



Discussion paper

Next steps for incorporating the ocean into nationally determined contributions (NDCs)

Varda Group, December 2018

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For several years, the International Coral Reef Initiative (ICRI) has been carrying out important work to warn of the many threats to coral reefs caused by climate change and greenhouse gas emissions.

ICRI's work on climate change and coral reefs was initiated in its 2016-2018 action plan under the chairmanship of France, especially in Theme 1:

“Help raise awareness of how coral reefs and related ecosystems help to fight climate change” - Goal (1) 1: highlight the contribution of coral reefs, mangroves and seagrasses to mitigate and adapt to climate change and its impacts).

The 2018-2020 Action Plan, co-chaired by Monaco, Australia and Indonesia, continues work on this issue, especially in its Theme 4

“Help to reduce anthropogenic threats to coral reefs:

ICRI Desired Outcome 2020: Anthropogenic threats to reefs are highlighted by ICRI and information is made available for members on actions that can be taken to reduce threats.

4.A – Elevate awareness of the threats to coral reefs and the need for a collective response to accelerate actions that increase resilience at a local to global scale.

ICRI will continue to highlight the threats to coral reefs, including climate change and the need for global action to protect coral reefs – especially for developing countries most vulnerable to declines in coral reef health. This will include encouraging ICRI members to i) integrate coral reefs into the IPCC Special Report on the Ocean and Cryosphere in a Changing Climate to be finalised and launched in Monaco in September 2019 or **to ii) integrate ocean related components (including coral reefs and associated ecosystems) into national commitments.”**

In this context ICRI has decided to support the Because the Ocean initiative in its endeavour to encourage Parties to the Paris Agreement to integrate ocean-related measures into their National Determined Contributions.

Background and Introduction

The 38 countries that signed the second “Because the Ocean” declaration, launched at the 22nd Conference of the Parties to the UN Frameworks Convention on Climate Change (UNFCCC COP22) in 2016, agreed to *“encourag[e] UNFCCC Parties to consider submitting Nationally Determined Contributions (NDCs) that promote, as appropriate, ambitious climate action in order to minimize the adverse effects of climate change in the ocean and to contribute to its protection and conservation.”*¹

List of signatories to the Because the Ocean Declaration (in alphabetic order): Aruba, Australia, Belgium, Canada, Chile, Colombia, Costa Rica, Dominican Republic, Fiji, Finland, France, Guatemala, Guinea Bissau, Haiti, Honduras, Indonesia, Italy, Jordan, Kiribati, Luxembourg, Madagascar, Marshall Islands, Malta, Mexico, Monaco, Morocco, The

¹ Second Because the Ocean Declaration, Marrakech, 2016: <https://www.becausetheocean.org/second-because-the-ocean-declaration/>

Netherlands, New Zealand, Palau, Peru, Romania, Senegal, Seychelles, Singapore, Spain, Sweden, Uruguay, UK.

Under Article 4 of the Paris Agreement, *“Each Party shall prepare, communicate and maintain successive nationally determined contributions that it intends to achieve. Parties shall pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions.”* NDCs are to be updated every five years, representing *“a progression beyond the Party’s then current nationally determined contribution and reflect its highest possible ambition...”*

Paris Agreement Implementation: The Road to keep warming below 2°C with the aim of 1.5°C

2019: COP25, “The Blue COP”

