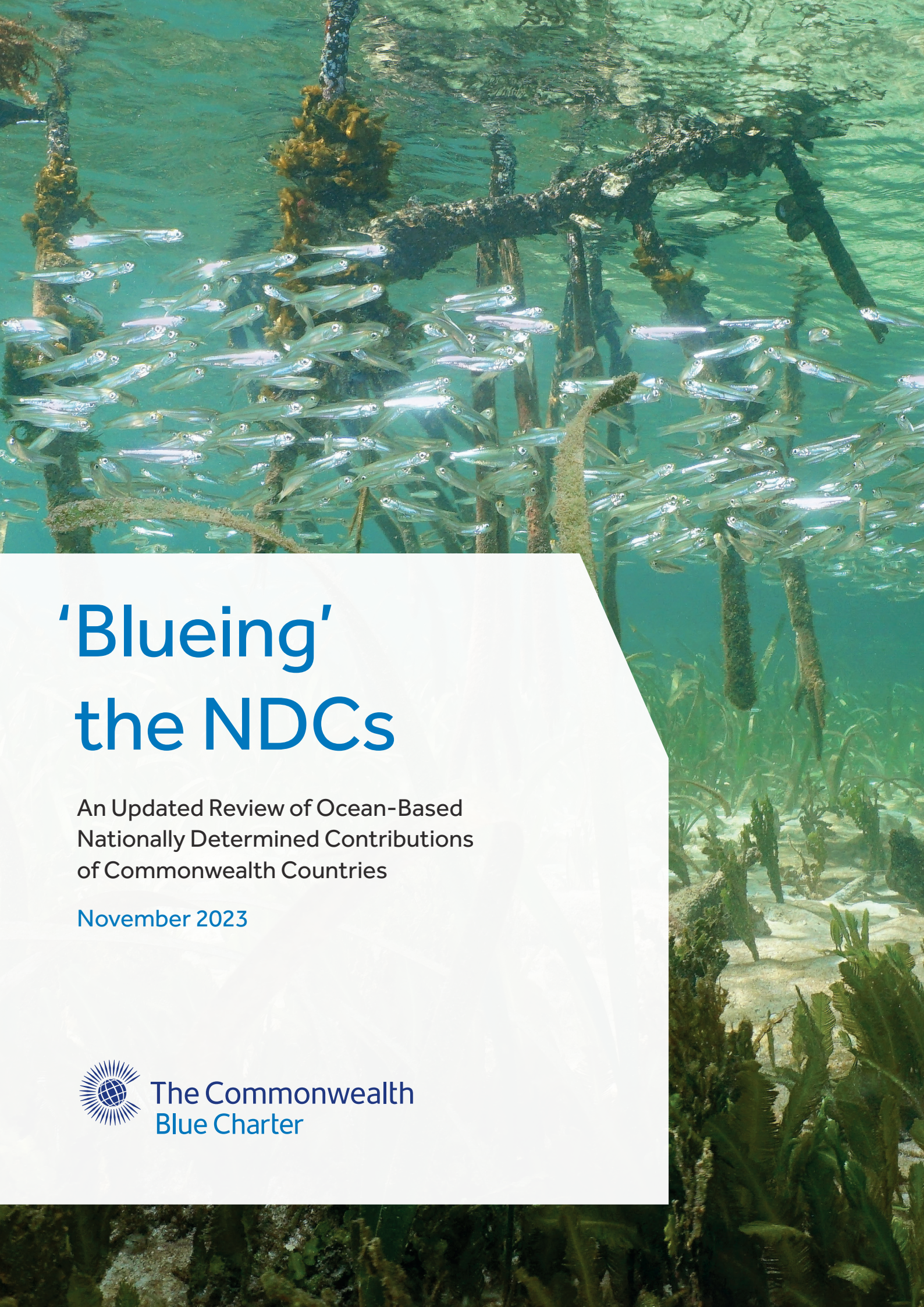

‘Blueing’ the NDCs

An Updated Review of Ocean-Based Nationally Determined Contributions of Commonwealth Countries

November 2023

The Commonwealth Blue Charter

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The Commonwealth

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Contents

Foreword

Our Commonwealth – of 2.5 billion people in 56 nations, spread across five continents and all the great ocean basins – is an Ocean Commonwealth with 49 of our member countries bordering the ocean.

Commonwealth countries are stewards of more than one-third of the global ocean under national jurisdiction. Nearly half of all coral reefs, and a third of all mangroves, are in the Commonwealth. And two-thirds of the world's Small Island Developing States are in the Commonwealth. The ocean is the most precious, life-giving – yet undervalued, under-researched and exploited – natural wonder of our planet.

Yet, its current stress levels are unprecedented and impossible to sustain. The escalating challenges of ocean warming, rising sea levels and extreme weather events are global, but our member countries feel the intensity of their impacts every day.

The need for action is urgent, and the Commonwealth is at the vanguard of climate action and ocean stewardship, with our member countries working together to develop and deliver lasting solutions to the ocean's challenges.

Five years ago, we launched the Commonwealth Blue Charter, a unique, action-oriented framework for collaboration towards a sustainable ocean. Driven by our members, and supported by the Secretariat, the Blue Charter epitomises our collective resolve to address ocean-related challenges through cooperation.

This update of our report *Blueing the NDCs* underscores the importance of ocean-based strategies in mitigating and adapting to climate change.

It scrutinises the Nationally Determined Contributions (NDCs) of member countries, spotlighting noteworthy commitments such as Bangladesh's blue carbon projects and the UK's offshore wind energy schemes. It highlights innovative approaches, including Fiji's ocean-focused National Adaptation Plans and Singapore's floating photovoltaic technology, and it features economic initiatives like South Africa's Operation Phakisa along with legislative milestones such as the UK's Climate Change Act.

The ocean offers untapped opportunities for emissions reductions. This report crystalises this potential, serving as an indispensable guide as we strive together for a sustainable, equitable, and resilient future.

There can be no healthy planet without a healthy ocean, so the Secretariat's commitment to advancing the principles and practice of the Blue Charter is unequivocal. It is only by working together, with the highest levels of ambition and commitment, that we can ensure that our one shared ocean remains healthy and productive for future generations.

Rt Hon Patricia Scotland KC
Secretary-General of the Commonwealth
November 2023

Acknowledgments

This report was prepared for the Commonwealth Secretariat by the Climate Policy and Finance team at Oxford Policy Management UK: Katherine Cooke (Principal Consultant), Durre' Mahmood (Consultant), Safa Khan (Consultant) and Zaineb Abid (Assistant Consultant).

Acronyms and Abbreviations

ADB	Asian Development Bank
CBC	Commonwealth Blue Charter
COP	Conference of the Parties (of the UNFCCC)
CORVI	Climate and Ocean Risk Vulnerability Index
DEFRA	Department for Environment, Food and Rural Affairs (UK)
EEZ	exclusive economic zone
EGD	European Green Deal
ESG	environmental, social and governance (initiative)
EU	European Union
GCF	Green Climate Fund
GDP	gross domestic product
GEF	Global Environment Facility
GFCR	Global Fund for Coral Reefs
GHGs	greenhouse gases
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GST	global stocktake
GtCO2e	gigatons of carbon dioxide equivalent
GW	gigawatt
IPCC	Intergovernmental Panel on Climate Change
IUCN	International Union for Conservation of Nature
KJIP	Kiribati Joint Implementation Plan
KtCO2e	kilotonnes carbon dioxide equivalent
MPAs	marine protected areas
MSP	marine spatial plan/planning
MW	megawatt
NAPs	National Adaptation Plans
NbS	nature-based solutions
NDCs	Nationally Determined Contributions
NGO	non-governmental organisation
NOP	National Ocean Policy

ORRAA	Ocean Risk and Resilience Action Alliance
PV	photovoltaic
R&D	research and development
SDGs	Sustainable Development Goals
SIDS	small island developing states
SPREP	Secretariat of the Pacific Regional Environment Programme
TNC	The Nature Conservancy
UN	United Nations
UNDP	UN Development Programme
UNFCCC	UN Framework Convention on Climate Change
WWF	World Wide Fund for Nature

Executive Summary

Background

Climate change has already caused substantial damage and increasingly irreversible losses in terrestrial, coastal and open ocean ecosystems.[1] Approximately 3.5 billion people live in areas that are highly vulnerable to climate change, more than one-third of which are coastal dwellers. Nationally Determined Contributions (NDCs) are the main mechanism by which countries communicate their ambitions and efforts in support of the Paris Agreement.[2] However, analysis of country NDC commitments[3] shows that progress is not happening 'at a pace or scale consistent with achieving' the goals of the Paris Agreement. Urgent transformational change is needed.[4]

This report asks, 'to what extent the Commonwealth countries are including, and progressing, ocean-based actions in their NDCs and harnessing the significant opportunities available to them'.[5] In 2022, the Commonwealth Blue Charter (CBC) published a baseline report on the NDCs of the 49 coastal and island states within the Commonwealth, with a focus on ocean-based actions. The updated 2023 analysis looks more deeply into the pathways countries are taking towards ocean-based action commitments and targets as referred to in their respective NDCs, while also highlighting best practices and recommendations to guide Commonwealth members in the development and achievement of their ocean-based current commitments and future priorities in revised NDCs.

This updated report also provides case studies on countries (Bangladesh, Dominica, Fiji, Kiribati, Singapore, United Kingdom) that have successfully mainstreamed ocean-based targets into their NDCs, across six NDC themes. It includes a new section to highlight opportunities for a sustainable blue economy, providing examples where countries have managed to both access and operationalise emerging 'blue finance' instruments and mechanisms.

The five key themes identified in 2022, critical to the ocean–climate nexus, are examined, with the addition of a sixth theme on 'Marine and coastal tourism':[6]

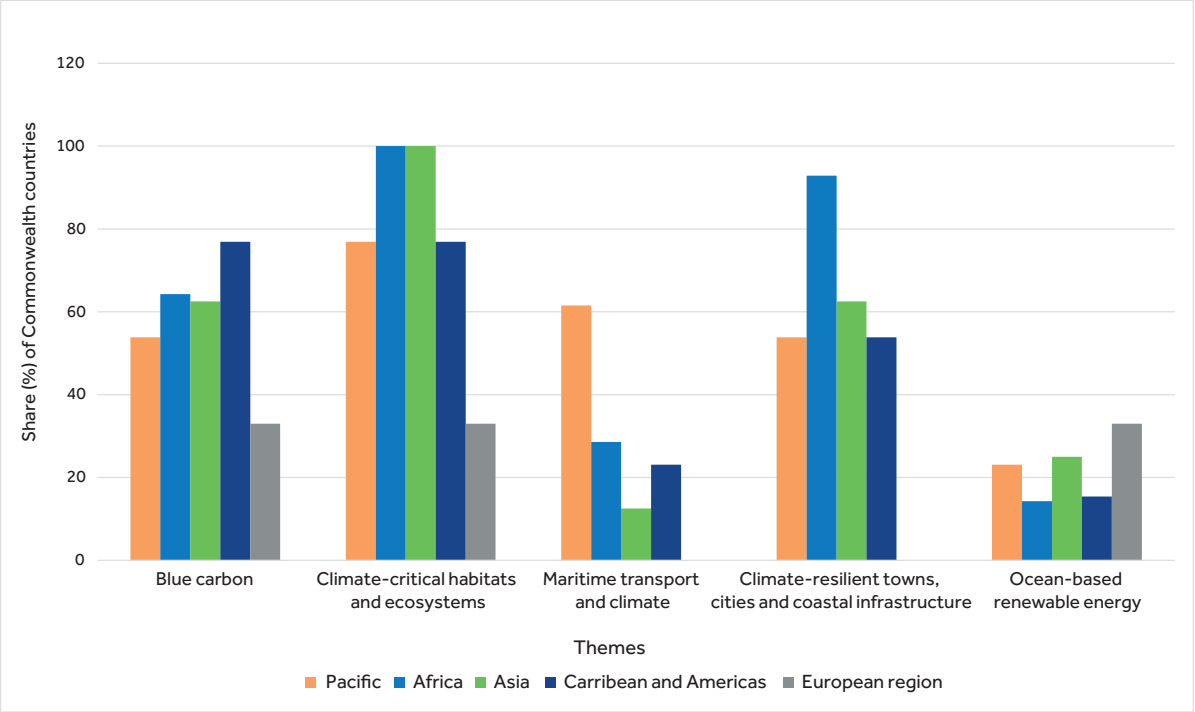
1. **Restoring, conserving and financing critical coastal ecosystems (blue carbon),** including mangroves, saltmarshes, seagrasses and other blue carbon sinks.
2. **Protecting critical habitats and ecosystems** to increase ocean health and resilience to climate impacts, for example, coral reefs.
3. **Supporting emissions reduction in maritime shipping** ('green shipping').
4. **Building coastal resilience,** including of communities, cities and infrastructure.
5. **Transitioning to ocean-based renewable energy**.
6. **Marine and coastal tourism** *(new theme).*

Where available, National Adaptation Plans (NAPs) were analysed in conjunction with NDC reports. Three countries leading in ocean-orientated NAP activities were selected for further analysis: **Bangladesh, Fiji and Kiribati.**

Highlights of country NDC analysis

- NDCs of all 49 coastal and island states in the Commonwealth included at least one target, policy or measure within the key themes critical to the ocean–climate nexus.
- Small island developing states (SIDS)/large ocean states,[7] led in mainstreaming ocean-based actions and commitments in their NDCs – more than 75 per cent had done so.
- Most countries are also undertaking significant ocean-based actions that were not adequately captured in their most recent NDCs. This is a missed opportunity.
- Fiji, Kiribati and Bangladesh are leaders in 'restoring, conserving and financing critical coastal ecosystems (blue carbon)' and 'building coastal resilience' across NDCs and NAPs.
- The European Region's NDC contained the highest number of disclosures on ocean-based renewable energy, but comparably few on 'supporting emissions reductions in maritime shipping'.

Figure 1. Ocean-based actions and commitments by themes (%) across the Commonwealth ocean



- Only six Commonwealth countries had submitted revised NDCs in 2023. Progress on strengthening actions was 'incremental', with a lack of policy alignment a key reason for this.

