



OPTIONS FOR STRENGTHENING ACTION ON THE OCEAN AND COASTS UNDER THE UNFCCC 2023

Earlier versions of this options paper have been published in 2021 and 2022. This updated version reflects the latest developments and opportunities under ongoing UNFCCC processes, and focuses on opportunities for advancing coastal and marine Nature-based Solutions.

Executive Summary

Ocean and coastal ecosystems hold a suite of options that can support countries as they adopt measures to achieve their climate mitigation and adaptation goals. It is also critical to recognize the negative impacts of climate change on ocean and coastal ecosystems, ocean-dependent communities and Large Ocean States, and work to limit these impacts through emissions reductions, adaptation, continued research efforts, and effective management.¹

This paper summarizes the key entry points within existing UNFCCC processes and negotiations where management actions concerning coastal and marine ecosystems can play a productive role in climate action.² The recommendations below focus primarily on opportunities for advancing coastal Nature-based Solutions (NbS) including blue carbon.³ This options paper does not cover all areas of opportunity within the ocean-climate nexus, including marine renewable energy, marine (green) shipping, and aquatic food.

Countries are encouraged to:

1. **FINANCE:** Within negotiations and processes related to climate finance, work to increase funding availability, increase access to financing, and mobilize new and additional finance flows for coastal and marine Nature-based Solutions.

In ongoing processes and negotiations related to climate finance, including the Ad hoc Work Programme on the New Collective Quantified Goal on Climate Finance, the Standing Committee on Finance, COP guidance for the Green Climate Fund and Global Environment Facility, and the Adaptation Fund, Parties should prioritize efforts to increase and accelerate new and additional climate finance flows to coastal and marine ecosystems through all sources—public and private, and market and non-market, including financing programs and projects dedicated to coastal and marine NbS.

2. **GLOBAL STOCKTAKE:** Ensure the Global Stocktake (GST) fully reflects the critical role of nature, including coastal and marine NbS, in realizing the goals of the Paris Agreement.

Participants in the GST should ensure comprehensive inclusion of high-quality inputs relating to coastal and marine NbS for climate change mitigation and adaptation and ensure robust consideration of these solutions in the GST. Parties should also explicitly discuss how to fully include coastal and marine NbS within the GST outcome and how NbS can help to reduce the gaps recurrently identified by the IPCC reports.

3. **NDCs – MITIGATION AND ADAPTATION:** Call for increased technical support, knowledge exchange, and financing for the inclusion of coastal and marine NbS, such as blue carbon ecosystems, in updated Nationally Determined Contributions (NDCs). Countries with coastal blue carbon ecosystems, such as mangroves, salt marshes, and seagrass, have multiple avenues by which these ecosystems can be included within new and updated NDCs to the Paris Agreement. Parties should call for specific areas of support they require for the development and implementation of blue carbon commitments, including within Ocean and Climate Change Dialogue discussions, resources from the Nairobi Work Programme and its Thematic Expert Group on Oceans, ongoing processes and negotiations related to finance (see above), and the Paris Committee on Capacity-building, among others. The [Guidelines for Blue Carbon and Nationally Determined Contributions](#) is a resource currently available to Parties and will be updated in 2023.

4. **SYNERGIES ACROSS UN PROCESSES:** Support synergies for coastal and marine NbS across international policy processes.

Shifting from traditionally siloed approaches to integrated approaches across policy processes—including the Convention on Biological Diversity, Ramsar Convention on Wetlands, and the 2030 Agenda and related Sustainable Development Goals (SDGs)—can help enhance ambition, accelerate implementation and deliver high-quality outcomes for coastal and marine ecosystems. CI and IUCN have prepared a detailed list of opportunities to [enhance synergies for blue carbon ecosystems across policy processes](#), which will be updated in 2023.

This options paper identifies specific steps and recommendations for advancing ocean-based climate action under these four key areas of opportunity, as well as other relevant ongoing processes and negotiations under the UNFCCC (listed on [page 4](#)).



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Introduction

Ocean-based actions provide powerful opportunities, if implemented sustainably, for both climate adaptation and mitigation, but they remain mostly under-utilized. There are entry points and opportunities in numerous ongoing processes and negotiations under the UNFCCC for countries to take action. Drawing on Decision 1/CP.26⁴ and 1/CP.27⁵ and the Ocean and Climate Change Dialogues held in December 2020 and June 2022, this paper outlines timely, priority actions Parties may wish to take to advance coastal and marine NbS in relevant work programmes and agenda items.