2020: COP26 Second Round of NDCs

2023: COP29 Global Stocktake to inform Third Round of NDCs

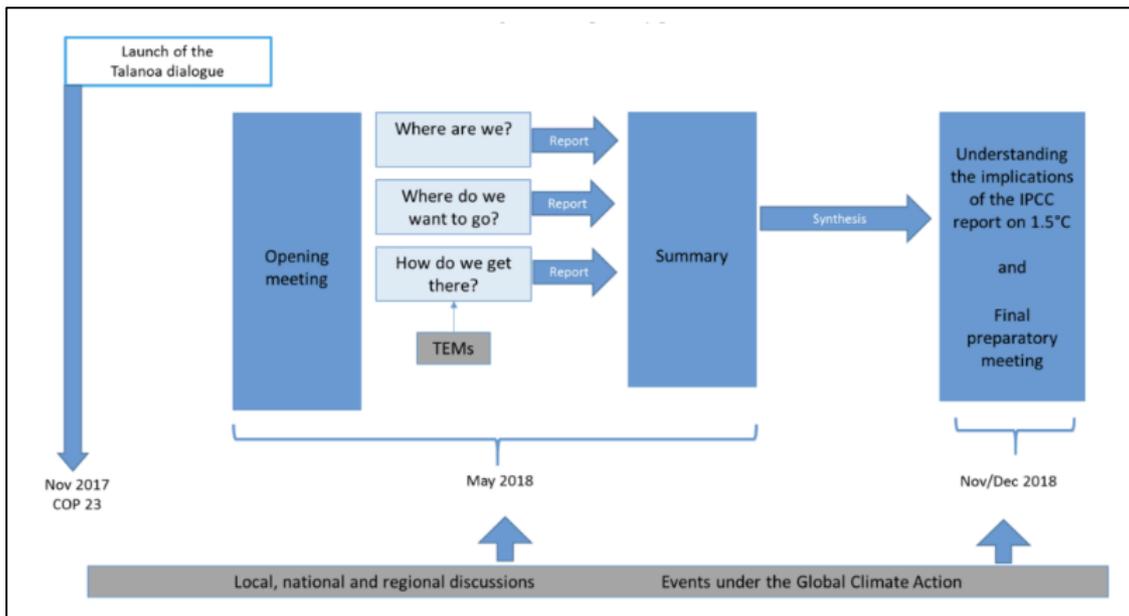
2025: COP31 Third Round of NDCs, taking account of the First Global Stocktake

2028: COP34 Second Global Stocktake to inform Fourth Round of NDCs

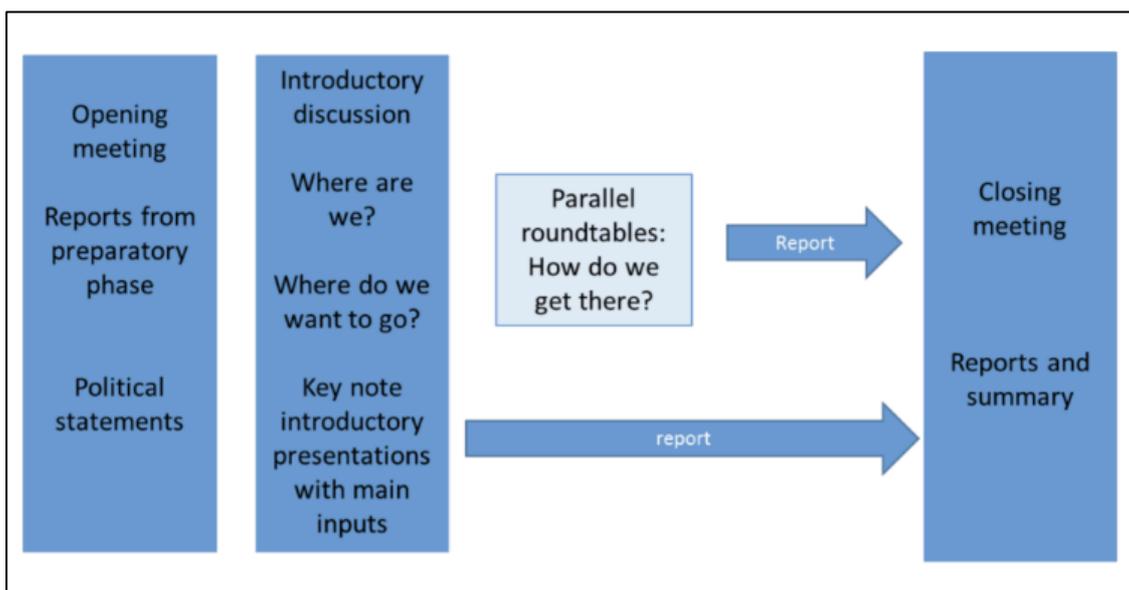
2030: Fourth Round of NDCs, taking account of the Second Global Stocktake

The first NDCs, (INDCs at the time – Intended Nationally Determined Contributions) were submitted in Paris in 2015, generally reflecting action for 2020 onwards. In light of the urgency to increase climate ambition, the “Talanoa Dialogue” was convened in 2018 to take stock of the collective efforts of Parties – as reflected in the NDCs – to achieve the long-term goal of the Paris Agreement. The resulting “Talanoa Dialogue Call for Action” emphasizes the need to enhance NDCs when Parties submit updated or new NDCs in 2020.² The UN Secretary General Climate Summit in September 2019 and COP25 (December 2019, Santiago, Chile) will therefore be crucial opportunities for Parties to communicate their efforts towards enhancing NDCs. Furthermore, as a leading member of the Because the Ocean initiative, the Government of Chile has indicated that the role of the ocean in climate change will prominently feature in its COP Presidency.