Figure 1 summarises country NDC ocean-based actions across the five key ocean-based themes:

Key findings across country NDCs and NAPs

1. **Blue carbon**: 77 per cent of Caribbean countries, 64 per cent of the African countries, 63 per cent of the Asian countries, 54 per cent of the Pacific countries and 33 per cent of the European region countries (UK only) had NDCs directly linked to blue carbon.
2. **Protection of climate-critical habitats and ecosystems**: Asia and Africa had the highest commitments, ambitions and actions pertaining to *protection of climate-critical habitats and ecosystems* as the world's largest mangroves[8] are present in these two regions. This was followed by the Pacific (77%) and Caribbean and Americas (77%) regions with efforts around coral reefs, seagrasses and mangroves.
3. **Maritime shipping** commitments were predominantly concentrated in the Pacific region (62%) followed by the Caribbean and Americas region (23%) and Africa (29%). The lowest ocean-based commitments pertaining to sustainable transport and maritime were disclosed in Asia (13%). Even though the European region (including the UK) is undertaking numerous initiatives, few were specifically included in their member country NDCs.
4. **The Asian and African countries most vulnerable to the changing climate** (including Brunei, Kenya, Malaysia, Maldives, Mozambique and Seychelles) have extensively mapped ocean-based actions on *building coastal resilience, including of communities, cities and infrastructure in their NDC reports and NAPs*. These countries consistently contain actions specifically aimed at supporting vulnerable communities reliant on ocean sectors.
5. **African countries** demonstrated the highest disclosures on building coastal resilience, including of communities, cities and infrastructure, at 93 per cent. This was

followed by Asian countries at 63 per cent, and the Pacific, Caribbean and Americas regions with 54 per cent. While most resilient coastal town disclosures were made by African and Asian countries, investment on ocean-based actions are underway in Pacific and Caribbean countries in conjunction with development partners and regional alliances. Limited information on these was contained within NDCs.

6. **Ocean-based renewable energy**: Singapore and the UK are leaders in harnessing large-scale implementation of floating photovoltaic technology and offshore wind respectively, which were reported in their NDCs.

7. **Marine and coastal tourism** remained a significantly under-reported theme across all regions, representing a missed opportunity. Coastal and marine tourism is projected to be the largest value-adding segment of the ocean economy by 2030.[9]

The findings of this report – combined with the opportunities highlighted in other recent research[10] – show the huge potential for ocean-based NDC actions toward a sustainable blue economy. The more well-defined and bankable the NDC ocean-based actions are, the greater will be the potential to access finance and leverage blue economy opportunities. Further co-operation under the Commonwealth Blue Charter, including the provision of technical assistance to Commonwealth countries, to increase emphasis on and resourcing of ocean-based actions in the next iterations of NDCs, would demonstrate Commonwealth leadership, as well as highlighting that the ocean–climate nexus is critical to realising the 1.5°C goal of the Paris Agreement.

1. Introduction

Human-induced climate change, driven by greenhouse gas emissions (GHGs),[11] poses a grave and imminent threat to our planet, its inhabitants and its ocean.[12] Approximately 3.5 billion people live in contexts that are highly vulnerable to climate change, more than one-third of whom live within 100 kilometres (km) of the coastline.[13] The impact of climate change on small coastal and island countries is disproportionately large due to reliance on traditional ocean-based sectors – mainly fisheries and tourism.

Climate change has already caused substantial damage and increasingly irreversible losses in terrestrial, coastal and open ocean ecosystems.[14] To achieve the 1.5°C goal enshrined in the Paris Agreement, emissions must drop by at least 43 per cent on 2019 levels by 2030.[15]

Nationally Determined Contributions (NDCs) are the main mechanism by which countries communicate their ambitions and efforts in support of the Paris Agreement.[16] Starting in 2023 and every five years thereafter, governments take stock of the implementation of the Paris Agreement, known as the global stocktake (GST). The GST holds countries accountable for their collective efforts to achieve the targets they set themselves in 2015, and tracks the progress made.[17] Recent analysis of country NDC commitments[18] shows that progress is not happening 'at a pace or scale consistent with achieving' the goals of the Paris Agreement. Urgent transformational change is needed.[19]

A September 2023 report,[20] commissioned by the High-Level Panel for a Sustainable Ocean Economy, found that full implementation of actionable ocean-based climate solutions could reduce the 'emissions gap' by up to 35 per cent on a 1.5°C pathway by 2050. This reduction would be equivalent to four times the annual emissions of European Union countries[21].

The Commonwealth Blue Charter (CBC), in 2022 published the first overview of the ocean-based NDCs of the 49 (of 56) Commonwealth countries that have a marine coastline, as well as two self-governing oceanic states in free association with New Zealand, that is, Niue and Cook Islands.[22] This updated report introduces the Paris Agreement and its obligation of reporting NDCs, National Adaptation Plans (NAPs) and their role in achieving NDC targets. The report also considers obligations of countries when reporting NDCs. It further considers pathways, projects, programmes that countries are implementing to achieve their ocean-based NDC targets under six specified themes (See section 2 – Methodology) using the National Adaptation Plans (NAPs) lens, policy reviews, expert opinions, and a literature review beyond the scope of NDCs and NAPs. Finally, the report considers global developments and initiatives being taken by countries to leverage blue financing with respect to the ocean–climate nexus. The report also provides a Commonwealth context using case studies from the countries that are leading in the ocean space from five Commonwealth regions.

1.1 Parties' obligations for Nationally Determined Contribution reporting under the Paris Agreement

The United Nations Framework Convention on Climate Change (UNFCCC)'s Paris Agreement ('the Agreement') of 2015 seeks to limit global warming to below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 degrees Celsius. The Paris Agreement (Article 4, paragraph 2) requires each Party to prepare, communicate and maintain NDCs they intend to achieve. NDCs typically include targets for reducing greenhouse gas emissions, as well as plans for how those targets will be achieved. Parties are expected to pursue domestic mitigation measures to achieve their NDCs.

The Agreement recognises that the goals indicated in its articles will be achieved through time and, therefore, builds on a ratcheting up of aggregate and individual ambitions over time. NDCs are expected to be submitted every five years to the UNFCCC Secretariat. However, Parties can adjust and update their existing NDCs with a view to enhancing levels of ambition subject to the principle of 'common but differentiated responsibilities and respective capabilities in the light of different national circumstances'.[23] Adaptation actions may also be included in NDC reporting and revised NDCs can highlight actions to meet targets. As

of 25 October 2023, the UNFCCC Secretariat's public registry contained 195 active NDC reports.[24], [25] These include NDCs submitted in 2016 to the most recent NDCs submitted in October 2023, some of which are second NDCs or enhanced or revised versions.

At the UNFCCC Conference of the Parties (COP26) held in Glasgow, United Kingdom, a decision was adopted with the view to encourage Parties to communicate in 2025 an NDC for the period 2025–2035, a further NDC in 2030 for the period 2030–2040, and one every five subsequent years thereafter. Furthermore, starting in 2023 and then every five years, governments are expected to take stock of the implementation of the Paris Agreement (the global stocktake) to assess the collective progress towards achieving the agreement's long-term goals. The results of the global stocktake will inform Parties 'in updating and enhancing, in a nationally determined manner, their actions and support in accordance with the relevant provision of the Agreement, as well as in enhancing international action co-operation for climate action'.[26]

1.2 National Adaptation Plans (NAPs)

The National Adaptation Plan (NAP) approach was established under the Cancun Adaptation Framework[27] and re-emphasised in the Paris Agreement. Countries can adopt the NAP process to update and improve various adaptation elements mentioned in their NDCs. NAPs are meant to focus on reducing vulnerability to the impacts of climate change by building adaptive capacity and resilience. They also set out objectives and implementation pathways to integrate adaptation into not only national-level planning, but also subnational, with a cross-sectoral approach. In this report, we also look at whether there are clear linkages between Commonwealth country NDCs and NAPs, focusing specifically on ocean-based actions.

1.3 Integrating ocean–climate action

There has been a steady build-up of attention on integrating ocean and climate actions. COP25 mandated the first ocean and climate change dialogue (the 'Ocean Dialogue'), which underlined the importance of ocean-related actions in tackling the climate crisis. COP26 mandated an annual dialogue. This Ocean Dialogue took place for the second time in June 2023 in Germany. The focus of the discussions was around two key themes: first, coastal ecosystem restoration, including blue carbon; and second, fisheries and food security. The outcome report stresses that it is critical for countries to incorporate ocean-related mandates from the UN Climate Change Conferences COP26 and COP27 into their national climate objectives and UNFCCC processes, including global stocktake political outcomes, and to better streamline national focus areas with other international conventions and agreements.[28]

At COP27, in Sharm el-Sheikh, Egypt, in November 2022, further advances were made on ocean-based action. The Sharm el-Sheikh Implementation Plan recognised the importance of the ocean in climate mitigation and adaptation and called for urgent action to protect and restore marine ecosystems.[29] It recommends the integration of Ocean Dialogue outcomes with the COP agenda. It also: 'Encourages Parties to consider, as appropriate, ocean-based action in their national climate goals and in the implementation of these goals, including but not limited to nationally determined contributions, long-term strategies and adaptation communications.'[30] During COP27, one month prior to the similar commitment made by all Parties to the Convention on Biological Diversity (CBD), 16 countries endorsed the **Ocean Conservation Pledge,** to conserve or protect at least 30 per cent of ocean waters under their jurisdictions by 2030.[31]

In March 2023, United Nations (UN) member countries adopted text to a treaty to protect the world's oceans that lie outside national boundaries. **The UN High Seas Treaty** (also known as 'the BBNJ Treaty' for 'biodiversity beyond national jurisdictions') is a landmark agreement that aims to protect and sustainably manage marine life and ecosystems in areas beyond national jurisdiction. The treaty will enter into force upon its signing and ratification by 60 states.[32] It addresses four key themes: (1) marine genetic resources; (2) area-based management tools, including marine protected areas (MPAs); (3) environmental impact assessments; and (4) capacity building and transfer of marine technology. Once ratified, the BBNJ Treaty will provide a new tool to address ocean-related climate change issues in areas beyond national jurisdiction (ABNJ) (about 61% of the ocean surface overall).

2. Methodology (Analytical Approach and Assumptions)

This report is a commentary on the ocean-based NDCs and actions being taken in the Commonwealth countries. It highlights challenges and best practices to guide further development and achievement of ocean-based actions. As a baseline, the previously published CBC report, coupled with other relevant published literature, was thoroughly reviewed and analysed. For this updated review, the countries that have revised their NDC reports since October 2022 were filtered and prioritised for review of NDC actions and progress on their achievement. These comprised six countries: **The Bahamas, Dominica, Gabon, Kiribati, Singapore and Tuvalu.**

Ocean-based NDC actions were reviewed and reported under the same five key themes used in the previous report developed from the Terms of Reference of the Commonwealth's Fiji-led Ocean and Climate Change Action Group. Considering its frequent reporting in literature and emerging importance in NDC actions, a sixth key theme was added. These six themes are:

1. **Restoring, conserving and financing critical coastal ecosystems (blue carbon),** including mangroves, saltmarshes, seagrasses and other blue carbon sinks.
2. **Protecting climate-critical habitats and ecosystems** to increase ocean health and resilience to climate impacts.
3. **Supporting emissions reduction in maritime shipping**.
4. **Coastal resilience,** including of communities, cities and infrastructure.
5. **Ocean-based renewable energy**.
6. **Marine and coastal tourism** *(new theme for 2023 report).*

The above thematic areas also align with those of related reviews conducted by the Conservation International (CI), the Ocean Conservancy, the World Resources Institute (WRI), the Ocean Climate Platform, the International Union for Conservation of Nature (IUCN), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), The Nature Conservancy (TNC) and the World Wide Fund for Nature (WWF).

In the preliminary review of NDC reports, a gap in the information was identified regarding the pathways or initiatives being taken to achieve ocean-based NDCs, especially under 'Restoring, conserving and financing critical coastal ecosystems (blue carbon) (Theme 1) and 'Coastal resilience, including communities, cities and infrastructure' (Theme 4). To fill this gap, for this review, National Adaptation Plans (NAPs) were considered, in addition to the NDC reports and relevant literature. To ensure diversity of programmes or initiatives being taken under Themes 1 and 4, three countries leading in these thematic areas were selected for review of their NAPs: **Fiji, Kiribati and Bangladesh**.

To obtain greater detail, the desk-based review was supplemented and validated with interviews from different governmental marine, ocean and climate change experts in the selected countries. The interviews focused on pinpointing challenges faced by the inclusion of ocean-based actions in NDCs; achieving ocean-based NDC targets; accessing finance to implement these actions; and relevant projects, programmes or initiatives underway in this space and reasons why they had been being taken but not mentioned in NDC reports, along with identifying recommendations or best practices that can be adopted to expedite their achievement. These interviews were also instrumental in directing the project team to more focused and relevant literature that was then reviewed for further analysis. The countries for interviews were selected based on the following criteria:

- **Regional representation**: Selection of at least one country from each of the five Commonwealth regions.
- **Representation of all development statuses**: Small island developing states (SIDS), least developed countries (LDCs), developed countries.

- **Availability/unavailability of revised NDC reports or NAPs**: To ensure a consistent data collection, interviews were conducted from:
  - countries having revised NDC reports and NAPs;
  - countries having revised NDC reports but no NAPs;
  - countries that haven't revised NDC reports but have NAPs; and
  - countries that haven't revised NDC reports and have no NAPs.
- **Thematic representation**: Countries with NDC targets and actions covering at least three of the six themes specified.
- **Trendsetters:** Countries demonstrating best practices and leadership in the ocean space.

Based on the above criteria, the **selected interview countries comprised of Bangladesh, Belize, Fiji, Kiribati and the United Kingdom**. Both generic and thematic, country-specific interview questions were developed relating to mitigation and adaptation NDC measures, targets, commitments, actions and pathways (Annex 3). Generic questions pertained to the broader policy landscape, alignment between different policy documents and their relevant challenges. Thematic questions related to the six specified themes with a focus on identifying specific actions, pathways, challenges and best practices within them. These questions were devised through a detailed review of NDC reports, NAPs, relevant reports and articles.

These interviews, coupled with the literature review, were used to identify the Commonwealth case studies: **Bangladesh, Belize, Dominica, Fiji, Kiribati, Mauritius, Namibia, Singapore and the United Kingdom**. The case studies were developed to highlight best practices and leading actions under each of the thematic areas. They act to provide 'lessons on implementation' to other Commonwealth countries seeking to achieve similar success under blue initiatives.

3. A Regional Analysis of Ocean-based Commitments and Actions across the Commonwealth

This section provides an in-depth intra-regional and inter-regional analysis of the ocean-based NDC actions and commitments disclosed with respect to the six themes, along with their pathways and programmes in Commonwealth coastal countries.

3.1 The Caribbean and Americas

Of the thirteen Commonwealth countries in the Caribbean and Americas, ten have revised their NDC reports within the last two years (Guyana and St Vincent and the Grenadines published their NDC reports in 2016; Trinidad and Tobago published its report in 2018.) Among these, Grenada, Saint Lucia, and St Vincent and the Grenadines have also prepared National Adaptation Plans (NAPs). However, there were several ocean initiatives and projects that were not captured in the NDCs and/or NAPs.