This paper focuses on four timely areas of opportunity within ongoing negotiations and discussions on 1) Finance; 2) the Global Stocktake (GST), 3) Mitigation and Adaptation (including NDC updates), and 4) Supporting synergies across other UN policy processes. It also includes recommendations within other ongoing processes, including negotiations on science, loss and damage, and capacity building. Additional context on key terms and definitions can be found in [Annex 1](#), and additional background on UNFCCC processes can be found in [Annex 2](#).

UNFCCC PROCESSES AND NEGOTIATIONS RELATED TO THE OCEAN AND COASTAL ECOSYSTEMS

Key areas within ongoing UNFCCC process and negotiations where countries may advance efforts to address ocean-climate challenges and opportunities:

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• Standing Committee on Finance (SCF)	
• Green Climate Fund (GCF)	
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1. Finance

Within negotiations and processes related to climate finance, there is a critical need and opportunity to increase and mobilize new and additional finance flows for coastal and marine NbS. Countries should prioritize efforts to increase and accelerate climate finance flows to coastal and marine ecosystems through all sources—public and private, market and non-market, including financing programs and projects dedicated to coastal and marine NbS.

The following are actions within UNFCCC process and ongoing negotiations countries could take to advance NbS in coastal and marine ecosystems for climate mitigation:

UNFCCC PROCESSES AND NEGOTIATIONS RELATED TO NBS IN COASTAL AND MARINE ECOSYSTEMS AND FINANCE

Ad Hoc Work Programme on the New Collective Quantified Goal on Climate Finance

- Parties could propose technical expert dialogues to discuss finance for scaling-up conservation and restoration actions for ocean and coastal ecosystems, especially for ecosystems such as coastal wetlands that provide multiple co-benefits including adaptation, mitigation, livelihoods, and biodiversity protection.
- Call for future ad hoc work programme activities to include a focus on financing for ocean-climate action, including capacity building to promote national-level action and financial opportunities across the public and private sectors.

Standing Committee on Finance (SCF)

- Request the SCF prepare an Information Note exploring coastal and marine NbS climate finance flows, gaps and opportunities. SCF Forum reports are presented annually to the COP and used to inform the COP guidance for the Green Climate Fund and Global Environment Facility.
- In collaboration with the Work Programme to Scale up Mitigation Ambition and Implementation and other relevant bodies, develop support for linking NDC targets for coastal and marine NbS to support for implementation and finance.

Green Climate Fund (GCF)

- In the COP's guidance to the GCF, call for the Strategic Plan for GCF (2024–2027) to include priorities for funding coastal and marine NbS, including new or elaborated programmes with additional dedicated funding for “Resilient, Blue Infrastructure,” “Blue Carbon and Results-Based Finance” and “Resilient Coastal Communities.”
- Identify opportunities, such as future Ocean and Climate Change Dialogue discussions, to socialize resources such as the Technical Supplement to the NAP Technical Guidelines on Coastal Adaptation and NbS for the Implementation of NAPs: Considerations for GCF Proposal Development⁶ that was developed in collaboration with the LEG and the NWP Expert Group on Oceans.

Global Environment Facility (GEF)

- In the COP's guidance to the GEF, call for new or elaborated programmes with additional dedicated funding for “climate-smart coastal zone management,” “trans-boundary ocean-climate management” and/or “sustainability and resilience for coastal communities.”

Adaptation Fund (AF)

- Call for the continued financing of projects and programmes aimed at strengthening coastal and marine ecosystem resilience, including through NbS.

2. Transparency and the Global Stocktake

The Global Stocktake (GST) is a process for assessing the world's progress toward achieving the Paris Agreement's goals. As a key part of the Paris Agreement's ambition cycle, the GST can be a powerful propeller toward transformative action needed by 2030 if executed well.

To produce a robust and effective Global Stocktake, it is essential to fully consider the critical role of nature, including coastal and marine ecosystems, in ambitious climate action.

The following are actions within UNFCCC process and ongoing negotiations countries could take to advance NbS in coastal and marine ecosystems related to transparency and the Global Stocktake:

UNFCCC PROCESSES AND NEGOTIATIONS RELATED TO NBS IN COASTAL AND MARINE ECOSYSTEMS AND TRANSPARENCY

Global Stocktake (GST)

- During the third and final Technical Dialogue at SB 58, participants should focus on collating specific solutions to accelerate climate action and means of implementation needed to close key gaps, especially those needed to accelerate implementation of coastal and marine NbS. Participants should come prepared with inputs which present case studies and lessons learned on implementation of commitments for coastal and marine NbS, and which identify policies, institutional frameworks, and cooperative models which have supported effective implementation of coastal and marine NbS, among other inputs.
- During negotiating sessions, Parties should advance preparations for an effective Consideration of Outputs phase, especially by agreeing upon the structural elements needed to develop a suite of GST outcomes that fully integrate the role of nature and coastal and marine NbS.
- In addition to a decision under the Paris Agreement (CMA), inclusion of a technical annex in the outcome may be critical to communicating detailed, best practice guidance and next steps needed for ambitious climate action in all natural ecosystems, including coastal and marine ecosystems.

