of the European Union and its Member States	Ocean Conservancy
Iceland	Ocean Visions
Japan	Women and Gender Constituency
Monaco on behalf of the Environmental Integrity Group	Secretariat of The Convention on Wetlands
Morocco	University of Southampton
New Zealand	University of Southern California
Pacific Small Island Developing States	
Palau	
Senegal	
Singapore	
United Kingdom	
United States of America	