Restoring, conserving and financing critical coastal ecosystems (blue carbon) and protecting climate-critical habitats and ecosystems

Most of the countries in this region have actively mainstreamed ocean-based actions regarding *restoring, conserving and financing critical coastal ecosystems (blue carbon)* and *protecting climate-critical habitats and ecosystems,* with almost all of them highlighting the importance of community engagement and awareness to effectively implement these actions.

Antigua and Barbuda has set a conditional target to protect all remaining wetlands, watershed areas and seagrass bed areas with carbon sequestration potential as carbon sinks by 2030.[33]

The Bahamas aims to restore and conserve its degraded ecosystems, including terrestrial forests, mangroves and coral reefs, through nature-based solutions and by increasing the marine protected areas. Its NDC further stipulates the establishment of national standards to collect geospatial data for reefs, fisheries, forests, agriculture etc., along with development of ecological and economic analysis to increase knowledge on the value of forest, mangrove, coral reef and seagrass ecosystems.[34]

Barbados' NDC provides that it aims to dedicate 30 per cent of its marine waters (exclusive economic zones [EEZs]) as marine managed areas (MMAs) and to restore coastal ecosystems, shorelines and coral reefs. It has taken actions to integrate ocean-based targets in policy documents and national legislation. Its water resources and the maritime environment, including sectors such as tourism and fisheries, are protected under legislation. The Coastal Zone Management Plan, which aims to incorporate natural capital within national assets accounting, has been approved under the Barbados Policy Framework (2020–2030).

The Bahamas: the 'Protected' initiative

The Bahamas' commitment towards ocean restoration is reflected in its three-year initiative called 'Bahamas Protected' with TNC in 2016 to achieve its target of protecting at least 20 per cent nearshore marine environments by 2020 under the Caribbean Challenge Initiative. At the time of this report, more than 13 million acres, forming 10 per cent of the country's nearshore environment, were protected.[199]

Belize: Restructuring debt through blue bonds

In 2021, Belize's debt-to-gross domestic product (GDP) ratio had reached 125 per cent after severe blows to key economic sectors (that is, fisheries and tourism) due to the impacts of climate change compounded by COVID-19. Subsequently, The Nature Conservancy (TNC) and the Government of Belize signed Blue Loan and Conservation Funding Agreements and devised the Blue Bonds for Ocean Conservancy programme.[200] This massive debt refinancing project leveraged blue bonds, under which Belize committed to conserve 30 per cent of its oceans, paving the way for long-term commitments focusing on capacity building and developmental efforts. The US International Development Finance Corporation underwrote risk security, thereby making the resultant blue bonds attractive to investors.

The completion of the US$364 million debt conversion reduced Belize's debt by 12 per cent of GDP and created long-term sustainable financing of around US$180 million for conservation efforts on the ground over 20 years.[201]

Under the Blue Bonds for Ocean Conservancy programme, an independent conservation fund – the Belize Fund for a Sustainable Future (BFSF) – has been developed and is currently devising a monitoring and evaluation framework. At the time of this report, it had already overseen an initial call for proposals, technical review and grant award process resulting in the allocation of an approximately US$7.6 million (in Belizean dollar [BZD] equivalent) disbursement under two principal programmes: the Government Strategic Allocation and the Grants Award Program.[202]

The programme further aims to complete its Milestone 4 (to expand 25 per cent of oceans to Biodiversity Protection Zones) by 2024. The success of this transaction was recognised in Environmental Finance's 2022 Bond Awards, winning the sovereign sustainability bond of the year and the award for sustainability bond structure innovation. Recognising the potential benefits, countries including Ecuador and Barbados have signed similar deals.[203], [204]

Its NDC further points out 'the need to establish an internationally agreed accounting methodology for mangroves, coral reefs seagrass beds and the open ocean'. The Ministry of Maritime Affairs and the Blue Economy (MMABE), in collaboration with TNC, is to establish a conservation trust fund in Barbados as part of a maritime Debt-for-Nature Swap.[35]

Belize's 2016 National Biodiversity Strategy and Action Plan protects coastal ecosystems and focuses on developing and implementing mangrove and fisheries conservation and management plans. It aims to include 20 per cent of its territorial waters in marine protected areas and 10 per cent in marine replenishment zones. Its NDC officially recognises the multiple benefits of mangroves and seagrasses for climate change mitigation, adaptation and resilience, specifically in sequestering 'blue carbon'. It terms their healthy function: 'a triple-win for Belize by contributing to the national carbon sink, offsetting sea level rise and coastal erosion while expanding habitat for biodiverse resources, and supporting a more resilient tourism and aquaculture industry'. It aims to conduct a stocktake of mangrove cover for effective restoration, with targets to expand mangroves under protection by at least 6,000 hectares by 2025 and an additional 2,000 hectares by 2030. Between 2021 and 2030, Belize is targeting the reduction of a cumulative 381 kilotonnes of carbon dioxide equivalent ($KtCO_2e$) through this restoration. Its Forests Protection of Mangroves Regulations of 2018 also established a permit system to safeguard mangroves. Belize has mapped and identified priority seagrass areas and aims to develop and implement a National Seagrass Management Policy. Belize has also taken a lead in developing the blue economy by convening the 2020 Blue Carbon Working Group to inform targets and recommendations to protect coastal ecosystems[36] (see Belize case study on blue bonds).

Canada is committed to protecting 25 per cent of its oceans by 2025 and 30 per cent by 2030 to maintain ocean health and coastal ecosystems. Canada's NDC specifically recognises the carbon sequestration potential of coastal wetlands and aims to invest US$631 million to 'restore and enhance wetlands' and peatlands, which includes improving land management strategies.[37]

The Commonwealth Blue Charter

Phase 1 – CORVI Rapid Assessment Protocol – Barbados, Kiribati and Sri Lanka

Developed in partnership with the Commonwealth Secretariat's Blue Charter programme and the Stimson Center in 2022, Barbados, Kiribati and Sri Lanka hosted the three pilot (Phase 1) CORVI [Climate and Ocean Risk Vulnerability Index] Rapid Assessment Protocol projects. With funding through the Ocean Risk and Resilience Action Alliance (ORRAA) and the UK's Blue Planet Fund, the pilot CORVI Rapid Assessment Protocol was developed as a condensed version of the full CORVI methodology. It assessed 30 priority CORVI risk indicators across 10 categories, selected by local stakeholders.[205]

Phase 2 – Dominica and Mauritius

This revised phase of the protocol, with the Stimson Center and with funding through ORRAA and the Government of Canada, builds on and tests Phase 1's lessons learned. This second phase has allowed for two further countries to undertake the Rapid Assessment (Dominica and Mauritius), with a further five risk indicators; that is, 35 indicators in all.

Guyana has committed to expanding mangroves along its vulnerable coasts, along with protection of conservancies, reservoirs and their watersheds.

Support emissions reductions from maritime shipping

Only a few countries in the Caribbean and Americas region have set NDC targets to *support emissions reductions from maritime shipping*.

The Bahamas' NDC is cognisant of waterborne navigation's role in the nation's emissions owing to the high dependence of the country's economy on tourism. (However, the current iteration of The Bahamas' report is silent on relevant targets and actions).[38]

Canada's NDC reporting highlights emissions reduction from marine vessels through national and international collaboration. British Columbia, Canada's Pacific province, has committed to invest in cleaner maritime transport infrastructure, including hybrid ferries.[39]

Dominica aims to reduce emissions from the shipping sub-sector by 100 per cent and from the commercial and residential fishing sector by 8.1 per cent by 2030 through development of synthetic fuels.[40]

Building coastal resilience, including of communities, cities and infrastructure

Antigua and Barbuda's NDCs require 100 per cent of community and sports infrastructure to be climate resilient. Through a Global Environment Facility (GEF)-funded project, the country is establishing ecosystem-based adaptation financing for ocean sectors such as fisheries and tourism. In addition, another GEF-approved project is in the pipeline that aims to mainstreaming climate proofing into financing mechanisms to increase the resilience of buildings against hurricanes.[41]

The Bahamas' NDCs include strengthening of the national regulatory framework and aim to increase resilience of energy infrastructure, while diversifying the energy matrix focused on renewable energy. Its reporting stipulates the development and implementation of an integrated coastal zone management plan, as well and being focused on enhancing land-use planning and modelling of precipitation, sea level and disaster events to identify suitable locations for coastal development and to address climate change risks and consequences. The Bahamas is a member of the Caribbean Catastrophe Risk Insurance Facility (CCRIF), under which it has developed contingency plans for adaptation. The CCRIF provides parametric insurance for disaster events, supporting the implementation of the Climate Risk Adaptation and Insurance in the Caribbean (CRAIC) Project – a project that offers a micro-insurance product called the Livelihood Protection Policy (LPP) to provide

Dominica: Enhancing coastal resilience

Dominica is set to become 'the world's first climate resilient nation'[206] through institutional and policy reforms. It is setting up a Climate Resilience Execution Agency and aims to pass the Climate Resilient Act to enhance carbon sequestration and improve climate resilience. Its NDCs also highlight protection of marine inshore habitats, integrated coastal management plan development with an institutional framework, product development, diversification, and technological advancement within marine environments. The country also commits to boosting protective functions of both green and blue infrastructure against climate-induced disasters (hurricanes) and commits to conduct GHG and energy audits of cities and public infrastructure (with climate smart building codes).[207] The country also has a Dominica Climate Resilience and Recovery Plan 2020–2030.[208] Furthermore, it is running some prominent initiatives to build coastal resilience via its Disaster Vulnerability Reduction Project (DVRP).[209]

Dominica is achieving the NDC targets of building resilience in coastal communities and cities through various projects. It is partnering with the Stimson Center, ORRAA, the Government of Canada and the Commonwealth Secretariat to undertake rapid coastal climate vulnerability assessments. In this Commonwealth Blue Charter project, priority climate vulnerabilities are being identified for attention by the Government of Dominica, along with investment and adaptation development.[210] Dominica is also reviewing past initiatives and reports to consolidate actions and findings to assist the government in developing a robust plan of action based on gaps and needs.

Additionally, the country is active in many regional-level initiatives for ecosystem restoration and protection efforts to build local resilience. Some examples include the work being carried out by the Caribbean Natural Resources Institute (CANARI) and Caribbean Regional Resilience Facility.[211], [212]

quick pay-out to vulnerable low-income individuals following disaster events to protect their livelihoods.[42]

Barbados aims to develop a National Coastal Risk Information Planning Platform (NCRIPP) for use by the Coastal Zone Management Unit (CZMU) to enable coastal development.[43]

Belize aims to increase resilience to climate impacts for coastal communities and habitats and enhance tourism by managing coastline development and establishing an early warning system by 2025. It specifies coastal vulnerability assessment, with aims to monitor coastal erosion and update its coastal adaptation strategy every five years by developing a National Beach Erosion Monitoring programme. It further highlights the implementation of a Land Use Policy and green-grey infrastructure[44] to mitigate disaster risk. Belize is also among the few countries whose NDCs address ocean acidification. It emphasises the update and implementation of its integrated coastal zone management plan and links it to a national blue economy strategy.[45]

Dominica's NDC highlights watershed protection, slope stabilisation, and use of coastal and river defences for adaptation, with aims to incorporate nature-based solutions to protect coastal infrastructure and communities. To finance these initiatives, a Climate Change and Environment Trust Fund is to be established by the Department of Environment, Climate Change and Development. Along with establishing an institutional framework for a coastal management plan to increase utilisation of technology to monitor and assess the protection of marine areas, Dominica will prepare vulnerable communities for disasters by establishing early warning systems, multi-use disaster shelters and emergency training programmes.[46]

Guyana's NDC explains the country's commitment to work on integrated water management infrastructure, including construction, rehabilitation and maintenance of conservancies and canals, and sea defences. The country is also working to upgrade infrastructure and other assets to mitigate flood risks.[47]

Ocean-based renewable energy

There is less narrative available around *ocean-based renewable energy*, with only a few countries having some references in their NDC reporting.

Barbados identifies research and development of ocean energy as a national strategic area to establish the Blue Economy and to achieve its emissions mitigation ambition of 70 per cent by 2030.[48]

Belize aims to achieve 75 per cent clean energy generation by 2030 by implementing solar, wind, biomass and hydropower generation, specifically in the tourism sector. It further aims to explore the feasibility of onshore wind.[49]

While its NDCs are silent on ocean-based renewable energy, the Government of Canada has developed a Marine Renewable Energy Technology Roadmap in close collaboration with the industry to advance commercialisation of marine energy technologies while ensuring international competitiveness.[50]

Guyana's NDCs also outline the use of hydropower in its renewable energy targets.

Overall, while renewable energy aspirations are highlighted by different countries, their NDC reporting remains unclear on whether these targets include ocean-based renewable energy.

Marine and coastal tourism

The Bahamas and Barbados refer to the economic importance of *marine and coastal tourism* in their NDCs. For instance, Barbados mentioned taking some initiatives to involve the tourism sector in stakeholder engagements and coastal planning.[51] However, there is a lack of NDC targets and actions focused on maintaining and enhancing coastal tourism, which presents an emerging need.

3.2 The Pacific

Many countries in the Pacific region have updated their NDC reports in the past two years.[52] Of the 11 Pacific Commonwealth countries, 2 (Fiji and Kiribati) have prepared National Adaptation Plans (NAPs).[53]

Restoring, conserving and financing critical coastal ecosystems (blue carbon) and protecting climate-critical habitats and ecosystems

Over the past seven years, Pacific[54] region countries have increased activities in mainstreaming ocean-based actions and commitments into their national NDC reporting related to restoring, conserving and financing critical coastal ecosystems (blue carbon). Several initiatives were identified that have not been included in country policy documents (NDCs and NAPs).