Additional background regarding the GST and ocean mitigation and adaptation issues are provided in the report: [Unpacking the UNFCCC Global Stocktake](#).⁷

Biennial transparency reporting (BTR)

- In preparation for the BTR, provide options and guidance for reporting issues relevant to ocean and coastal ecosystems.
- While not mandatory, Parties should provide ocean-related information on climate change impacts and adaptation in their BTRs. This information in turn will inform future Global Stocktakes.

Technical Expert Review (TER)

- Include assessment of countries' application of the IPCC 2013 Wetlands Supplement as part of the TER under Article 13 of the Paris Agreement.
- In considering options for conducting voluntary reviews of information related to climate change impacts and adaptation (decision 18/CMA.1, annex, chapter IV), and training courses to facilitate the voluntary reviews, consider ocean and coastal aspects, in terms of the expertise needed for reviews, as well as the modalities.

3. Mitigation

The Paris Agreement (Decision 1/CP.21) and the Katowice Climate Package of 2018 (Decision 1/CP.24 and Decision 3/CMA.1) outline the key elements of the mitigation section in an NDC. Nature-based removals, such as conservation and restoration of coastal blue carbon ecosystems, can play a particularly important role in near-term action, not only for their mitigation benefits, but also for their ability to enhance adaptation and resilience, as they can provide additional environmental and social benefits.

The following are actions within UNFCCC process and ongoing negotiations countries could take to advance NbS in coastal and marine ecosystems for climate mitigation.

UNFCCC PROCESSES AND NEGOTIATIONS RELATED TO NBS IN COASTAL AND MARINE ECOSYSTEMS AND MITIGATION⁸

Nationally Determined Contributions (NDCs)

- Parties could request that any new, future guidance on NDCs encourage countries to apply sectoral guidance on the inclusion of blue carbon ecosystems—such as mangroves, tidal marshes, and seagrasses—to aid countries' NDC update.
- Include, in future NDCs, links to principles and guidelines for incorporating wetland issues into integrated coastal zone management, as contained in the Ramsar Convention Resolution VIII.4, recognizing their values, functions and services, including their role in climate change mitigation and adaptation.

Work Programme to Scale up Mitigation Ambition and Implementation (MWP)

- Call for the inclusion of NbS, including coastal and marine NbS and blue carbon ecosystem conservation and restoration action, to be included as a theme for the MWP in 2024.

OPPORTUNITIES TO INCLUDE COMMITMENTS FOR COASTAL BLUE CARBON ECOSYSTEMS IN UPDATED NDCS

Countries with coastal blue carbon ecosystems, such as mangroves, salt marshes, and seagrass, have multiple avenues by which these ecosystems can be included within new and updated NDCs to the Paris Agreement, both for mitigation and adaptation. Parties may wish to call for specific areas of support they require (both technical and financial) for the development and implementation of blue carbon commitments, including within future Ocean and Climate Change Dialogue discussions, resources from the Nairobi Work Programme and its Thematic Expert Group on Oceans, ongoing processes and negotiations related to finance (see above), and the Paris Committee on Capacity-building, among others.

Guidelines on Enhanced Action: A guide on how countries may include blue carbon in their Nationally Determined Contributions⁹ is a currently available resource for countries to use, and will be updated in 2023.

4. Adaptation

To accelerate global adaptation efforts, countries need clear strategies for addressing local and regional adaptation needs, accessing finance and capacity building. Countries presently identify, communicate and address their medium- and long-term adaptation needs and strategies in their NDCs, NAPs, and other adaptation communications.

The following are actions within UNFCCC process and ongoing negotiations countries could take to advance NbS in coastal and marine ecosystems for climate adaptation:

UNFCCC PROCESSES AND NEGOTIATIONS RELATED TO NBS IN COASTAL AND MARINE ECOSYSTEMS AND ADAPTATION

Nationally Determined Contributions (NDCs)

- Include coastal and marine ecosystems as part of national adaptation goals, which can be a qualitative statement or reference an Adaptation Communication (AC) or NAP. As of March 2022, only about 38% of parties identified ocean ecosystems as a priority area in their adaptation component of the NDC.¹⁰
- Submit an adaptation communication (AC) as part of NDCs, as it can maximize cross-cutting climate solutions that deliver both mitigation and adaptation benefits. Parties could request that any new guidance on NDCs include information on how to communicate adaptation targets as part of NDCs.