² See for example, <https://www.wri.org/publication/ndc-enhancement-by-2020-produced-by-wri> on options for enhancing NDCs



Preparatory phase of the Talanoa dialogue. Source: [UNFCCC](https://unfccc.int).



Political phase of the Talanoa dialogue at COP24. Source: [UNFCCC](https://unfccc.int).

Incorporating ocean conservation measures into Parties' NDCs provides significant benefits for the health of both the climate and the ocean. A series of workshops were held to further this goal, in Washington DC, USA (September 2016)³, Bonn, Germany (at COP23 in November 2017)⁴ and in Santiago, Chile (2-3 October 2018)⁵. There was strong representation from coral reef countries from the Pacific, the Caribbean and the Indian Ocean at each one of these

³ See: https://www.becausetheocean.org/wp-content/uploads/2018/11/Ocean_Climate_Bulletin_Because_the_Ocean.pdf

⁴ See: https://www.becausetheocean.org/wp-content/uploads/2018/11/Bonn_workshop_COP23_Because_the_Ocean.pdf

⁵ https://www.becausetheocean.org/wp-content/uploads/2018/11/Santiago_workshop_ENG_Because_the_Ocean.pdf

workshops, thus reflecting the relevance of the issues at stake for them. The major takeaways from these workshops can be summarized as follows:

- Ocean action is a critical component of climate action, and ocean-related mitigation and adaptation measures can help countries increase their climate ambition.
- There is widespread interest in establishing the links between climate policies and ocean protection in order to further success in both areas, and the role that NDCs can play to enhance action.
- There is a need to strengthen the science-policy relationship for better informed decision-making.
- In some cases, there is also a need for increased understanding of the interlinkages between ocean and mitigation and adaptation. More research efforts are needed to better understand future ocean responses to climate change, as well as how the ocean can contribute to climate solutions throughout the coming century.
- This knowledge gap is twofold: on the one hand basic science, monitoring and observation mechanisms, and on the other the ability of decision-makers to translate this knowledge into concrete policies and measures without creating perverse incentives or “abuse” of the mitigation function of the ocean.
- Important action is still necessary to synthesize the knowledge accumulated worldwide. This would be an important contribution to the efforts undertaken by the International Panel on Climate Change (IPCC) in its current assessment cycle, and key to support discussions on how to reinforce the ocean-related content in revised NDCs.
- Lack of sufficient knowledge should not prevent immediate action, or the identification and the strengthening of co-benefits derived from such action. Similarly, provisions in the Paris Rulebook and other instruments should not preclude ocean action if scientific standards, such as for accounting and additionality, are met.
- A dedicated effort is necessary to better reflect the importance of the ocean in the climate system, as a means of raising domestic and international ambition for climate change mitigation and adaptation.
- A systematic consideration and, where relevant, inclusion of ocean-related measures could be a way to ensure ocean-climate interlinkages are better taken into account in revised NDCs and other climate instruments.
- Ocean and climate practitioners should engage in strategic dialogue to identify such possible synergies and avenues for mutual reinforcement of their efforts in the future. This includes the need to break down “silos” within organizations, governmental departments, academia and other entities.
- Comprehensive guidelines would be beneficial in assisting the systematic and effective inclusion of ocean-related measures within NDCs.

Two additional workshops are being held in 2019 for the purposes of producing recommendations and options for assisting governments in incorporating ocean-related measures into their NDCs. These will be collated by the Because the Ocean Secretariat in consultation with partners, and published to coincide with the launch of the Special Report on Ocean and the Cryosphere of the Intergovernmental Panel on Climate Change (IPCC SROCCC) scheduled on 20-23 September 2019, in Monaco.

4 - 9 Mar	Fourth Lead Author Meeting for Special Report on the Ocean and Cryosphere in a Changing Climate (organized by WGII)	Kazan, Russian Federation
15 May	Cut-off date for accepted papers	
31 May	Final Draft to Technical Support Unit	
14 June – 9 Aug	Final government review	
20-23 Sept	Plenary at 51 st session of the IPCC – Approval of Summary for Decision-Makers	Monaco

The first of these workshops will be held in Madrid 9-11 April 2019, followed by one in Suva, Fiji, 6-7 May 2019.