Australia's NDC report contains clear blue financing commitments. It has committed to strengthening the management of its marine parks and will invest an additional $194.5 million to protect the Great Barrier Reef.[55] Moreover, Australia is demonstrating leadership in sustainable ocean management by its commitment to sustainably manage 100 per cent of the ocean areas within its national waters by 2025, guided by a sustainable ocean plan.[56] The pathways towards achieving *NDC commitments related to blue financing, conservation, restoration and protecting climate-critical habitats and ecosystems* include the Australian Government investing $10.8 million to improve ocean and marine park management in Australia and to strengthen international environmental leadership in ocean policy. The *Reef 2050 Long-Term Sustainability Plan*, for example, focuses on protecting the Great Barrier Reef by building reef resilience, adaptive marine park management and improving water quality. The Australian and Queensland Governments are investing more than $4.4 billion from 2014–15 to 2029–30 to implement the plan, along with $500m+ investments in ocean adaptation and resilience. This includes long-term investments to fund environment and climate research supporting science-based solutions to environmental issues, and investments to address the challenge of ghost nets and plastic litter in the Gulf of Carpentaria. The Government of Australia is also investing $9.5 million to restore degraded coastal blue carbon ecosystems as part of the Blue Carbon Conservation, Restoration and Accounting Program.[57] The country is also supporting 14 Pacific island countries with the investment of $14 million to prepare for climate extremes and communicate seasonal forecasts, and to provide information on sea level rise, and tide and wave data for shipping and fishing.[58]

Fiji: Mainstreaming ocean–climate governance

Fiji is at the forefront of *mainstreaming ocean–climate governance and climate commitments* through its National Ocean Policy (NOP) of 2021. By 2030, 30 per cent of its marine space will be designated as marine protected areas (estimated to provide the country with benefits worth more than 2.4 billion Fiji Islands dollars [F$] per year)[213] and 100 per cent of its marine environment will be managed sustainably.[214] Development partners such as the World Bank are helping the government to implement the NOP and expand the marine protected areas. The country is on track with its NDC targets and aims to deliver a five-fold increase of its marine protected areas by 2024, and to reach the 30 per cent target by 2030.[215] The NOP also supports greater inclusion of women and youth in ocean management and aims to restore and maintain the health of Fiji's ocean areas, provide food security and create more ecotourism opportunities.[216]

Fiji is also on track with blue carbon and nature-based solutions (NbS) commitments to restore, enhance and conserve coastal ecosystems as well as mangroves, seagrasses and coral reefs,[217] including mapping (through an IPP Common Sensing project)[218] and data assessment for mangroves and seagrasses.[219] The Blue Carbon Fiji Project was an effort to map mangroves (65,243 hectares) in key sites[220] and to assist in the development of policy assessment. It also sought to raise awareness on blue carbon; update the national forestry inventory; select optimal methodologies; support blue carbon governance; and to identify alternative pathways and financing options to safeguard Fiji's management and restoration of mangroves.[221]

Fiji has a well-developed National Adaptation Plan (NAP), which highlights 'the need to sustainably manage and protect marine and coastal ecosystems, strengthen their resilience, and restore them when they are degraded'. To complement the NAP efforts, the country is preparing a Coral Reef Resilience project (with WWF for the Green Climate Fund [GCF])[222] to *enhance the resilience of coastal ecosystems and communities* to climate change by reducing impacts from vital ecosystem destruction, overfishing and unsustainable production.

Another nature-based solution for coastal resilience that meets NAP and NDC priorities is the nature-based sea walls construction under the Adaptation Fund. Led by the Government Climate Change Division and supported by the Pacific Community (SPC), the World Resources Institute (WRI) and the Commonwealth Climate Finance Access Hub (CCFAH), the project aims to increase the climate resilience of vulnerable coastal communities through the adoption of nature-based coastal protection for adaptation.

Fiji is also exploring indigenous management of coastal and ocean areas through local engagement and development of appropriate approaches to reaffirm and promote the understanding and the values of mangroves and seagrasses from a livelihood perspective.

Fiji is aiming to meet the NDC targets to reduce domestic *maritime shipping emissions* by 40 per cent by 2030 through development of its new Maritime Policy. Fiji also co-chairs the Pacific Blue Shipping Partnership[223] with the Republic of Marshall Islands. However, there are challenges in raising blue financing for infrastructural and operational changes and there are opportunities for development partners to work in the space.[224]

More initiatives are highlighted in Annex 4.

Prominently, **Fiji** has been a model across the Commonwealth in mainstreaming blue economy ambitions in its NDC targets through enhanced ocean governance to not only in progressing towards achieving national ocean conservation, but also contributing to enhancing the ocean as a carbon sink. Its NDC targets include conserving ocean reservoirs as carbon sinks through restoration, enhancement and conservation of coastal ecosystems such as mangroves, seagrasses and coral reefs (see Fiji case study)[59].

Nauru: Climate-resilient port facility

Nauru, the smallest Island country in the Commonwealth, is in the process of completing its NDC target[225] of constructing a climate-resilient port facility. Ensuring a reduction of emissions associated with offshore mooring and loading/unloading of shipping vessels, this port will serve as a regional transportation hub in the central Pacific, providing opportunities for local businesses – especially for value-added fishing and shipping-related services. Planned with climate change in mind, the port design will withstand the adverse impacts of sea level rise, strong storms and cyclones and will thereby be operational for longer periods of the year. With blue financing from GCF and the Asian Development Bank (ADB), the port design includes a channel through which oceangoing ships can pass between the sea and the shore, a stable wharf with a turning berth, a breakwater to shelter the wharf and the berth from waves, a container terminal, and port security provisions complying with International Maritime Organization (IMO) conventions. Greenhouse gas emissions will be reduced by enabling the efficient loading and unloading of shipping vessels, which is a large improvement over the current offshore method. Ships will spend considerably less time at sea, and the need to operate a ferry for loading and unloading will be eliminated. Over the 50 years of the port's lifetime, estimated reductions in CO_2 emissions are 535,400 tons.[226] Construction was ongoing at the time of writing, and a partial operational wharf was achieved on 3 September 2022. For future maintenance, the government has established a fund.[227]

The Government of **Kiribati** has developed a comprehensive nine-year Kiribati Joint Implementation Plan (KJIP) (2019–2028) that aligns well with the country's NDC targets.[60] This plan provides key strategies to achieve national adaptation priorities and outlines the promotion of healthy and resilient ecosystems as one of the strategic priorities. It aligns with Kiribati's long-term development blueprint – its 20-year National Vision for Sustainable Development (2016 to 2036). In terms of restoring and conserving coastal vegetation, Kiribati's NDCs and KJIP target are to increase the carbon sink potential of coastal systems through mangrove forest preservation and enhancement of coastal vegetation and seagrass beds, along with the development of effective licensing and enforcement systems.[61] This also opens avenues for blue carbon finance and benefit share mechanisms.

Kiribati's Joint Implementation Plan identifies disaster risk reduction and coastal resilience as a key priority. It specifically mentions 'climate proofing' to increase resilience of infrastructure and development of a revolving fund to provide finance. It emphasises the development of an open-access national database to integrate disaster risk and vulnerability information and formulation of land and marine management plans and marine spatial plans (MSPs). In addition, it mentions the establishment of 'geodetic benchmarks' on selected islands for monitoring coastal movement land erosion/accretion in relation to climate change and sea level rise through utilisation of global positioning system (GPS) and updated software. The plan adopts an inclusive approach, focusing on the incorporation of climate and disaster risks within private sector business plans, along with increased investment by businesses in value-adding marine and agricultural products. Development and adoption of a national coastal management policy is also highlighted as part of the KJIP.[62]

Niue has announced a novel sponsorship plan to protect its territorial waters. Under the Ocean Conservation Commitments programme, individuals and firms can pay $148 to shield 1km² of ocean from threats such as illegal fishing and plastic waste for a period of 20 years. Niue hopes to raise $18 million by selling 127,000 units – representing 40 per cent of its waters.[63]

Tuvalu has updated its NDCs to prioritise strengthening the community-led management of vulnerable near-shore ecosystems; and to increase the productivity of fisheries through adaptation to 'near-shore coastal shellfish fisheries and coral reef ecosystems'.[64] Some pathways to achieving these targets include the recent Green Climate Fund (GCF) funding of US$36 million, along with US$2.9 million co-financing from the Government of Tuvalu, for a seven-year Coastal Adaptation Project. The project is building coastal resilience and management in three of Tuvalu's islands and aims

Kiribati: Building resilience

Kiribati is a country of 33 islands (21 inhabited atolls), most of which sit just 1–3 m above sea level. It is among the most vulnerable countries to climate change, experiencing damaging storm surges, saltwater inundation and extreme weather variations. Climate-induced declines have been observed in commercial fish populations as stocks move further offshore, reducing catches. With Kiribati being among the world's most 'fisheries-dependent countries globally', declines in fish populations are particularly damaging to the country's informal and formal economies. These issues and others are addressed within Kiribati's development policies and plans, including its Climate Change Policy and Integrated Environment Policy.[228]

To enhance coastal resilience and food security, in 2016 Kiribati launched the project, *Enhancing National Food Security in the context of Climate Change*,[229] which contributed to the achievement of many of the strategies in the Kiribati Joint Implementation Plan (KJIP). The KJIP was supported by the Global Environment Facility (GEF) Least Developed Countries Fund and the UN Development Programme (UNDP). It was led by the Ministry of Environment, Lands and Agricultural Development and the Ministry of Fisheries and Marine Resources Development, in collaboration with key governmental stakeholders. The project has delivered multiple benefits, including piloting sustainable management of lands and coastal fisheries, enhanced food production and diversification, and strengthened adaptive capacities to increase livelihoods, in the atolls of Maiana, Abemama and Nonouti.[230]

The project helped to maintain coastal habitats and enhance coastal resilience, through support of sustainable land management in collaboration with community-based beach revegetation. Here, communities have planted more than 400,000 mangroves. The project also assisted in the increase of inshore fish populations through the establishment of MPAs in the atolls of Maiana, Abemama and Nonouti. In addition, under this project, in co-operation with the Australian Centre for International Agricultural Research, capacity building was conducted by the Government of Kiribati who focused on community-based fisheries management planning, as well as community training on cooking and fish preservation, seaweed planting and monitoring, and clam and sandfish farming and monitoring. These trainings also raised awareness on plastic and waste management on land, as well as marine pollution and maintaining marine health. Coastal tourism has also seen an increase through training and capacity building on boat safety, first aid, handicrafts, hospitality and local culture, and of fishing guides.

As a part of the same project, vulnerability assessments regarding food, water and disaster risks were led by the Climate Change Division of the Office of the President and Kiribati's National Expert Group on Climate Change and Disaster Risk Management. The assessments have been completed for the islands of Abemama and Nonouti, with the process still underway for Maiana at the time of writing. The Meteorological Service of Kiribati and New Zealand's National Institute of Water and Atmospheric Research (NIWA) have also installed improved data and monitoring systems, including automated weather stations and early warning systems on the islands. These stations capture and transmit real-time weather data, with full nationwide radio coverage and immediate availability of weather data to all communities. Furthermore, the government has established a methodology to monitor and track the status of coral reefs, invertebrates and fish – teams regularly survey fishers and sample stocks, as well as fish size, maturity and behaviour.[231]

While the project, '*Enhancing National Food Security in the Context of Climate Change*', ended in January 2023, the government plans to replicate project successes and learnings on the outer islands as well. Future plans include strengthening the National Coastal Fisheries Monitoring Programme and implementation and enforcement of the National Fisheries Legislation and the (draft) Ecosystem-based Adaptation Guideline, including formulation of supportive island by-laws and island strategic plans.[232]

to catalyse other sources of adaptation finance. The most recent GCF grant (US$7.5 million) was disbursed in 2022. This project builds on existing infrastructure to protect coastal areas, including sea walls. Tuvalu is currently developing a NAP under GCF Readiness to advance medium- and long-term adaptation planning.

Other Pacific countries: Ambitious NDC commitments have been made by **Tonga, Vanuatu, Tuvalu, Samoa, Papua New Guinea, Niue, Marshall Islands and Solomon Islands**. **Tonga** has included MPAs, mangrove protection and special management areas (SMAs) in its NDCs and has committed to expanding the area covered by MPAs and SMAs to 30 per cent of its marine waters. There are also some regional efforts via MACBLUE,[65] jointly implemented by the Pacific Community (SPC), the Secretariat of the Pacific Regional Environment Programme (SPREP), Vanuatu's Ministry of Environment and GIZ (Germany) to strengthen coastal biodiversity conservation and management through protection and rehabilitation incentives for coastal carbon sinks in **Vanuatu, Solomon Islands, Fiji and Papua New Guinea**. In addition, **Solomon Islands** has committed to protect at least 20 per cent of terrestrial and inland water and 15 per cent of its coastal and marine areas.

Vanuatu has committed specific time-bound targets such as conserving 'at least 17% of important biodiversity areas' and '10% of marine areas' by 2030, through effective community and government management measures.[66] The country commits to protect naturally resilient areas, including coral reefs that still have high coral cover and mangroves and coastal wetlands.[67] Vanuatu is also protecting and managing coastal habitats, including coral reefs and mangroves, through its Blue Carbon Project. Vanuatu has committed to establishing and managing buffer zones around climate-sensitive ecosystems, and to undertaking enrichment planting within such areas, along with protection and sustainable management of mangrove resources, coastal vegetation and seagrass beds to enhance coastal resilience.[68] Vanuatu is working towards achieving its blue financing targets and has received GCF funding for its Vanuatu Community-Based Climate Resilience Project (VCCRP). This project improves local adaptation (early warning systems and access to climate information), increases local resilience in coastal resource management, and improves the fisheries sector (restoration of 11,600 hectares) for farming communities.[69]

Supporting emissions reduction in maritime shipping

Many countries in the region also have commitments to *support emissions reduction in maritime shipping*. For example, **Fiji** includes an ambition to reduce domestic maritime shipping emissions by 40 per cent.[70]

Kiribati commits to developing a National Action Plan for Decarbonising Maritime Transport, utilisation of fuel-efficient outboard motors, and building and operationalising low-carbon vessels. In Kiribati, the mitigation potential identified for low-carbon mini container ships is estimated to be 1.40 $KtCO_2e$ by 2030, while the mitigation potential for biofuel blends in land and maritime transport has been identified to be 3.10 $KtCO_2e$ by 2030.

Niue also mentions, 'Reduced emissions from implementing fuel efficient technologies for aquaculture and fishing operations.'[71]

Samoa includes specific ocean-based targets to improve coastal infrastructure and reduce emissions from its maritime transport sector. It will do this by developing a shore-side electricity supply for vessels and reviewing the energy efficiency of maritime transport; expanding efforts to install solar panels on vessels; piloting the use of biodiesel on one of Samoa's freight or passenger vessels; conducting studies to understand viability of low-carbon maritime transport options; and through energy efficiency reviews. The country will be looking for blue financing for development of renewable energy technologies on the vessels and at exploration of low-carbon maritime transport options that will require technology transfer, capacity building and external financial support.[72]

Tuvalu mentions reducing emissions from vessels for sea transport through technological advancements[73] and in its revised NDC report of 2022, further highlights improving shipping, network and harbour facilities to achieve the emissions reduction targets.

Vanuatu also commits to 10 per cent improvements in energy efficiency of marine transport.[74]

Building coastal resilience, including of communities, cities and infrastructure

Nauru is working towards targets related to resilient and affordable housing. **Papua New Guinea and Solomon Islands** are undertaking actions pertaining to investing in vulnerability risk assessments, coastal rehabilitation, and resettlement plans and guidelines.