National Adaptation Plans (NAPs)

- Call for future guidance on the formulation of NAPs to encourage the inclusion of coastal and marine ecosystems as part of national adaptation goals, building on the new Guidelines for Integrating Ecosystem-based Adaptation into National Adaptation Plans.

Least Developed Countries Expert Group (LEG)

- Provide technical guidance and support to Least Developed Countries to incorporate coastal and marine NbS approaches into the formulation and implementation of NAPs, including by encouraging the utilization of the Guidelines for Integrating Ecosystem-based Adaptation into National Adaptation Plans¹¹.

Glasgow-Sharm el-Sheikh work programme on the global goal on adaptation

- Call for the inclusion and consideration of coastal and marine NbS under the work programme, including via future workshops, programme activities and opportunities for knowledge exchange.

Nairobi Work Programme (NWP) and its Thematic Expert Group on the Ocean and Coastal zones

- The NWP Thematic Expert Group on the Ocean and Coastal zones could consider exploring what actions are needed to define a longer-term partnership with Parties, especially LDCs, to better support and ensure continued collaboration on ocean-climate actions, including coastal and marine NbS.
- The work of the NWP on the ocean could be deepened through hosting joint engagements with the RSO/ Research Dialogue on the dual function of mangroves, tidal marshes, and seagrass beds for climate change mitigation and adaptation, or other ocean adaptation issues such as nature-based and hybrid coastal infrastructure solutions.

Adaptation Committee (AC) processes

- Call for the inclusion and consideration of coastal and marine NbS within ongoing AC processes, including via future workshops and biannual meetings, programme activities, annual reports and knowledge products, and other opportunities for knowledge exchange.
- Call for the inclusion of coastal and marine NbS in updated three-year work plans.

5. Cross-cutting Opportunities

Shifting from traditionally siloed approaches to integrated approaches across the UNFCCC and other international policy processes—including the Convention on Biological Diversity, Ramsar Convention on Wetlands, and the 2030 Agenda and related Sustainable Development Goals (SDGs)—can help enhance ambition, accelerate implementation and deliver high-quality outcomes for coastal and marine ecosystems. CI and IUCN have prepared a detailed list of opportunities to enhance synergies for blue carbon ecosystems across policy processes, which will be updated in 2023.

Additionally, the annual UNFCCC Ocean and Climate Change Dialogue provides a space for Parties and non-Party stakeholders to develop and prioritize concrete steps they wish to take to strengthen ocean-climate action and incorporate ocean-climate issues across UNFCCC processes and negotiations, and to support synergies across international policy processes.

UNFCCC PROCESSES AND NEGOTIATIONS RELATED TO NBS IN COASTAL AND MARINE ECOSYSTEMS AND ADAPTATION

UNFCCC Ocean and Climate Change Dialogue

- Participants should use the 2023 Ocean and Climate Change Dialogue, and future dialogues, to develop concrete steps Parties can take to raise ambition, increase available finance, and support implementation of ocean-based climate actions, including the conservation and restoration of coastal blue carbon ecosystems.
- Participants should discuss and recommend how the relevant work programmes and constituted bodies under the UNFCCC, especially those working on processes related to finance, mitigation, adaptation, technology and capacity building, should continue to integrate and strengthen ocean-based action in their mandates and workplans. These concrete recommendations should be reflected in the informal summary report submitted to Parties at the following COP.
- The dialogue should engage other UN frameworks and international policy processes that could be leveraged to support dialogue focal areas, solutions and needs identified by the Dialogue (e.g., UN Decade of Ocean Science, Ramsar Convention on Wetlands of International Importance, FAO, UN SDG Agenda, the Convention on Biological Diversity).

Supporting synergies across other international policy processes

- Countries can align new and updated NDC commitments related to coastal NbS (including blue carbon ecosystems) with commitments and the relevant goals and targets of the Kunming-Montreal Global Biodiversity Framework (GBF) (Goals A, B; Targets 1, 2, 3, 8, 11), SDGs (Goals 1, 6, 13, 14), and Ramsar sites.
- Call for the inclusion of blue carbon ecosystems in the UNFCCC Global Stocktake process, and consider, where relevant and as appropriate, existing National Reports on Implementation of the Convention on Wetlands, NBSAPs, and national reports under the CBD as part of other sources of inputs to inform the GST process.
- Countries should encourage the UNFCCC Nairobi Work Programme (NWP), the CBD Coastal and Marine Programme of Work, and Ramsar's Programme on communication, capacity building, education, participation and awareness (CEPA) to collaborate and provide advice and guidance on blue carbon restoration and conservation encompassing all potential co-benefits, including adaptation, mitigation, social, and biological diversity benefits.