This paper is meant to stimulate thinking in relation to the topics to be discussed during these workshops. These include actions to mitigate climate change, improve the resilience of coastal communities and livelihoods, increase the conservation of marine ecosystems and ensure adaptation in the face of climate change impacts.

Regarding mitigation, examples include: ocean-based low-impact renewable energy technologies, decarbonized shipping, and the conservation and restoration of coastal, marine and polar ecosystems that contain and sequester carbon. While it is sometimes said that maybe shipping and ocean-based renewable energy are not “ocean issues” per se (although offshore wind installations and shipping affects the ocean environment in a number of ways), they are important factors at the nexus of climate and ocean.

Regarding adaptation and conservation, the emphasis will be on building resilience, for example through the designation and management of climate smart Marine Protected Areas (MPAs) as a response to climate change, addressing ocean acidification through local actions in addition to reducing CO₂ globally (reducing nutrient runoff and pollution), improving the sustainability of fisheries under threat from climate impacts, strengthening coastal resilience (sea level rise adaptation, conserving coastal and marine ecosystems).

Une attention particulière sera accordée aux récifs coralliens dont le dernier rapport 1.5 de l’IPCC a encore souligné récemment l’extrême fragilité face aux changements climatiques et à propos desquels le plan d’action 2019-2020 de l’ICRI souligne

Special attention will be given to coral reefs, about which the latest 1.5 IPCC report has recently highlighted the extreme fragility in regards of climate change, and in which ICRI's 2019-2020 action plan highlights: « We are already seeing clear impacts of climate change on coral reefs, in addition to the other anthropogenic one such as overfishing, and pollution from land. With current decline, we risk losing an irreplaceable source of livelihoods, food and economic opportunity”.

In terms of adaptation, this work on NDCs, especially at the workshop in Fiji, should be largely devoted to highlighting the critical role of coral reefs and the need to protect them. R. and protection of coral reefs as a natural barrier against storm surges and extreme weather.

The workshops will also examine effects on the economy related to climate change such as impacts on ocean-related tourism, impacts of increased ocean acidification and deoxygenation and the current and needed response to these phenomena. Discussions will reflect the latest

knowledge on open ocean phytoplankton carbon sequestration, and the science of ocean-related geoengineering impacts and risks.

The Guidelines / Recommendations

The following topics will be important item for guidelines / recommendations. On-going discussions and future, during the workshop, will allow to better develop each section.

- State of Knowledge: From Climate Change to Ocean Change
- The Ocean in NDCs: Challenges and Opportunities
- Ocean Action and Climate Action: Synergies and Gaps
- Ocean acidification: An urgent need to address CO2 emissions directly
- National Perspectives

State of Knowledge: Climate Change and the Ocean

The adoption of the IPCC Special Report on Climate Change and the Ocean and Cryosphere will set out the latest scientific knowledge on climate change and ocean. While this report is still being developed, recent reports that have appeared in the media suggest a number of reasons for alarm:

- The ocean is warming much faster than previously thought – around 40% more than previous IPCC estimates, with forecasted global impacts that include augmented sea level rise and the release from melting permafrost of methane, a potent greenhouse gas.
- The rate of Arctic ice loss has tripled since the mid-1980s, driven primarily by melting in Greenland.
- The rate of Antarctic ice loss has tripled in the last decade. A large cavity in the Thwaites glacier in West Antarctica was recently discovered, signalling increased instability.
- The ocean appears to be more acidic than at any time over the last 2 million years with significant consequences for coral reefs, shellfish and other sea life.
- The circulation system of the North Atlantic Ocean – the Atlantic Meridional Overturning Circulation, or AMOC – is slowing down with potentially major implications for climate and weather in the northern hemisphere.
- Oxygen depletion in the ocean resulting from climate change has increased dramatically since the 1950s resulting in an increasing number and size of dead zones.