Although most of the countries in the region are yet to finalise their adaptation plans and align them with NDC targets, some programmes – like the **Vanuatu** Coastal Adaptation Project 2 (VCAP 2), funded under GEF – present good examples of achieving climate-smart infrastructure and coastal resilience in the region. Vanuatu also mentions specific targets related to 40 integrated coastal management plans to be developed and implemented by 2030.[75]

Ocean-based renewable energy

In terms of the ocean-based renewable energy commitments, the region lacks targets and pathways. **Kiribati** has set a conditional commitment to reduce GHG emissions to 1.72 $KtCO_2e$ annually by 2025, and to 1.68 $KtCO_2e$ annually by 2030 by deploying solar and ocean thermal systems[76]. Only **Tuvalu and Nauru** have commitments recognising ocean energy as a potential alternative. At the time of this report, the work on wave energy was under the research and development (R&D) phase in Tuvalu and Nauru, with research ongoing on non-solar sources of renewable energy such as ocean thermal energy conversion.

Marine and coastal tourism

The benefits of marine and coastal tourism for the region are well recognised. Many national ocean policies and development partners have spearheaded blue/coastal and marine tourism initiatives.[77] While NDCs within the region do not yet include this theme, some NAPs[78] do. For example, **Kiribati** has highlighted actions related to exploring new potential tourism destination products and sites for all islands and promoting selected green tourism products (see case study).[79] **Fiji** has some exemplary marine tourism initiatives under the Drua Incubator.[80]

3.3 Africa

In the African region, 64 per cent of Commonwealth coastal or island states had mainstreamed ocean-based actions and commitments to some degree into their national NDC reporting.

Restoring, conserving and financing critical coastal ecosystems (blue carbon)

All African Commonwealth countries' reports noted some actions or commitments related to restoring, conserving and financing critical coastal ecosystems. This included focus on mangroves and other blue carbon sinks, as well as financing mechanisms.

Gabon's updated NDC refers to its interest in preserving keystone species to promote carbon sequestration and ending destructive fisheries practices, in particular bottom trawling. As part of the high-seas treaty, Gabon has also committed to develop and implement a comprehensive MSP and improve the sustainability of the country's fishing sector. Gabon also recently announced a $500 million debt-for-nature swap, where it has agreed to spend U$5 million a year from the savings over the next 15 years on marine conservation.[81] These funds will be used for advancing critical conservation goals, protecting endangered species and supporting the country's sustainable 'blue economy'.[82] Going forward, the funds saved under this deal will complement Gabon's current efforts to expand its network of marine protected areas from 26 to 30 per cent of its oceans, as reflected in its NDC.

Kenya will produce blue carbon readiness assessments to ensure the integration of blue carbon and ocean climate actions into its NDCs. To this end, Kenya,[83] with the UN Environment Programme (UNEP) as the accredited agency, has recently proposed a concept note to the GCF to enhance blue carbon ecosystems and community resilience.[84] As part of the mitigation measures mentioned in its NDC, Kenya is seeking to harness benefits of the sustainable blue economy, including coastal carbon payments for ecosystem services[85] as part of the voluntary carbon markets.

Mauritius, in its NDC, has referred to focusing on improving the management of marine and terrestrial protected areas and expansion of its protected area network. This includes the

rehabilitation of wetlands, seagrass, mangrove plantation, an increase in areas of tree coverage, as well as coral reef rehabilitation/farming.

Mozambique's NDC sets a target of 5,000 hectares of restored areas of mangrove by 2025 (up from 1,110 hectares in 2020).[86] To meet this target, the Government of Mozambique (the Ministry of the Sea, Inland Waters and Fisheries), along with its partner,[87] plan to restore 185,000 hectares of mangrove forest in the central provinces of Sofala and Zambezia. This project is unique, in that it is expected to be financed through carbon credits generated through the reforestation and conservation activities over a 30-year period.[88], [89]

Namibia has said it will focus on rehabilitating its wetlands and estuaries as part of its coastal plans under the NDC. Namibia also intends to identify and proclaim marine protected areas to conserve biologically sensitive sites as part of 'blue carbon opportunities for adaptation', as mentioned in the NDC. Namibia also expects to include blue carbon opportunities in its next NDC update, focusing in the meantime on identifying specific opportunities for action.

Seychelles has committed to protect its blue carbon ecosystems, specifically 50 per cent of its seagrass and mangrove ecosystems by 2025, and 100 per cent of seagrass and mangrove ecosystems by 2030.[90] In its NDC, it has also said it will establish a long-term monitoring programme for seagrass and mangrove ecosystems and include the GHG sink of Seychelles' blue carbon ecosystems within the National Greenhouse Gas Inventory by 2025. During COP27, Seychelles updated this commitment, pledging to protect 100 per cent of its mangroves and seagrass in 2023.[91] In 2018, Seychelles also launched the world's first sovereign blue bond programme.[92]

Sierra Leone's NDC has mangrove restoration targets of 5,000 hectares within 10 years.[93] To this end, it has proposed to develop a REDD+ (reducing emissions from deforestation and forest degradation in developing countries) initiative for the mangrove reserve in the Sierra River Estuary. It will also establish mangrove ecosystem health surveillance, monitoring and analysis.[94]

South Africa's NDC identifies biodiversity as a priority sector.[95] The country's NAP further builds on this, highlighting the need to identify and develop ecosystem-based approaches to protect vulnerable ecosystems that require further protection from the impacts of climate change.[96]

Togo also plans to rehabilitate mangrove ecosystems.

Protecting climate-critical habitats and ecosystems

Ambitions and actions related to *protecting climate-critical habitats and ecosystems* are featured in the NDC reporting of all 14 African Commonwealth countries. Five countries – **Cameroon** (2015), **Kenya** (2017), **Sierra Leone** (2022), **South Africa** (2021) and **Togo** (2018) – have also developed their NAPs.

Cameroon, though it does not explicitly mention marine ecosystems in its NDC, does plan to put in place strategies that reduce the effects of climate change in the fisheries sector. It also refers to securing and developing protected areas and installing control barriers and eco-guards to carry permanent patrols in protected areas.[97]

The Gambia, as part of its NDC pillar on developing integrated approaches to building rural climate resilience, has set forth actions focused on supporting the planning, rehabilitation and management of buffering coastal ecosystems, with the aim of building the resilience of fisheries and tourism development.[98] To this end, the government of The Gambia, through the Food and Agriculture Organization of the UN (FAO) launched a multi-million dollar project to address climate change in the fisheries sector. This project, funded by the Green Climate Fund (GCF) and various ministries, seeks to improve livelihoods through climate-resilient aquaculture, climate-proofing of small-scale fisheries infrastructure, and through fisheries habitat restoration.[99] In its revised NDC document, The Gambia also pledges to support improved monitoring by supporting the establishment of an improved scientific monitoring system for climate change and its impacts, integrating meteorology, oceanography and hydrology measurements in a centralised database.[100] This will enable the country to better protect climate-critical ocean habitats.

Gabon, in its NDCs, has reiterated its vision to develop landscapes 'where the areas most rich in biodiversity are protected'.[101] This includes forests, community forests and rural areas. While this vision

does not specifically talk about climate-critical marine ecosystems, Gabon has been focusing on increasing its marine protected areas: the country now has 20 marine protected areas, which represent about 26 per cent of its ocean territory. It has also committed to 'The High Ambition Coalition for Nature and People',[102] which has the shared goal of protecting at least 30 per cent of the world's land and ocean by 2030.[103]

Other Commonwealth countries in Africa have also made commitments towards protecting climate-critical habitats and ecosystems. These include initiatives towards landscape restoration, actions around marine spatial planning, nature-based solutions, and integrated approaches to ecosystems management. For instance:

- **Ghana** has said it will focus on a long-term outcome to enhance landscape restoration and will develop nature-based solutions for promoting ecotourism to enhance biodiversity through forest conservation and landscape restoration.[104]
- **Kenya** has committed to developing marine spatial planning and deploying sustainable management approaches. Kenya also aims to promote and expand opportunities for nature-based enterprises, which include seaweed farming and mangrove ecotourism.
- **Mauritius** cites its 'Mauritius Resilience Strategy' for a 'Ridge to Reef' integrated ecosystems management vision to protect environmentally sensitive areas. Its NDC also highlights the need to develop a coral restoration strategy and to foster an integrated approach, combining the goals and targets for the fisheries sector with the coastal zone management and marine biodiversity sectors.[105]
- **Mozambique**, as part of its NDC adaptation actions, commits to the planning and management of biodiversity and coastal ecosystems.[106]
- **Namibia,** as part of its NDC action on coastal zones and fisheries, commits to introduce legislation to reduce property and infrastructure development in environmentally sensitive areas and areas at risk of sea level rise. This includes the conservation of biologically sensitive sites by identifying and proclaiming marine protected areas.[107]
- **Nigeria** sets out ambitions to adopt NbS in climate change mitigation and adaptation in the water sector, by enhancing an integrated approach to the management of the country's freshwater ecosystems. It also has ambitions to protect and restore degraded watersheds and wetlands.
- **Seychelles** has committed to implement its Marine Spatial Plan and work towards the effective management of the 30 per cent marine protected areas within the country's exclusive economic zone.[108]
- **Sierra Leone** has also proposed supporting the scaling up of its marine protected areas, in addition to maintaining the integrity of the marine and coastal environment through actions such as the promotion of non-destructive fishing techniques.[109] This is also reflected in the country's NAP, where it explicitly calls for the 'promotion of non-destructive fishing techniques to maintain resilience of marine ecosystems'.
- **Tanzania** commits to strengthening the management of coastal and marine resources and monitoring systems, enhancing area-based management systems for a sustainable blue economy.

Supporting emissions reduction in maritime shipping

Twenty-nine (29) per cent of African NDCs reviewed made some form of disclosures related to emissions reduction in maritime shipping.

Gabon has been working on enhancing its understanding of human activities, in particular bottom trawling, on marine ecosystems and their carbon emissions and absorptions. Gabon has also been exploring how data-driven fishing methods can aid in marine ecosystem protection, emissions reduction and carbon sequestration.

Seychelles, in its NDC, commits to shift to low-carbon transport, which includes active modes and international maritime transport, starting with public transportation. As such, the existing Seychelles Port Authority's Strategic Plan considers climate vulnerability and requires future development to be conducted according to the Green Ports Initiative. This includes focus on enhancing waste management facilities, while also reducing marine pollution.

Building coastal resilience, including of communities, cities and infrastructure

Almost all Commonwealth island and coastal countries in the African region made some disclosures about their actions or ambitions related to building coastal resilience, including of communities, cities and infrastructure.

Gabon's NDC reflects on the specific issues of intensified coastal erosion and the need to redesign cities and towns to make them more climate resilient. **Kenya's** NDC commits to conducting climate risk and vulnerability assessment of buildings and housing infrastructure to flooding and sea level rise. [110] It also presents the need to introduce nature-based solutions in flood control, especially around informal settlements.

One of **Mauritius**' key NDC adaptation actions is towards coastal zone management, through improved awareness, enhanced rehabilitation and a strengthened regulatory framework for the protection of beaches, dunes and vegetation.[111] As per the NDC, 20 per cent of the population is vulnerable and living in environmentally fragile areas in low coastal zones. Therefore, the country is taking specific actions, such as the construction of a refuge centre at Quatre Sœurs and a sea wall against storm surge at Rivière des Galets. Mauritius is also in the process of developing specific action plans to enhance resilience (of infrastructure, bridges and culverts, flood prone areas, and coastal zones) to climate change. This is being done using funds from the GCF.[112] The country also plans to implement its integrated coastal zone management plan as part of its Draft Master Plan on Environment. The NDC also highlights the fact that the government's budget includes the construction and upgrading of some 1,500 drain projects across the island between 2021 and 2024, starting with high-risk, flood-prone areas.[113]

Mozambique's NDC identifies the fact that several of the country's coastal urban centres are already vulnerable to the effects of climate change. To address this, the country has committed to mapping vulnerable infrastructure that is at risk, ensuring the reformulation of country codes to make them climate resilient, and focusing on coastal protection practices.

Namibia's NDC commits to introducing legislation to reduce property and infrastructure development in environmentally sensitive areas and areas at risk of sea level rise. It further mentions that sea-wall barriers and barrages need to be installed, along with enforcement of development restrictions within the country's coastal buffer zone.

Seychelles intends for coastal planning and infrastructure to be regulated at the national and local levels to prioritise the consideration of blue nature-based solutions for climate resilience.[114] Seychelles indicates that the bulk of its critical infrastructure is located along its coastline, making the focus on climate-sensitive coastal planning a priority item. It also suggests the need to develop a 'Port Development Master Plan', which will specifically tackle the nexus of economic growth and climate considerations.[115]

Sierra Leone, as part of its NDC objective to provide basic necessary adaptation infrastructure to enhance resilience to climate change challenges, has provided specific goals. First, the NDC discusses the existing Coastal Climate Change Adaptation Plan (2018) that was set up to respond to sea level rise and its effects. The NDC builds on this and further highlights the need to develop and operationalise an integrated coastal zone management plan and to institutionalise capacity to support this management.[116] This is also reiterated in Sierra Leone's NAP, under the 'coastal zone management' sector's action list.[117]

South Africa has committed to not only mainstream climate science into building standards, but also to ensure that coastal settlements are prioritised in addressing climate risks such as sea level risk and flooding.[118]

Ocean-based renewable energy

Very few African NDC reports contained commitments and/or actions related to exploring the potential for ocean-based renewable energy. Many countries did have commitments to increase their renewable energy capacity, but this was not broken down by type of energy technology. Therefore, it was difficult to ascertain whether ocean-based energies form part of this mix. **Namibia,** however, specifically stated that it aimed to enhance the use of renewable energy potential across the ocean and coastal environments. Similarly, **Seychelles** stated that it was looking to make a major shift towards the low-carbon economy and refers to promoting bioenergy and marine technologies.

Marine and coastal tourism

NDCs and NAPs for African countries clearly mention the need to incorporate a climate (and adaptation) lens to enhancing the resilience of the tourism value chain, but there are not many specific actions that pertain to the ocean-based tourism industry. For instance, **Ghana**'s NDC advocates using nature-based solutions to promote ecotourism as a means of enhancing biodiversity through forest conservation and landscape restoration. **Mauritius** discusses the need to develop and implement an integrated approach that combines the fisheries, tourism, biodiversity, forestry, agriculture and coastal zone sectors. Mauritius also highlights the fact that coastal zone resilience and the preservation of critical ecosystems (such as coral reefs) is critical for its tourism industry. Similarly, **Sierra Leone**'s NDC reflects on the need to improve the resilience of environmental value chains across sectors such as forestry, mining, tourism and land management.