6. Loss and Damage

The concept of loss and damage refers to irreversible harm to communities and economies caused by anthropogenic climate change, such as sea level rise, ocean warming, and ocean acidification. There was an agreement at COP27 to establish a fund for loss and damage for developing countries that are most vulnerable to the impacts of climate change.

The following are actions within UNFCCC process and ongoing negotiations countries could take to advance NbS in coastal and marine ecosystems related to Loss and Damage:

UNFCCC PROCESSES AND NEGOTIATIONS RELATED TO NBS IN COASTAL AND MARINE ECOSYSTEMS AND LOSS AND DAMAGE

Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts (WIM)

- Through the Executive Committee of the WIM and in cooperation with the Standing Committee on Finance, improve the understanding of the costs of loss and damage and the scale of finance required to enhance coastal habitat and coastal community resilience.
- Expand the Warsaw International Mechanism's Roster of Experts and its terms of reference¹² to target resilience solutions and include expertise on coastal and marine NbS.
- Through the Executive Committee of the WIM, strengthen the focus on coastal and marine NbS to enhance resilience to climate change impacts on the ocean, including sea-level rise, ecosystem loss (including mangroves and coastal habitats), ocean acidification, coral bleaching, changes in fisheries abundance that affect food security, livelihoods and economic development, and others.

7. Indigenous Peoples & Local Communities Knowledge and Engagement

The Paris Agreement explicitly recognizes the rights of Indigenous peoples and local communities in the context of climate action. The following are actions within UNFCCC process and ongoing negotiations countries could take to advance Indigenous Peoples' knowledge and engagement as it relates to the ocean-climate nexus:

UNFCCC PROCESSES AND NEGOTIATIONS RELATED TO NBS IN COASTAL AND MARINE ECOSYSTEMS AND INDIGENOUS PEOPLES & LOCAL COMMUNITIES)

Facilitative Working Group of the Local Communities and Indigenous Peoples Platform (LCIPP FWG)

- Throughout the implementation of the second 3-year work plan, Parties could work to ensure that coastal and marine ecosystems and NbS, and Indigenous knowledge pertaining to these ecosystems and solutions, are considered and incorporated.
- Advocate for the inclusion of community-led coastal and marine NbS, and opportunities to strengthen recognition of the knowledge, technologies, practices, and efforts of local communities and Indigenous Peoples related to ocean-climate action, in ongoing FWG discussions and processes.
- As part of LCIPP functions, the Platform could be accompanied by an effective program to build the capacities of its constituencies at different levels, which could also be inclusive of coastal and marine ecosystems and NbS. This may help IPLCs to fully participate in ocean-climate-related processes at the international and national levels, including updates of NDCs and NAPs.
- Request further dialogues between the IPCC, GEF, GCF, AC, LEG, PCCB, TEC, and other relevant bodies to enhance synergies across processes for the inclusion of Indigenous and local communities in decision making and national-level actions to promote land and community resource rights, including for coastal and marine ecosystems.

8. Science

Science is the underpinning of sound policymaking, and many governments are committed to the principle of evidence-based policy for decision-making. With the Intergovernmental Panel on Climate Change (IPCC), the UNFCCC has a dedicated body to provide policymakers with regular scientific assessments on climate change, its implications and potential future risks, as well as to put forward adaptation and mitigation options. With both the 2021–2030 United Nations Decade of Ocean Science for Sustainable Development and the 2021–2030 United Nations Decade on Ecosystem Restoration, strong allies for increased ocean and climate knowledge, including incorporation of traditional ecological knowledge, and coastal and marine ecosystem restoration have emerged.

The Global Ocean Decade for Blue Carbon (GO BC) is working to enhance understanding of the ocean-climate nexus and generate new knowledge and solutions to mitigate the effects of climate change, and the [International Blue Carbon Initiative](#) (BCI) is a coordinated, global program focused on conserving and restoring coastal ecosystems for the climate, biodiversity and human wellbeing. The BCI's Blue Carbon Scientific Working Group has developed the resource, "Coastal Blue Carbon: methods for assessing carbon stocks and emissions factors in mangroves, tidal salt marshes, and seagrass meadows,"¹³ among other resources.