Coral reefs are vital ecosystems that provide support to a quarter of all marine life on the planet. They provide food, income, recreation and protection from storms and flooding to an estimated one billion people across the globe – these ecosystem services are essential to wellbeing and livelihoods, especially the many vulnerable populations that live alongside coral reefs. These services are valued at \$10 trillion per annum globally– more than the world’s largest corporations and many national economies. An estimated 75% of all coral reefs globally are under threat from a combination of local stresses and the global impacts of climate change and population growth.¹

Points for discussion:

- Under what circumstances/for which ecosystems is there enough knowledge to ensure the environmental integrity and accountability of potential ocean-related mitigation measures to be included in NDCs? What further steps are needed to improve our knowledge for other systems?
- Are there certain ocean-related mitigation measures that could be prioritized in NDCs, where sufficient knowledge is available? What standards/safeguards should be put in place to ensure that there are no perverse incentives resulting in lack of climate action in other sectors?
- How can the anthropogenicity of the results of possible mitigation measures be assessed?
- What ocean adaptation measures could be effective in responding to the inevitable and growing number of impacts? How can/should these be reflected in NDCs or other instruments?
- Are NDCs the only way to undertake ocean-related measures to fight climate change? Can Governments undertake these measures under broader strategies for environmental preservation?
- How can the regional sea conventions and their accumulated scientific knowledge be better used in relation to climate change?
- Is there additional knowledge (beyond NDCs) needed to inform the global stocktake?

The Ocean in NDCs: Challenges and Opportunities

The consideration of mitigation and adaptation measures related to the ocean are garnering increased attention and the momentum is expected to increase, especially after the IPCC Special Report on the Ocean and the Cryosphere in a Changing Climate is released in September 2019, before the UN SG Climate Summit and COP25. Although scientific work needs to continue to further inform policy discussions in the context of the Climate Change Convention on potential of ocean-related measures in support of the Paris Agreement goals, there is already a strong awareness on the need for ocean-related action in the context of NDCs.

According to Scripps, 2017, 70% of the original NDCs already contain references to the ocean. “Mangroves are included in 45 of the reviewed NDCs, while coral reefs are included in 28 (Table 1). While coral reefs are typically included as adaptation contributions, mangroves are included as both mitigation and adaptation contributions due to their high carbon storage.”

Ocean Warming	Angola, Antigua and Barbuda, Bahamas, Bahrain, Bangladesh, Barbados, Belize, Benin, Brunei Darussalam, Cabo Verde, Cambodia, Cameroon, China, Comoros, Congo, Costa Rica, Cuba, Democratic Republic of Congo, Djibouti, Dominica, Egypt, El Salvador, Eritrea, Equatorial Guinea, Fiji, Gambia, Georgia, Grenada, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, India, Indonesia, Iraq, Kiribati, Kuwait, Lebanon, Liberia, Madagascar, Malaysia, Maldives, Marshall Islands, Mauritania, Mauritius, Morocco, Mozambique, Myanmar, Nauru, Nigeria, Niue, Oman, Palau, Papua New Guinea, Qatar, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Sao Tome and Principe, Saudi Arabia, Senegal, Seychelles, Singapore, Solomon Islands, Somalia, South Africa, Sudan, Suriname, Tonga, Trinidad and Tobago, Tunisia, Tuvalu, United Republic of Tanzania, Vietnam, Yemen
Ocean Acidification	Antigua and Barbuda, Bangladesh, Comoros, Dominica, Eritrea, Iraq, Kiribati, Marshall Islands, Mauritania, Nauru, Niue, Palau, Seychelles, Tonga
Ocean Deoxygenation	Mauritania
Mangroves	Angola, Bahamas, Bahrain, Bangladesh, Benin, Brunei Darussalam, Cambodia, Cameroon, Congo, Côte d'Ivoire, Cuba, Djibouti, El Salvador, Fiji, Gabon, Grenada, Guinea, Guine a-Bissau, Guyana, Haiti, Honduras, India, Kiribati, Liberia, Madagascar, Marshall Islands, Mauritius, Mexico, Myanmar, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Saudi Arabia, Senegal, Seychelles, Sierra Leone, Singapore, Somalia, Sudan, Suriname, Thailand, United Republic of Tanzania, United Arab Emirates, Vietnam, Yemen
Coral Reefs	Barbados, Belize, Brunei Darussalam, Cuba, Djibouti, Dominica, Egypt, Eritrea, Grenada, Honduras, Iraq, Kiribati, Madagascar, Maldives, Mauritius, Mexico, Nauru, Niue, Palau, Papua New Guinea, Qatar, Saint Vincent and the Grenadines, Saudi Arabia, Solomon Islands, Somalia, Sudan, Tonga, Yemen
Blue Carbon	Angola, Antigua and Barbuda, Armenia, Bahamas, Bahrain, Bangladesh, Brunei Darussalam, China, Dominica, El Salvador, Guinea, Guyana, Haiti, Iceland, Kiribati, Madagascar, Marshall Islands, Mexico, Philippines, Saudi Arabia, Senegal, Seychelles, Solomon Islands, Suriname, Ukraine, United Arab Emirates, Vietnam

Table 1. Parties which have included specific marine impacts or critical marine ecosystems as mitigation or adaptation contributions in their NDCs and blue carbon as a mitigation contribution. The “Blue Carbon” category includes NDC reference to management of sea grass beds, salt marshes, wetlands, and mangroves for mitigation, as well as ocean carbon storage.