3.4 Asia

Of the eight Commonwealth island and coastal countries in the Asian region, **India**'s NDC was submitted in 2022. **Singapore** submitted its NDC in 2020 and an updated version in 2022. **Bangladesh, Malaysia, Pakistan and Sri Lanka** submitted their NDCs in 2021. **Brunei Darussalam** and **Maldives** submitted their NDCs in 2020. Three of these countries have NAPs in place: **Sri Lanka** (2016), **Pakistan** (2023) and **Bangladesh** (2023).

Restoring, conserving and financing critical coastal ecosystems (blue carbon)

Some Asian Commonwealth countries have provided indications of actions towards restoring, conserving and financing critical coastal ecosystems.

Pakistan, for example, has committed to the conservation and restoration of mangroves, peatland ecosystems, and coastal and marine ecosystems to reduce emissions and revive natural carbon sinks.[119] To this end, Pakistan's NAP clearly highlights the restoration of 'rangelands, forests, and mangroves' as a critical adaptation step.[120] Pakistan's NAP also suggests that since Pakistan's coast is home to the seventh-largest mangrove forest in the world, it has the potential to sequester carbon at a rate three to five times higher than terrestrial forests. Pakistan's NAP Objective 4 (Investing in coastal and marine resources protection) also highlights the potential of the 'blue economy', including the health of marine and coastal ecosystems. Pakistan initiated the world's largest blue carbon project through mangrove restoration initiated in 2015 based on a public–private partnership in Sindh called the 'Delta Blue Carbon Project'.[121] The project auctioned 50,000 tonnes of credits from the Delta Blue Carbon Project at U$29.72 per tonne.[122]

Protecting climate-critical habitats and ecosystems

All the Asian Commonwealth countries have disclosed actions and commitments related to protecting climate-critical habitats and ecosystems key to ocean health and climate resilience. The NDCs have a strong focus on marine and coastal ecosystems.

Bangladesh, for example, pledges to increase tree cover from 22.37 per cent in 2014 to 24 per cent by 2030. This target includes afforestation and reforestation in coastal areas as well as islands.[123] Bangladesh's NAP also aligns with this NDC target and identifies existing coastal afforestation projects in place with the hope of focussing on coastal afforestation as one of the 'high-priority entry points' for physical adaptation interventions under the ecosystem, wetlands and biodiversity sector.[124]

Brunei identifies protection of both terrestrial and marine biodiversity (such as seagrass and mangroves) as a priority.[125]

India has committed to adapting to climate change by enhancing investments in development programmes in sectors that are most vulnerable. This includes 'coastal regions' and 'water resources' but does not offer further details on the nature of these investments.[126]

Maldives envisions the development of a 'blue economy' that not only promotes sustainable economic growth, but also safeguards its oceans. Specific plans towards this include the phasing out of single-use plastic, and activities that help the country achieve its target 'to protect at least one island, one reef and one wetland from each atoll'.[127] More specifically, Maldives commits to 'facilitating research to address knowledge gaps and climate change impacts on coral reefs and marine ecosystems in order to promote their sustainable

and resilience-based management'. Maldives has already shown progress towards preserving coral reefs: the Ministry of Environment, Climate Change and Technology has launched the first ever 'Maldives Red List of Threatened Species'.[128]

Singapore, in its updated NDC (2022), has also pledged to conserve more native plants and animals by carrying out recovery plans for over 70 more animals and plant species, and enhancing 30 hectares of forest, marine and coastal habitats by 2030.[129] It also commits to conserving and restoring its mangrove forests. Singapore's NDC also refers to enhancing marine and coastal habitats but does not provide further details.

Sri Lanka commits to developing an Ecosystem-based Approach to Fisheries Management (EAFM), to be specifically adopted in areas of high climate vulnerability. This is the country's first NDC action area, which also lists specific targets such as the identification of priority fisheries management areas, followed by the development of EAFM plans.[130] Sri Lanka's NDC also refers to conducting research on fisheries and aquatic resources to build resilience to climate change. This includes the installation of artificial reefs in areas where substrate for settlement of corals larvae is minimal.[131]

Supporting emissions reduction in maritime shipping

Sri Lanka remains the only Commonwealth Asian country to refer to supporting emissions reduction in maritime shipping in its NDC. However, other countries have taken actions not reflected in their NDCs. Sri Lanka's NDC provided examples of actions or ambitions related to understanding and reducing greenhouse gas emissions from the marine sector, ratifying Annex VI of MARPOL,[132] and introducing energy efficiency measures and fuel quality improvement programmes to coastal shipping and fishing boats and vessels. Furthermore, Sri Lanka's Marine Environment Protection Authority is expected to develop specific guidelines that are applicable to marine shipping accidents.[133]

Building coastal resilience, including of communities, cities and infrastructure

There have been limited disclosures about national actions or ambitions related to building coastal resilience of communities, cities and infrastructure. However, countries have shown progress in this area.

Singapore has indicated its intention to focus on this in its updated NDC, where it has indicated that the Singapore Government has set up a Coastal and Flood Protection Fund, with initial funding of 5 billion Singapore dollars (S$). Since 2019, the country has spent US$5 billion on coastal and flood protection[134] and will 'explore innovative approaches to coastal protection measures, which may include a combination of conventional engineering solutions such as sea walls, tidal gates and pumping stations, and nature-based solutions'.

Malaysia is also looking to increase the average recurrence interval level of flood and coastal protection structures by including climate change factors in the design of these structures. Its Ministry of Natural Resources, Environment and Climate Change is currently implementing a project to address this.[135]

Pakistan has also identified nature-based solutions as an area for action in its NDC. There are some projects currently being implemented to this end: for example, an ADB-funded project[136] called 'Building-Coastal Resilience through Nature-Based and Integrated Solutions' that supports the preparation of integrated plans and investments to build coastal resilience through nature-based and sustainable solutions.

Ocean-based renewable energy

Countries have not explicitly specified ocean-based renewable energy targets in their NDCs, but have recognised the potential for ocean-based renewable energy.

Maldives identified in its NDC that 'ocean currents and waves surrounding the islands can be considered as potential renewable energy sources for the Maldives and other SIDS'; but noted that technologies to harness them remain at 'pilot stage globally' and are 'commercially unavailable'.

Singapore's updated NDC refers to its plans to continue enabling innovative modes of deployment such as floating offshore (please see case study).

Bangladesh: Progress on ocean-based actions

The ocean plays a vital role in Bangladesh's economy and society, providing food, livelihoods and transportation. Bangladesh is home to the world's largest delta, the Ganges-Brahmaputra-Meghna delta. However, this makes the country highly vulnerable to climate change and sea level rise. The **Bangladesh Delta Plan 2100 (BDP)**, put in place in 2018, is an ambitious roadmap focusing on ocean-based actions. The first phase (2010–2030) focuses on building resilience to climate change and reducing the vulnerability of coastal communities.

Bangladesh also began developing its **National Adaptation Plan** in 2017 with the support of the Green Climate Fund (GCF). The process was led by the Ministry of Environment, Forest and Climate Change (MoEFCC) and involved a wide range of stakeholder consultations.[233] The NAP was finalised in 2022 and approved by the government of Bangladesh in October 2022. The NAP is now being implemented and is expected to be completed by 2050. It outlines several ocean-based actions, including building and maintaining sea walls and embankments, raising the elevation of coastal communities, improving water management systems, and building climate-resilient infrastructure.

There have been several donor-funded projects that have supported Bangladesh's policy ambitions to focus on ocean-based actions. For instance, **the Green Climate Fund** (GCF) provides support to mainstream climate-resilient infrastructure.[234] Some of the projects that are supported by the fund include the construction of sea walls and embankments, the raising of the elevation of coastal communities, and the promotion of sustainable agriculture practices.

In 2022, Bangladesh set a target to develop 5GW of offshore wind power by 2030. It has recently operationalised its first onshore wind power project, located in coastal Cox's Bazar. The Cox's Bazar Wind Power Project is a 66 megawatts (MW) wind power project. It was commissioned in May 2023 and is now operational. The project is expected to generate approximately 145 million kilowatt hours (kWh) of electricity per year.

The Bangladesh Government is also committed to developing renewable energy and has set a target of developing 10GW of floating solar by 2030. The first commercial floating solar power plant in Bangladesh was recently connected to the grid. Joules Power also completed a 2.3MW floating solar project in Chapainawabganj district and this has also been connected to the national grid. Another floating solar project in Bangladesh has been commissioned in Feni District.[235] This project has capacity of 100MW and is expected to generate approximately 145 million kWh of electricity per year. Another floating solar project is currently under construction in Meghnaghat.

Finally, Bangladesh has been a trailblazer when it comes to seeing what an effective early warning system can look like. [236]Bangladesh is one of the most disaster-prone countries in the world, and still experiences several cyclonic storms each year, their impact amplified by the country's funnel-shaped bay. Floods and coastal erosion frequently cause devastation in the low-lying coastal region. The death toll from extreme weather events has drastically decreased, however, thanks in large part to a multi-layered early warning system consisting of weather monitoring equipment, communication systems and a comprehensive network of volunteers. Crucially, half of these volunteers are women, who are working hard to overcome the huge gender disparities in who is most impacted by disasters. Bangladesh's system has become renowned for increasing the country's resilience with relatively few resources, with its success lauded by experts as a model for other low-income countries looking to develop early warning systems for changing climate extreme events.

Singapore: Floating photovoltaic (PV) technology

In 2021, Singapore launched a sustainable energy breakthrough when it operationalised one of the world's largest floating solar panel farms, comprising 122,000 Trina Solar 210 Vertex dual-glass modules on the Tengeh Reservoir. Spanning over an area of around 45 hectares – the size of 45 football fields – it has a capacity of 60MW, producing enough electricity to power the island's five water treatment plants. This project provides an example of a public–private partnership, deployed by Sembcorp Industries to generate green energy from the main drinking water reservoir via a 25-year power purchase agreement with Singapore's National Water Agency known as the Public Utilities Board (PUB). Floating solar PV systems are also located at offshore locations, such as Sunseap EDPR's 5MWp solar farm at Woodlands. This success story has made Singapore one of the few countries to produce 100 per cent clean energy with a green waterworks system.[237]

This project showcases Singapore's efforts to manage land constraints in a dense urban setting and to build climate resilience through reduced emissions. This solar farm has the emissions reduction potential of around 32 kilotonnes per year, which is comparable to taking 7,000 cars off the road. In addition, these floating PV panels perform 5 to 15 per cent better than conventional rooftop solar panels, due to the cooling effect of water and no shading from buildings.[238] This project follows the world's largest testbed for floating solar, which was established at Tengeh Reservoir in 2016 by Solar Energy Research Institute Singapore (SERIS), in collaboration with PUB and the Singapore Economic Development Board. Along with facilitating an understanding of the technology, this testbed enabled installation of ten different floating solar systems. A broad range of sensors have been employed, which enable real-time monitoring of more than 500 parameters, including system data and environmental conditions.[239]

Sembcorp's is Asia's leading renewable energy player, with its solar portfolio contributing to more than a third of Singapore's 2025 solar target of 1.5-GWp. It operates 285 (MWh) energy storage system, the largest in Southeast Asia, to increase resilience of the country's power grid to support solar energy expansion. It is also working towards achieving Singapore's national hydrogen strategy 2022 and is supporting businesses to deploy renewable energy and carbon management solutions.[240]

The Singapore Green Plan 2030 outlines the target of deploying at least 200MWh of energy storage systems beyond 2025. Singapore further aims to increase its solar capacity to at least 2GWp by 2030, equivalent to powering around 350,000 households annually and or 3 per cent of projected electricity demand.[241]

Bangladesh has developed its first commercial floating solar project that is connected to the grid (please see case study).[137]

India aims to set up 140 gigawatts (GW) of wind energy by 2030, out of which 37GW is expected to be offshore. To this end, India's first tender for offshore wind is expected by the end of 2023.[138] Stronger and more specific targets in NDCs could signal the potential for ocean energy as a viable option, signalling the potential for investment in pilot projects.

Marine and coastal tourism

Like the other regions, Asian countries do not specify ocean-based actions with respect to the tourism industry. For example, **Sri Lanka's** NDC says that the country focuses on building the resilience of sectors that include the tourism industry. However, there is one exception. **Maldives**, in its NDC, talks about the need to safeguard coral reef biodiversity given its immense contribution to the tourism and fisheries industry. To address this, Maldives, in its NDC, suggests the need for research focused on knowledge gaps related to climate change impacts on coral reefs and marine ecosystems.

3.5 European region

The European region of the Commonwealth includes just three countries: Cyprus, Malta and the United Kingdom (UK). **Malta and Cyprus** are included within the NDCs of the **European Union (EU),** which were prepared by Germany on behalf of the EU in 2020.[139] (The **UK** revised its NDC report in 2022).[140]

While the EU's NDC does not include country-specific NDC targets specific to Cyprus and Malta, the European region has made great strides on ocean-based initiatives through the European Green Deal (EGD),[141] which provides a pathway for the European region to deliver on its commitment to reduce emissions by 55 per cent by 2030. The EGD is set to play an important part in the blue economy: the 'blue economy' provides 4.5 million direct jobs in the EU. It covers traditional sectors, such as fisheries, maritime transport and coastal tourism, as well as innovative sectors, such as renewable ocean energy and the blue bioeconomy, which show great potential for sustainable blue growth.

The EU is also working actively on the achievement of Sustainable Development Goal (SDG) 14 'life below water'. To manage maritime activities sustainably and cope with different environmental pressures, the EU has implemented a wide range of policies. This includes established policies, such as the common fisheries policy, the marine strategy framework directive and the maritime spatial planning directive, as well as specific legislation related to marine litter. Other new initiatives under the European Green Deal also play an important role in relation to ocean governance and sustainable blue growth, such as the 2030 biodiversity strategy, the offshore renewable energy strategy, the 'Fit for 55' package and the new guidelines on aquaculture.[142]

The UK's NDC includes a section titled 'Ocean and the marine environment'.[143] The country's NDC report is an economy wide greenhouse gas emissions reduction target so the NDC report details the overarching delivery mechanisms, legislation, regulations and government strategies underpinning the NDC targets.[144] In 2023, the UK published its third National Adaptation Programme (NAP3), which lays out actions that will be taken to adapt to the impacts of climate change in the UK from 2023 to 2028.[145] Key delivery mechanisms underlying NAP3 have been designed to be consistent with those of the country's NDCs.[146] Alignment between these policy documents will be necessary.[147]

Restoring, conserving and financing critical coastal ecosystems (blue carbon) and protecting climate-critical habitats and ecosystems

Through the European Maritime, Fisheries and Aquaculture Fund (EMFAF) 2021–2027, the European Commission (EC) adopted a €38 million programme for **Cyprus**. Following the adoption of the Partnership Agreement 2021–2027 with Cyprus, the Commission adopted the EMFAF Programme for Cyprus, to implement the EU Common Fisheries Policy (CFP) and EU policy priorities outlined in the EGD. The total financial allocation for the Cypriot Programme 2021–2027 is €54.7 million over the next seven years, of which the EU contribution accounts for €38.3 million. The fund will promote the sustainable growth of Cypriot's aquaculture and fishing sector. While this is a groundbreaking project that will contribute extensively to the local blue economy, it is not specifically mentioned in the EU NDC.[148]

Aquaculture in **Malta** is a valid economic sector with growth potential and its expected expansion is based on the potential identification of new aquaculture zones, until 2030. It is forecast that the industry will increase direct and indirect jobs by up to 25 per cent by 2030, with a gross value-added of around €70 million to the Maltese economy.