The following are existing actions within UNFCCC process and ongoing negotiations countries could take to advance coastal and marine ecosystem issues related to science:

UNFCCC PROCESSES AND NEGOTIATIONS RELATED TO NBS IN COASTAL AND MARINE ECOSYSTEMS AND SCIENCE

Intergovernmental Panel on Climate Change (IPCC)

- Call for the IPCC to develop and update GHG inventory guidance for coastal wetland ecosystems based on the best available and most recent peer-reviewed science for the next revision of the Wetlands Supplement. The IPCC could also consider including additional coastal ecosystems, such as kelp (and associated sediment carbon stores) and other marine and coastal ecosystems currently not included, if and when additional scientific evidence demonstrates the role of these ecosystems for mitigation and satisfactory carbon accounting methodologies are available. This additional guidance would promote the inclusion of such ecosystems into NDCs and NAPs, as well as ensure consistency and comparability among the information provided through the Enhanced Transparency Framework (ETF).¹⁴

Research and Systematic Observation (RSO)

- Request discussion on existing scientific and technical capacity to monitor high-carbon storing coastal ecosystems through ecosystem mapping, measurement of above- and below-ground carbon stocks, and historical fluxes from loss and/or degradation of these ecosystems, and associated emissions. An extension of this discussion can be conducted as a workshop at the SBSTA.
- Continue to propose research questions to SBSTA's dialogue on Research and Systematic Observation on ocean-related mitigation and adaptation questions, such as ocean-related resilience and the role of major ocean currents such as the Gulf Stream and the global impacts of their potential collapse.¹⁵
- Propose research questions on increasing national capacity to measure the threats to ocean and coastal ecosystems, such as external threats to mangrove or blue carbon ecosystems resulting from deforestation, coastal development, pollution, or climate change. Questions can also include how to better measure national actions and approaches to coastal threats and changes.

9. Technology Mechanism

To date, only 20% of the ocean has been mapped and explored, so there is a significant need to better understand the ocean and its systems. As climate impacts accelerate, the ocean will face new pressures, which will require better and more accessible technology to find suitable solutions.

The following are existing actions within UNFCCC process and ongoing negotiations countries could take to advance coastal and marine ecosystem issues related to the Technology Mechanism:

UNFCCC PROCESSES AND NEGOTIATIONS RELATED TO NBS IN COASTAL AND MARINE ECOSYSTEMS AND TECHNOLOGY

Technology Executive Committee (TEC)

- In cooperation with the WIM and Adaptation Committee, continue to expand the 2020 policy analysis¹⁶ on technologies for averting, minimizing and addressing loss and damage in coastal zones, putting specific emphasis on disaster risk reduction and coastal and marine NbS.
- Build on the recommendations of the joint TEC, NWP, IUCN and FEBA guidance¹⁷ to further strengthen cross-sectoral collaboration and knowledge sharing on integrating NbS and technology for climate adaptation, such as through the establishment of an ad hoc working group on integrated adaptation approaches in coastal and ocean settings.

Climate Technology Centre and Network (CTCN)

- Design technology needs assessments¹⁸ (TNAs) and provide technical expertise on coastal and marine needs, gaps, and coastal resilience solutions. Handbooks and guidance documents could benefit from an update to address ocean issues.
- Upscale technical assistance on integrated coastal zone management along with the creation of a dedicated technical assistance window on coastal zone planning within the TNA process.

10. Capacity Building

Accelerating mitigation and adaptation efforts and increasing resilience to climate change will require significant capacities at the local, national, and international levels; many countries and stakeholders require dedicated capacity-building support to implement existing and future climate goals. The Paris Committee on Capacity Building (PCCB) addresses current and emerging capacity gaps and needs for fully implementing the Paris Agreement.

The following are actions within UNFCCC process and ongoing negotiations countries could take to advance coastal and marine ecosystem issues related to capacity building:

UNFCCC PROCESSES AND NEGOTIATIONS RELATED TO NBS IN COASTAL AND MARINE ECOSYSTEMS AND CAPACITY BUILDING

Paris Committee on Capacity-building (PCCB)

- Include specific sessions on ocean and coastal environments in capacity-building cycles and provide support to countries on inventories, NDC accounting, and transparency.
- Encourage timely and clear communication of short- and long-term financial, capacity building and technology transfer needs for ocean-climate actions via NDCs and other relevant communications to the UNFCCC.¹⁹
- Provide guidance on using similar datasets, methodologies, and research scope on coastal and marine ecosystems for monitoring and reporting across UNFCCC processes.

Conclusion

As the above sections illustrate, there are numerous areas within UNFCCC processes, bodies and ongoing negotiations where countries may advance efforts to address ocean-climate challenges and strengthen recognition of the role of coastal and marine NbS in addressing climate change. However, the opportunities outlined in this paper are non-exhaustive.