With regard to certain issues (in particular to marine ecosystems and species that serve as natural carbon sinks ⁶) the pros and the cons need to be very carefully considered to ensure that the final conclusions contribute to climate goals and the environmental integrity of the system, align with best available science and the precautionary principle, and are backed by a robust reporting and accounting of anthropogenic emissions and removals, which are key principles of the Paris Agreement. Other options for climate mitigation, i.e. ocean-based geo-engineering schemes, are also increasingly being considered, but are, in the opinion of many, a potential Pandora’s Box that we open at our peril.

The converse is also true: economic exploitation of coastal and ocean resources may lead to increased greenhouse gas emissions and/or diminish the capacity of the ocean to serve as a natural carbon sink. Mangrove deforestation to facilitate coastal development, overfishing (particularly as fleets travel further offshore and use fishing gear that lead to higher fuel consumption), oil and gas drilling, shipping and – in the not too distant future apparently – deep-seabed mining (not to mention potentially adverse consequences of geo-engineering schemes) make achieving the goals of the Paris Agreement more difficult.

There are a number of challenges to including ocean conservation measures in NDCs:

- In some cases, quantifying impacts and mitigation measures in terms of CO₂ avoided or sequestered, and demonstrating anthropogenicity are still far from reliable, and run the risk of endangering the environmental integrity and credibility of the NDC as a whole.
- In addition, accounting for mitigation effects of the ocean could be used to replace mitigation measures in other sectors where there is more knowledge, and where more accuracy of results in Greenhouse Gas (GHG) reduction is possible.

⁶ Most importantly seagrasses, mangroves, and salt marshes.

- There could be problems associated with transboundary waters and the right to access resources from them (CO₂ in this case).
- Expertise exists in silos – climate negotiators and policy experts do not always grasp the linkages with ocean policy, and vice versa.
- The fragmented international governance structure to deal with the geoengineering techniques is a disadvantage to ensure that such techniques are fully assessed and understood.

But the opportunities afforded by overcoming these challenges are enormous. New technologies will bring economic benefits (for example ocean-based renewable energy development and emissions-free shipping). Offshore wind and other ocean-based energy developments can substitute for climate-damaging fossil fuels. Marine protected areas and other measures to improve the health and sustainability of fisheries will contribute to increased economic and food security. Healthy ocean and coastal ecosystems can help sustain a healthy tourism industry.

Perhaps most importantly, including enhanced ocean protection in NDCs will contribute to building visible momentum towards higher ambition in the five-year cycles to come, potentially bringing in new constituencies to push for greater action.

Points for discussion:

- What are the main challenges and opportunities of including ocean measures in NDCs, while respecting the national determination of NDCs, and ensuring the environmental integrity of Parties' own NDCs?
- How can we ensure that these potential measures do not duplicate work that is already taking place elsewhere? E.g. International Maritime Organization (IMO) or Convention on Biological Diversity (CBD)?
- How can we ensure that science and knowledge are sufficient to ensure sound and integrated results, and are available to those who could apply them?
- Does the ocean need to be better anchored in the work of the UNFCCC, and if so, how?
- Could a climate/ocean checklist of options be developed to assist with the identification of potential ocean-related elements that could be considered, in a nationally determined manner, when designing NDCs? Do such tools already exist? If so, to what extent are they being used by governments?
- Are there any other options to improve ocean related measures in relation to climate change response that could be promoted, outside the NDCs? For example, should we consider how ocean issues are reflected in the Global Stocktake?
- Is it possible to start with a 'learning by doing' process before the link between NDCs and the ocean is consolidated?

Ocean Action and Climate Action: Synergies and Gaps

When it comes to mitigating climate change through ocean action, investments in marine renewable energy and decarbonizing the shipping industry generally come to mind, along with the protection and restoration of blue carbon habitats, such as mangroves, salt marshes and seagrass.