While different programmes/projects are ongoing in the UK, the specified targets relevant to these themes were not adequately disclosed. Programmes identified include an ambitious habitat restoration initiative called Restoring Meadow, Marsh and Reef (ReMeMaRe), which is ongoing to enable the revival of three of England's priority estuarine and coastal habitats, seagrass meadows, saltmarshes and native oyster reefs to address climate change, biodiversity loss and enhance socio-economic benefits.[149] Increasing attention is being devoted to the development of marine protected areas (MPAs). In July 2023, the UK Government designated three highly protected marine areas in English waters. About 40 per cent of English Waters are designated as MPAs and the government is working to ensure they are protected effectively[150]. In addition, the UK Government is chairing the Global Ocean

The UK: Supporting blue economy initiatives

The UK has initiated a £500 million 'Blue Planet Fund'[242] to support developing countries to protect the marine environment and alleviate poverty through the conservation of marine habitats such as mangroves and coral reefs, improving the health of their seas. It further supports the UK's commitment to increase international climate financing to at least £11.6 billion during the next five years, of which £3 billion will be invested in protecting and restoring ecosystems and reducing poverty.[243]The UK has committed a total of £33m to the **Global Fund for Coral Reefs** and is providing £4 million to the Blue Carbon Action Partnership project to support countries unlock and mobilise finance to protect and restore blue carbon ecosystems.[244, 245]

The UK has also established a cross-administration **UK Blue Carbon Evidence Partnership (UKBCEP)** to progress the evidence base on blue carbon habitats in the UK. This Partnership operates across national boundaries and its members include each of the Devolved Administrations as well as the Department for Energy Security and Net Zero (DESNZ) and the Department for Environment, Food and Rural Affairs (Defra). In June 2023, the UKBCEP published an Evidence Needs Statement that set out the shared evidence requirements across the UK and serves as a call to action for the research community[246].

To lay out its long-term ambition for blue economy by 2045, **Scotland**'s government has devised a 'Blue Economy Vision for Scotland'. The planned interventions include management of fisheries across its MPAs by 2024, delivery of highly protected marine areas by 2026, and introduction of a Scottish Wild Salmon Strategy. In addition, the **Scottish Blue Carbon Forum** has also been developed to address marine climate risks, building on the interventions stipulated in the second Scottish Climate Change Adaptation Programme.[247]

The **Natural Environment Investment Readiness Fund (NEIRF)** was created to mobilise private investment to initiate market-based mechanisms towards nature conservation. It provides small-scale grants between £10,000 and £100,000 to create a pipeline of projects which can generate revenues from ecosystem services and operate on repayable private investment and also supports projects designing mechanisms for new nature markets. One project that has secured a £100,000 grant is developing a new 'Saltmarsh Code' to attract private investment for the restoration of degraded saltmarshes to support wildlife and reduce flood risks.[248]

To kickstart the nation's green recovery, in 2020, the government launched the **£80 million Green Recovery Challenge Fund** to protect landscapes, strengthen flood resilience and create green jobs, along with enhancing environmental education and restoration of degraded habitats, including peatlands and wetlands.[249]

In addition,, the UK Government Chairs the **Global Ocean Alliance** that champions ocean action and supports implementation of the Global Biodiversity Framework in the ocean.[250]. Under the Commonwealth Blue Charter, the UK is committed to tackling ocean pollution through '**Commonwealth Clean Ocean Alliance**' jointly led with Vanuatu[251]. The UK is also a member of the **High-Level Panel for a Sustainable Ocean Economy**, a leader-level initiative that aims to build momentum towards a sustainable ocean economy, supporting effective protection, sustainable production, and equitable prosperity.

Alliance's 30by30 initiative, which aims to protect at least 30 per cent of global oceans by 2030.[151] Under the Commonwealth Blue Charter, the UK is committed to tackling ocean pollution through the 'Commonwealth Clean Ocean Alliance', jointly led with Vanuatu.[152] The UK is also a member of the **High Level Panel for a Sustainable Ocean Economy**, a leader-level initiative that aims to build momentum towards a sustainable ocean economy, supporting effective protection, sustainable production and equitable prosperity.

Supporting emissions reduction in maritime shipping

To mitigate emissions from domestic shipping, the UK Transport Decarbonisation Plan 2021[153] specifically lays out a policy and regulatory programme to accelerate the transition towards net zero in this sector. A refreshed Clean Maritime Plan[154] will specify both the interim goals and policy measures to achieve decarbonisation of maritime sector. In July 2022, the UK Emission Trading Scheme Authority confirmed its intention to include domestic maritime sector in the UK Emissions Trading Scheme from 2026.[155]

Building coastal resilience, including of communities, cities and infrastructure

The UK's National Adaptation Programme lays down the guidelines to build coastal resilience, including of communities, cities and infrastructure. It lays out the government's approach to climate adaptation in response to the Third Climate Change Risk Assessment, including plans to protect, restore and create blue carbon habitats and manage the risks and opportunities to marine species, habitats and fisheries. Marine Protected Areas, Highly Protected Marine Areas, the UK Marine Strategy and Fisheries Management Plans have all been identified as key mechanisms that will deliver the UK's marine adaptation goals.

Ocean-based renewable energy

Malta is investing in offshore wind to reduce emissions and increase renewable energy generation in line with EU decarbonisation obligations and to ensure security of supply. In 2023, the Government of Malta released a National Policy for the Deployment of Offshore Renewable Energy (NPOR) with the objective of providing a framework for offshore renewable energy projects and infrastructure within Malta's exclusive economic zone (EEZ) up to 25 nautical miles.

The UK: With regards to ocean-based renewable energy, the Welsh Government published the first Welsh National Marine Plan in November 2019, which lays down the strategic framework to enable the generation of renewable energy at sea within the next 20 years. The plan highlights the commercial development and deployment of offshore wind, wave, and tidal stream and lagoon power technologies within the short and medium terms.[156, 157]

Several of the initiatives in Malta and Cyprus are not specifically documented in the Europe-wide NDC document. Thus, in the case of the European region, ocean-based initiatives must be assessed at country level.

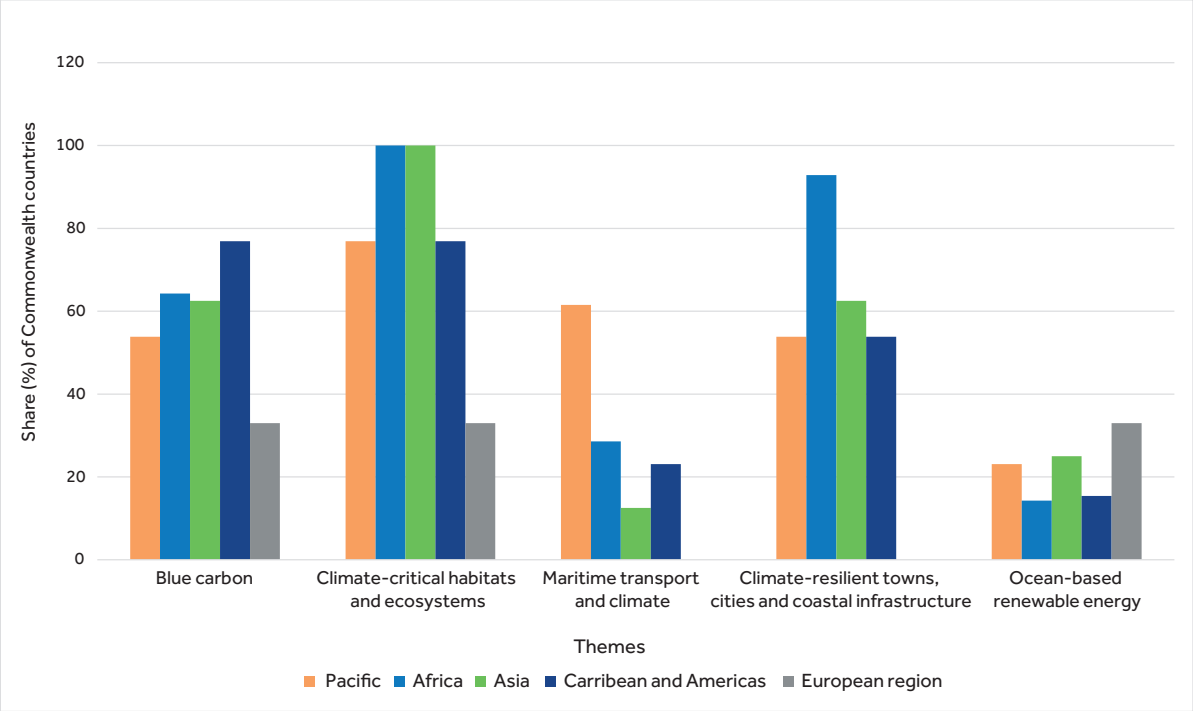
3.6 Inter-regional analysis

It was evident from the analysis that reviewed NDCs of 49 Commonwealth countries, that most of the regions are seriously pursuing blue carbon initiatives that align to their NDC commitments regarding restoring, conserving and financing critical coastal ecosystems (blue carbon). Out of these regions, 77 per cent of the Caribbean countries, 64 per cent of the Asian countries, 63 per cent of the African Countries, 54 per cent of the Pacific countries and 33 per cent of the European countries (UK only) have NDCs pertaining to ocean-based actions directly linked to blue carbon. In most of the cases, countries are also heavily investing in blue carbon initiatives outside their NDCs, but their ocean-based NDCs commitments are still elusive. This also holds for highly developed countries like Australia, New Zealand and the UK.

Within the Commonwealth coastal countries Asia and Africa had the highest commitments with 100%, i.e., all countries having ambitions and actions pertaining to *protecting climate-critical habitats and ecosystems,* as the world's largest mangroves are present in these two regions. These were followed by the Pacific (77%) and the Caribbean and Americas regions (77%), with efforts around coral reefs, seagrasses and mangroves protection. Also, these regions are most vulnerable to the changing climate and have well-mapped ocean-based actions pertaining to climate resilience and vulnerability of critical coastal ecosystems and coastal communities in their respective NAPs.

The highest ocean-based actions and commitments within the NDCs reviewed against supporting emissions reduction in maritime shipping priorities and initiatives were mainly concentrated in the Pacific region (62%), followed by the Caribbean and America region (23%), and Africa (29%). The lowest ocean-based commitments pertaining to sustainable transport and maritime were disclosed in Asia's NDCs (just 13%). Even though the European region (including the UK) is doing a lot in this space, these countries' NDCs do not include this particular theme.

Figure 3.1. Ocean-based actions and commitments by theme (%) across the Commonwealth ocean*



* The European region includes only the UK. These percentages and calculations are based only on the ocean-based disclosures within the countries' NDC reports.

The highest disclosures pertaining to building coastal resilience, including of communities, cities and infrastructure was also made by 93 per cent of Commonwealth African countries and 63 per cent of Commonwealth Asian countries. This was followed by the Pacific, and the Caribbean and Americas regions with 54 per cent of the ocean-based disclosures pertaining to this theme. Even though the resilient coastal town disclosures were made more by African and Asian countries in their NDCs, there was also considerable investment and initiatives (ocean-based actions) undertaken by Pacific and Caribbean countries with development partners and regional alliances (see the sections 3.1 and 3.2 Pacific and Caribbean/Americas regions for details).

Last, the European region (but UK only) was ahead of other Commonwealth countries in ocean-based renewable energy with its disclosures, commitments and ocean-based initiatives and actions, followed by 25 per cent of Asia with measures and ambitions. Within Asia, only Singapore was ahead in ocean-based actions related to harnessing ocean-based renewable energy. It is a global leader from the South in this space (see Singapore's and the UK's case studies). However, this is still an underutilised area for all the regions.

'Marine and coastal tourism' remains an untapped area for all the regions, though the importance of tourism for the economy is highlighted within most of the NDC reports. Individual targets and actions pertaining to this theme have not been identified and present a missed opportunity in the ocean space.

4. Opportunities for a Sustainable Blue Economy

4.1 The importance of a sustainable blue economy

More than 3 billion people globally depend on coastal and marine ecosystems. With most of those people residing in developing countries, the impact from climate change on ocean-based sectors is often more severe because those countries often disproportionately rely on traditional ocean-based sectors included in country NDCs and NAPs – such as fisheries and tourism. According to the International Growth Centre (IGC),[158] women play a crucial yet often undocumented role in the blue economy, particularly in the realm of fisheries. Many women depend on the blue economy for their livelihoods and contribute significantly to both the formal and informal sectors of the industry. Around 40 per cent of those engaged in or reliant on small-scale fisheries are women, and globally, approximately 57 million women derive their livelihoods from capture fisheries alone.

To establish a sustainable ocean economy, an economic and financial system capable of directing financial resources toward activities related to the ocean is required. This is often referred to as 'blue finance'. Research for this report[159] identified that the more clearly defined (and prioritised) projects are within country NDCs, the more successful they will be at leveraging finance.[160]

Still, the most underfunded of all the Sustainable Development Goals (SDGs),[161] achieving SDG14 will require private capital at scale: US$175 billion per year is needed to achieve SDG14 by 2030, and yet, between 2015 and 2019, just below US$10 billion in total was invested. Of the 17 SDGs outlined by the UN 2030 Agenda in 2015, the ocean goal is the least funded.[162]

Blue finance is an emerging area in climate finance with increased interest from investors, financial institutions and issuers globally. Blue finance is generated where the use of proceeds or sustainability-linked loans or bonds direct finance specifically towards projects and programmes that have positive impacts for the ocean economy and can be used to achieve NDC and NAP commitments. While blue finance is a crucial tool to ensure ocean sustainability, aligned with economic growth, a greater conceptual understanding of this emerging concept exploring the potential of using legal and institutional mechanisms to increase investment in ocean development programmes is needed.[163]

4.2 Key stakeholders in blue finance

Banks, insurers and investors are integral to providing financial support for a sustainable ocean economy. There is a growing demand for financial instruments that align with the objectives of the UN Sustainable Development Goals (SDGs) and promote environmental, social and governance (ESG) initiatives. Other stakeholders include bilateral and multilateral donors such as the GCF, GEF and Adaptation Fund and multilateral development banks.