Parties can use the 2023 Ocean and Climate Change dialogue, and subsequent annual dialogues, to develop and prioritize concrete steps they wish to take to strengthen ocean-climate action and incorporate ocean-climate issues into ongoing processes under the UNFCCC. In addition to the options presented in this paper, Parties may wish to consider the other options and opportunities discussed at the 2022 Ocean and Climate Change dialogue and the previous 2020 dialogue, including strengthening action across other UN policy processes, strengthening action at the national level, and strengthening finance and other cross-cutting support.

Annex 1

Key Terminology

The definitions below are adapted from the provisional analysis, Coastal and Marine Ecosystems as Nature-based Solutions in New or Updated Nationally Determined Contributions.²⁰

NATURE-BASED SOLUTIONS

Nature-based Solutions are actions to protect, conserve, restore, sustainably use and manage natural or modified terrestrial, freshwater, coastal and marine ecosystems, which address social, economic and environmental challenges effectively and adaptively, while simultaneously providing human well-being, ecosystem services, resilience, and biodiversity benefits. (UNEA, March 2022 [UNEP/EA.5/Res.5])

NATURE-BASED SOLUTIONS IN COASTAL AND MARINE ECOSYSTEMS

Nature-based Solutions in coastal and marine ecosystems (coastal and marine NbS) refer to actions that protect, sustainably manage and restore coastal and marine ecosystems in ways that address societal challenges effectively and adaptively.

“Coastal ecosystems” refers to ecosystems at the coastline and extending to the continental shelf edge. “Marine ecosystems” refers to ecosystems beyond the continental shelf edge. The role of coastal wetlands (including mangroves, tidal marshes and seagrass beds) in sequestering and storing “blue” carbon from the atmosphere and the ocean (and hence contributing climate mitigation), is increasingly recognized by governments in nationally determined contributions (NDCs) and greenhouse gas inventories and by non-state-actors who are expanding efforts to conserve and restore these ecosystems. Coastal and marine nature-based mitigation solutions do not include carbon dioxide removal (CDR) options such as geoengineering or bioenergy production with carbon capture and storage (BECCS). Globally, countries and non-state actors are now recognizing the value of numerous coastal and marine ecosystems for their capacity to provide a broad range of (ecosystem-based) adaptation and resilience benefits for communities globally.

OCEAN-BASED CLIMATE SOLUTIONS

Ocean-based climate solutions are the opportunities offered by and related to the global ocean to sustainably contribute to mitigate climate change and/or adapt to its impacts. They include restoring coastal blue carbon ecosystems, developing marine renewable energy, sustainable and climate-smart fisheries management and aquaculture, and increasing fuel efficiency in the shipping sector. While coastal and marine NbS aim to achieve multiple socioeconomic benefits, the sole objective of ocean-based climate solutions is climate mitigation and adaptation.

BLUE CARBON ECOSYSTEMS

“All biologically-driven carbon fluxes and storage in marine systems that are amenable to management can be considered as blue carbon.”²¹ Blue carbon ecosystems (such as mangroves, seagrasses and tidal marshes) sequester and store large quantities of blue carbon. In addition to climate mitigation benefits, these ecosystems provide a multitude of other services such as climate adaptation, fisheries and biodiversity benefits. At this time, only mangroves, seagrass and tidal marsh have IPCC approved guidance (the 2013 Wetlands Supplement) as verifiable extent to which ecosystem protection or restoration can contribute to a country’s emission reduction efforts.

Annex 2

Additional background into UNFCCC processes and negotiations

The definitions below are adapted from the provisional analysis, Coastal and Marine Ecosystems as Nature-based Solutions in New or Updated Nationally Determined Contributions.

CLIMATE FINANCE AND ARTICLE 6

Article 6 of the Paris Agreement establishes a broad framework for voluntary cooperation among Parties in delivering climate action. It sets out three approaches through which Parties may interact: 1) bilateral or regional cooperative approaches via internationally transferred mitigation outcomes (ITMOs); 2) a centrally governed UNFCCC mechanism to contribute to mitigation and support sustainable development; and 3) non-market approaches.¹⁹ Encouraging the transfer of high-quality emission reductions generated in all sectors, including coastal and marine ecosystems, as appropriate, can drive needed flows of finance to climate actions addressing both sources and sinks and generate opportunities for increased ambition, particularly in developing countries. As the guidance for implementing Article 6 was adopted in Glasgow, countries must now turn to operationalizing Article 6 at the national level.