Protecting marine ecosystems through the use of ecosystem approach area-based management tools such as MPAs, as well as Integrated Coastal Zone Management, will not necessarily contribute substantially to the large-scale mitigation of CO₂ emissions but are key components of adaptation if designed with climate impacts in mind. Climate impacts are likely to lead to the reduction or destruction of ecosystem services on which large parts of humanity depend for food and livelihoods. If designed with climate impacts in mind, MPAs and other measures can be important tools for strengthening the resilience of ocean, coastal and polar ecosystems.

Three quarters of current NDCs include plans for adaptation, and in a study released in 2017,⁷ researchers from Scripps Institution of Oceanography found that 70% of 161 INDCs submitted by Parties to the Paris Agreement contained references to the ocean, but few go beyond a simple mention of the importance of the ocean. For example, few include MPAs as a tool for shoring up ocean communities and ecosystems in the face of climate impacts. However, it is worth noting that the re-submission of NDCs in 2020 coincides with the agreed deadline to comply with the commitment contained in Aichi Biodiversity Target 11⁸ and SDG14 Target 5⁹ to conserve by 2020 at least 10 percent of coastal and marine areas.¹⁰

Points for discussion:

- How can effective ocean planning minimize harmful ocean use while maximizing benefits from activities like offshore renewable energy development?
- How could area-based management tools, including MPAs, be better used to contribute to mitigation and adaptation efforts and increase the conservation and restoration of coastal, marine and polar ecosystems which sequester carbon and/or support coastal communities, especially coastal protection for coral reefs and mangrove ecosystems?
- Can actions under the jurisdiction or control of countries (for example flag States) in areas beyond the national jurisdiction be included within the NDCs, and could there be any recognition or incentive provided under the UNFCCC?
- What knowledge gaps need to be fulfilled to identify, address and conserve CO₂ sinks without undermining enhanced mitigation ambition?
- How can climate-ready fisheries management support the carbon sequestration functions of coastal blue carbon habitats and increase resilience for coastal communities?

Ocean Acidification: An Urgent Need to Address CO₂ Emissions Directly

Greenhouse gases (GHGs) resulting in atmospheric and planetary surface warming have been considered collectively in the UN climate regime from the beginning. However, this has often

⁷ “Ocean Commitments under the Paris Agreement”, by Gallo, Victor, Levin in Nature Climate Change, Vol. 7. <https://scripps.ucsd.edu/biblio/ocean-commitments-under-paris-agreement>

⁸ Target 11: By 2020, at least 17 per cent of terrestrial and inland water areas and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascape.

⁹ 14.5 By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on best available scientific information

¹⁰ Let alone Aichi Target 10: By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.

been done without deeper consideration of the particularly damaging impact CO₂ in particular has on the ocean.

For example, the Global Warming Potential (GWP) of non-CO₂ GHGs is significantly higher than that of CO₂. As a consequence, Parties may choose to address climate targets by focusing on non-CO₂ GHGs such as methane. However, a preference to cut non-CO₂ GHG emissions and focus less on CO₂ emissions still leaves the ocean at increasing risk of acidification, which is driven by CO₂ specifically. Accounting for GHG emissions in a way that considers both warming and acidification would help address the growing risk to the ocean from CO₂ emissions specifically and allow Parties to understand tradeoffs they may be making.

Points for discussion:

- Could ocean acidification impacts be incorporated into existing targets and how?
- How can we evaluate the potential impact of ocean acidification on economically and culturally important marine species and resources, and the communities that depend on them?
- How can we incorporate this information into the global stocktake, NDCs or other climate action efforts?
- What adaptive measures can be included in NDCs, in order to mitigate the impacts of ocean acidification on shorelines, marine ecosystems and coastal communities?

National Perspectives

There is a need to provide space to share views (coming both from ocean and climate perspectives) on existing needs and experiences in different countries and regions to increase the profile of the ocean / climate nexus, and to explore what steps can be taken to advance the development of ambitious climate action in order to minimize the adverse effects of climate change on the ocean and to contribute to its protection and conservation.

Points for discussion:

- What are the experiences in developing climate actions that minimize the adverse effects of climate change in the ocean and to contribute to its protection and conservation? Are there common experiences/lessons to be learned?
- What climate-related measures could be incorporated into NDCs that would strengthen coastal resilience (including sea level rise adaptation)?
- What can the experts and advocates do to support ocean-related government action, including by the EU, within their climate strategies?
- What are the opportunities provided by the launch of the IPCC Special Report on the Ocean and Cryosphere in a Changing Climate, the UNSG Climate Summit, and COP25 in Chile (including the pre-COP in Costa Rica) and the Decade of Ocean Science for Sustainable Development?
- What type of information would be most useful to include in recommendations over further guidance on these issues stemming from these discussions?

Financial Perspectives

The recommendations developed at the end of these workshops will also address financial issues. They will provide states with perspectives on the types of financing available to finance the actions of their NDCs. It should also encourage investments in the natural infrastructure, for example for, of reefs and mangroves to increase climate resilience », and especially in view of recent reports:

- scientists and the insurance industry have found that reef and mangrove restoration are among the most cost-effective actions for coastal adaptation in island states.
- mangroves have been found to reduce flood damages to people and property by 25% annually.
- about 3% of the value of coastal investments are dedicated to conserving and restoring coastal ecosystems including reefs and mangroves, known as natural infrastructure.
- Reefs reduce up to 97 percent of wave energy that would otherwise hit coastlines, averting tens to hundreds of millions of dollars in flood damages every year for many nations.

Next steps

In order to contribute to address the questions listed above, the following next steps are planned:

- **Madrid workshop 10-11 April 2019:** Preceded by a preparatory session for the organizers and experts and Because the Ocean partners (the afternoon of 9 April), and a high-level opening session and round-table on the morning of 10 April, four substantive workshop sessions will take place on 10 and 11 April under the Chatham House Rule. Workshop sessions will cover the topics described in this document. Conducted under the Chatham House Rule, it will include a closing session with Spain's Minister for the Ecological Transition Teresa Ribera, for the group to receive her feedback and advice as a sounding board before the following workshop in Fiji a month later. By definition the European workshop will have not include coralline countries other than France and the UK, but it will be relevant to coral reefs beyond the overseas territories of these two countries because the workshop will feed the Fiji workshop and because of the characteristics of the EU as donors.
- **Fiji workshop 6-7 May 2019:** Held a month after the Madrid workshop, and in the days preceding the Ocean Negotiators Symposium to prepare for COP25 (8-9 May), also in Fiji, co-hosted by the Pacific Community the Fiji workshop will gather PSIDS to discuss the same topics, with a stronger focus on coral reef ecosystems.
- **Drafting of guidelines:** Based on the consultations resulting from the various workshops, the guidelines for the incorporation of ocean elements within NDCs will be prepared in the intersessional period between the two workshops and thereafter, and validated in consultation with workshop participations and the signatories to the Because the Ocean Declarations.
- **Guidelines launch Monaco 20-23 September:** The guidelines will be launched in Monaco on the occasion of the release by the IPCC of the Special Report on the Ocean and the Cryosphere in a Changing Climate.
- **Campaign roll-out towards COP25:** The guidelines will be promoted further in the pathway toward COP25 in Santiago, Chile in December 2019, including the UN Secretary General Climate Summit in the month of September and the pre-COP in the month of November.

Partners and their contributions

Following the second BTO statement in 2016 the work on NDCs Ocean was structured around the following main events:

1. September 2016: workshop in Washington DC,
2. November 2017: side event at COP23, Bonn
3. October 2018: Regional Workshop in Santiago - Chile
4. December 2018: side event at COP24, Katowice

In 2019, the main events will be:

5. April: regional workshop in Madrid,
6. May: regional workshop in Fiji,
7. December: side event at COP25 in Chile

The partners

BTO Funders:

- Prince Albert II of Monaco Foundation,
- Government of Chile,
- Tara Foundation,
- Institut du Développement Durable et des Relations Internationales (IDDRI)
- Varda Group

Other Partners

- International Coral Reef Initiative (ICRI)
- Government of Fiji,
- Ocean and Climate Platform (POC),
- Pacific Community (SPC)
- National Geographic,
- Ministerio para la Transición Ecológica (Spain)
- Fundación Biodiversidad (Spain)
- Programa Life Intemares (Spain)
- Consejo Superior de Investigación Científica/Real Jardín Botánico (Spain)
- Ocean Conservancy,
- World Research Institute (WRI)
- The Association of Latin America and the Caribbean (AILAC)

Contributions

- During 2016-2018 the partners (Prince Albert II of Monaco Foundation, government of Chile, Tara, POC, National Geographic, AILAC, Ocean Conservancy) contributed to 170 000 euros, in addition to the Swedish contribution (35 000 euros)
- For 2019 the contribution of Partners is estimated to 210 000 euros (Prince Albert II of Monaco Foundation, POC, governments of Spain, Chile and Fiji).