MITIGATION

The role of coastal and marine ecosystems in **mitigation** was explicitly included in the **Katowice Climate Package**²² (also known as the “Paris Rulebook”), which encourages countries to utilize the **2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands**.²³ This encouragement carries the expectation that countries, depending on their capabilities, will eventually account for greenhouse gas (GHG) emissions and removals from their coastal wetlands, in particular mangroves, tidal marshes, and seagrass beds. While applying the 2013 Wetlands Supplement in national GHG accounting is primarily a choice and responsibility of each country, there are additional opportunities and pathways for enhancing ocean-related mitigation actions under the UNFCCC.

The **Work Programme to Scale up Mitigation Ambition and Implementation** was mandated by Parties at COP26 (1/CMA.3) to address the critical need to limit warming below 1.5° C and increase national climate ambition. The programme offers an opportunity for further guidance, resources, and support in formulating and implementing ocean-based NbS in NDCs, NAPs, long term planning, and national policy planning.

Adaptation

Parties recently established the Glasgow–Sharm el-Sheikh work programme on the global goal on adaptation to enhance global adaptation actions and support national adaptation planning (7/CMA). Acting as a complement to the work of the Adaptation Committee, the programme provides a forum for Parties to exchange adaptation challenges and successes, and to receive guidance on enhancing and implementing national adaptation actions in NAPs, NDCs, and adaptation communications.

Countries presently identify, communicate and address their medium- and long-term adaptation needs and strategies in their NDCs, NAPs, and other adaptation communications. The NAP process is also supported by several UNFCCC-based or associated institutions, including the **Adaptation Committee (AC)**, the **Least Developed Countries Expert Group (LEG)**, and the **NAP technical working group**.

INDIGENOUS PEOPLES AND LOCAL COMMUNITIES KNOWLEDGE AND ENGAGEMENT

The Paris Agreement explicitly recognizes the rights of Indigenous Peoples and local communities in the context of climate action. Parties agreed to develop the **Local Communities and Indigenous Peoples Platform (LCIPP)** as a first step to formally recognizing their contributions to addressing climate change. Under the UNFCCC, countries

agreed to formulate a **Facilitative Working Group (FWG)** to undertake the work of the LCIPP with representation from countries, Indigenous Peoples and representatives of local communities, upon recognition of the local communities' constituency.

At COP 26, the FWG prepared a three-year workplan for activities between 2022 and 2024, extended the mandate of the FWG with its current composition (seven Indigenous peoples and Party representatives each), and considered the potential addition of three representatives from both local communities and Parties. At COP 27 the FWG presented on the implementation of the workplan, including the joint dialogue with the Gender Action Plan GAP), and an Annual Youth roundtable. The FWG aims to continue to advance and enhance the contributions and participation of indigenous peoples and local communities in relation to the work of the COP.

LOSS AND DAMAGE

The **Warsaw International Mechanism for Loss and Damage (WIM)**, created in 2013, seeks to strengthen international cooperation and expertise to understand and reduce loss and damage associated with the adverse effects of climate change, including extreme weather events and slow-onset events. The Executive Committee of the WIM guides the implementation and the function of the mechanism.

In 2019, Parties agreed to create the **Santiago network** for “averting, minimizing and addressing loss and damage associated with the adverse effects of climate change” to catalyze the technical assistance of relevant organizations, bodies, networks, and experts for the implementation of relevant approaches at the local, national, and regional level in developing countries that are particularly vulnerable to the adverse effects of climate change.²⁴ The UNFCCC Secretariat has since created a Santiago Network Portal calling for inputs from Parties concerning their needs for technical assistance.

In 2021, Parties established the **Glasgow Dialogue on Loss and Damage** to discuss funding needs and arrangements. It will take place in the first sessional period of each year of the Subsidiary Body for Implementation (SBI), starting at its 56th session and concluding at its 60th session (June 2024).

TECHNOLOGY MECHANISM

The Technology Mechanism (TM) has the mandate to foster collaboration among “climate technology stakeholders”.²⁵ As such, it is one of the few institutionalized platforms within the UNFCCC to facilitate direct interaction between public and private entities. It is composed of two bodies, the Climate Technology Centre and Network (CTCN) and the Technology Executive Committee (TEC).

The CTCN seeks to engage national, regional, sectoral and international technology centres, networks, organizations, and private sector entities,²⁶ and the TEC is the policy component of the Technology Mechanism to facilitate enhanced actions of Parties on climate technology development and transfer.

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- 3 The Fifth Session of the United Nations Environment Assembly (UNEA-5) in its 'Resolution on Nature-based Solutions for Supporting Sustainable Development' formally adopted the definition of NbS as 'actions to protect, conserve, restore, sustainably use and manage natural or modified terrestrial, freshwater, coastal and marine ecosystems, which address social, economic and environmental challenges effectively and adaptively, while simultaneously providing human well-being, ecosystem services and resilience and biodiversity benefits.'
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