4.3 The finance gap

The World Economic Forum (WEF) estimates that an investment of approximately US$175 billion in blue finance will be necessary to achieve SDG14, which focuses on 'life below water', by the year 2030. However, among the 17 SDGs, 'life below water' has received the least investment to date – receiving just 0.01 per cent of all funding for development. This underscores the urgent need to increase funding for initiatives aimed at preserving and sustaining our oceans and marine resources. Lack of policy alignment and bankable projects acts as a significant barrier to financing country NDCs.

4.4 The opportunity

The blue economy, which encompasses numerous ocean-based industries, has an estimated worth of around US$24 trillion. It is expected to grow substantially, reaching US$30 trillion by 2030. There are significant transformational opportunities associated with a sustainable blue economy,

which encompass the majority of NDC sectors such as clean energy, sustainable fishing, green shipping, tourism and ocean conservation. These opportunities are not only necessary for protecting our oceans and marine ecosystems, but also for economic development, mainstreaming NDC ocean-based actions and addressing climate change. Research commissioned by the High-Level Panel for a Sustainable Ocean Economy in 2020 found that for every US$1 invested in areas like offshore wind energy, sustainable ocean food production and marine habitat conservation, there can be at least US$5 in returns.

4.5 Innovative financial instruments and mechanisms

An astonishing number of innovative financing solutions have emerged in recent years. Innovative financing mechanisms and initiatives are playing a significant role in driving investments into nature-based solutions for ocean conservation and the blue economy. A selection of these is highlighted below. Our analysis and interviews with key stakeholders evidence that the clearer and more well-defined projects are within country NDC financing plans, the more likely they are to catalyse finance for NDC implementation.

4.5.1 Sovereign blue bonds

Blue bonds and blue loans are innovative financing instruments that raise and earmark funds for investments such as water and wastewater management, reducing ocean plastic pollution, marine ecosystem restoration, sustainable shipping, eco-friendly tourism, or offshore renewable energy.

Seychelles launched the world's first sovereign blue bond in 2018 in collaboration with the World Bank. These bonds are designed to support the sustainable management and conservation of marine ecosystems. Since then, The Nature Conservancy has supported the launch of similar sovereign blue bonds in other countries, such as Belize, Gabon and Fiji (see Belize and Fiji case studies). This approach involves innovative financial mechanisms, including debt swaps for nature.

Fiji launched its Fijian Sustainable Bond Framework 2022's UN climate change conference (COP27) in Egypt, the first framework of its kind by a small island developing state (SIDS) that creates a robust taxonomy for green, blue and social projects. An integral part of Fiji's journey to issue its first sovereign blue bond, the framework was designed to help Fiji better communicate its sustainable development finance priorities with bilateral, multilateral, private and philanthropic investors.[164] The launch was confirmed by Deputy Prime Minister and Minister of Finance Professor Biman Prasad in his opening remarks at the Commonwealth Finance Ministers Meeting, held at the margins of the 2023 World Bank / International Monetary Fund (IMF) Annual meeting in Marrakech, Morocco.

4.5.2 Blended finance

An example of blended finance is the Global Fund for Coral Reefs (GFCR),[165] which was launched by a coalition of public and private partners with the ambition to mobilise US$625 million for coral reef conservation to 2030 and beyond. GFCR is the first UN fund dedicated to SDG14, 'life below water', and the only global blended finance instrument dedicated to coral reefs. The fund's blended finance approach expands the SDG14 funding landscape by offering grants to incubate and unlock reef-positive blue economy projects for private investment. **Fiji** is operating a range of blended finance programmes under this mechanism on waste, green shipping, sustainable tourism and NbS.

Blue Halo Program: In 2022, the Blue Halo Program was launched at the G20 meetings in Indonesia. This programme takes a blended finance approach by combining public and philanthropic capital with private sector investment. Its goal is to generate positive outcomes for ocean conservation, sustainable fisheries and livelihoods while aligning with the SDGs.

- **Initiatives:** The Ocean Risk and Resilience Action Alliance (ORRAA – 'the Alliance') is the only multi-stakeholder convenor connecting the international finance and insurance sectors, governments, non-profits and stakeholders from the Global South focused on driving financial innovations to deliver a sustainable and equitable blue economy and more resilient coastal communities. ORRAA's[166] mission is to build the resilience of 250 million climate-vulnerable coastal people by 2030, by deploying at least US$500 million of investment into coastal and ocean resilience through the development of at least 50 novel finance and insurance products

Dominica: ResilienSEA Economy Investment Fund

Dominica aims to develop bankable projects linked to marine environments (blue businesses) through the ResilienSEA Economy Investment Fund, with closer private sector involvement (commercial and quasi commercial ventures) to support government to achieve its climate resilient ambitions. The facility is run by a dedicated and renowned investment committee with experience in blue economy, with the fund providing technical assistance in developing investment-ready projects.

and a portfolio of innovative projects.[167] The Commonwealth Blue Charter is an institutional ORRAA partner. A key example of a bilaterally funded project is the climate vulnerability assessment for Toamasina, Madagascar, through the Climate and Ocean Risk Vulnerability Index (CORVI), led by the Stimson Center and the Commonwealth Secretariat.

4.5.3 National funds

On 23 November 2021, the Government of **Dominica** approved the establishment of a national conservation fund with start-up funds from the Caribbean Biodiversity Bank. The Ministry of Blue and Green Economy Fisheries and National Food Security is being assisted by the AG Chambers on the establishment of the National Conservation Trust Fund (NCTF). The core business of the fund will be to mobilise finance from diverse sources – including international donors, national governments and the private sector – and to direct these resources to multiple programmes/ projects on the ground through non-governmental organisations (NGOs), community-based organisations and government agencies. Funding will be utilised to invest in areas of biodiversity, protected areas management, conservation, investment management, and financial and conservation-related policies in support of national priorities and international commitments. The action of the NCTF will have important implications for the NDC, as among other things it will focus action on protected area both terrestrial and marine serve as the biggest sources of carbon sequestration[168] .

4.5.4 Insurance underwriting for coastal protection

Innovative financial tools are being developed for coastal protection, particularly using nature-based solutions like mangroves. Insurance underwriting initiatives are designed to provide financial support for coastal protection measures that involve the restoration and preservation of ecosystems to reduce the impacts of coastal hazards.

4.5.5 Blue carbon credits

There is an emerging market for blue carbon credits, which are associated with carbon sequestering ecosystems like mangroves, seagrass beds and salt marshes. Blue carbon projects can help combat climate change and have co-benefits for local communities and biodiversity. Organisations like Fair Carbon[169] support the development of blue carbon projects by making information more accessible, increasing transparency and ensuring projects meet high standards for conservation and social equity.

Development of tools for blue carbon: Organisations like the International Blue Carbon Initiative and the International Partnership for Blue Carbon (IPBC)[170] are actively developing tools and guidelines for measuring and assessing blue carbon stored in various ecosystems. Manuals and methodologies are being created to help standardise the measurement and verification of recognised blue carbon ecosystems. Research into other possible blue carbon marine ecosystems, such as macroalgae, tidal mud flats and kelp forests, is also progressing worldwide.

Strong examples of country action include **Fiji,** which has developed a blue carbon policy in conjunction with Conservation International (CI) that includes the assessment of verification methodologies. Discussions are underway within the Fijian Government on an integrated carbon policy framework. The country also has a roadmap for blue carbon developed by CI,[171] and is in the process of developing a carbon market strategy with blue carbon a part of this.[172]

Parametric insurance: Mesoamerican Reef System

A parametric insurance programme has been developed to protect the Mesoamerican Reef System in the Caribbean Sea, spanning Mexico, **Belize**, Guatemala and Honduras. This 'world-first post-hurricane insurance protection' will trigger payouts based on hurricane intensity, with a unique reef-specific risk model estimating damage. The pilot programme aims to enhance the climate resilience of nearly 2 million beneficiaries, covering multiple reef sites, in collaboration with Willis Towers Watson, the Mesoamerican Reef Fund (MAR Fund), the InsuResilience Solutions Fund (ISF), and the Ocean Risk and Resilience Action Alliance. The Mesoamerican Reef System, which is critically endangered, plays a vital role in protecting marine life and coastal communities. The initiative demonstrates the potential of innovative insurance to support the conservation of vital ecosystems and safeguard communities and biodiversity against the impacts of climate change. It is not the first of its kind, but it is set to be one of the largest parametric insurance programmes dedicated to reef systems.

In partnership with the International Union for the Conservation of Nature (IUCN), **Australia** has launched the Blue Carbon Accelerator Fund (BCAF)[173] to support the development of blue carbon restoration and conservation projects in countries outside Australia and help pave the way for private sector finance. BCAF builds on the strong work and templates for success of the Blue Natural Capital Financing Facility (BNCFF) and will be managed in parallel to the BNCFF.

4.5.6 Investment strategies

Investors interested in the blue economy have various investment strategies to choose from:

- **Passive funds** are suitable for investors seeking financial returns while aligning with their environmental and social values. Passive funds employ negative screening to exclude companies with poor ESG performance. For instance, the BNP Paribas Global ESG Blue Economy UCITS ETF focuses on companies with positive ESG ratings involved in sustainable ocean resource utilisation.
- **Actively managed blue funds** are for more ambitious investors looking to proactively enhance the sustainability practices of their portfolio companies. Beyond ESG screening, these funds engage directly with companies to promote sustainability initiatives. An example is the Credit Suisse and Rockefeller Asset Management Ocean Engagement Fund,[174] known for substantial engagement with portfolio companies to drive sustainability improvements.
- **Impact funds** are at the forefront of impact investment, and prioritise social and environmental benefits alongside financial gains. The Ocean 14 Capital fund[175] is an example, focusing exclusively on the blue economy. Impact funds actively seek investments with significant positive impacts in ocean conservation and sustainability, often measuring and reporting these impacts to stakeholders. Impact investing is growing as more investors aim to align their portfolios with their values and contribute to sustainability. Other funds and initiatives include the Blue Ocean Fund,[176] managed by SWEN Capital Partners, and the 1000 Ocean Startups coalition,[177] which was created to accelerate the impact of ocean innovators and investors. The blue economy provides opportunities for impact-focused investors to support a sustainable and resilient future for the oceans. This is an extremely active area in which new funds are coming online at pace.

4.5.7 Dedicated regional 'blue banks'

Some regions are exploring the establishment of dedicated 'blue banks'. These institutions focus on channelling blue finance to the parts of the ocean economy that require investment, banking services and insurance. These regional banks are designed to facilitate access to capital for blue economy projects and initiatives.

4.5.8 Multilateral development banks

In September 2018, the World Bank established a new multi-donor trust fund, namely the PRO BLUE, which comprises an integral part of its blue

The UK: Offshore wind energy

The UK is one of the leaders in the offshore wind energy and has seven of the ten biggest offshore wind sites in the world. The UK's commitment to renewable energy is articulated in the Ten Point Plan for a Green Industrial Revolution 2020, with advancement of offshore wind specified as the first tenet – UK aims to quadruple offshore wind to produce 40GW by 2030 from 2020 levels.[252] This plan aims to mobilise over US$15 billion to support a green industrial revolution and attract private sector investment. Currently, the country owns 12.7GW of connected offshore wind energy, with over 2.3GW of new installations in 2021 alone; this comprised 70 per cent of total wind installations in the European region that year.[253] However, consideration needs to be given to some of the challenges arising in the country's offshore wind sector. These include network delays, integration of offshore wind energy with mainland networks, and supply chain challenges due to increased demand with needs to increase the energy outputs.

economy programmes.[178] In the fiscal year 2019, five donor countries agreed to contribute over U$50 million, and actual donations amounted to approximately U$28.8 million. In May 2019, the Asian Development Bank (ADB) launched the 'Action Plan for Healthy Oceans and Sustainable Blue Economies for the Asia and Pacific Region'. As a part of the action plan, the ADB will also launch the Oceans Financing Initiative, which aims to expand the overall investment to U$5 billion between 2019 and 2024. This investment promotes the blue economy and creates opportunities for the private sector to invest in bankable projects.

4.5.9 Multilateral funds under the UNFCCC

The visions and missions of the multilateral climate funds are partially shared and mutually reinforcing in their support to developing countries to implement the Paris Agreement and the United Nations Framework Convention on Climate Change (UNFCCC).[179] These funds play a critical role in stimulating climate action, increasingly so in the blue economy sectors, by deploying innovative and scaled finance through strategic partnerships. The largest sources of approved funding are currently the **Green Climate Fund** (GCF), the Least Developed Countries Fund (LDCF), administered by the Global Environmental Facility (GEF), the Pilot Program for Climate Resilience (PPCR) of the World Bank's Climate Investment Funds (CIFs), and the Adaptation Fund (AF). These funds are increasingly deploying innovative finance across blue economic sectors – for example, the GFCR is an initiative via the GCF.

4.5.10 Philanthropic commitments

Philanthropic organisations, like the Packard Foundation, Walton Family Foundation, and the Gordon and Betty Moore Foundation, have dedicated practices that focus on ocean conservation. They provide funding for various initiatives aimed at protecting and preserving the oceans. Not-for-profit organisations also play a crucial role in financing blue economy projects. For example, TNC's NatureVest[180] programme and the Marine Stewardship Council's (MSC's) Ocean Impact Fund support ocean-related initiatives through philanthropic capital.

4.6 Policy framework

Various international agreements and regulations, such as the Global Biodiversity Framework, High Seas Treaty, Global Plastics Treaty and the World Trade Organization (WTO) Agreement on Fishing Subsidies, are being developed to protect the oceans and promote sustainable practices. The Intergovernmental Panel on Climate Change (IPCC) emphasised in its sixth assessment report released in March 2023 that finance, technology and international co-operation are critical factors for accelerating climate action. To achieve climate goals, both adaptation and mitigation financing must increase significantly. While there is enough global capital to address the investment gaps required for climate action, various obstacles need to be overcome to redirect this capital effectively.

The Sustainable Blue Economy Finance Principles,[181] introduced in 2018, offer a framework to align financial activities with SDG14 (life below water). These principles are designed to guide

Fiji: Taking the lead in blue economy

Fiji is mainstreaming its blue economy ambitions into NDC targets through enhanced ocean governance, not only for ocean conservation but also to contribute towards enhancing carbon sinks in oceans.[254] The country has developed a Low Emission Development Strategy (LEDS) for non-traditional sectors, including the domestic maritime transport, forestry and coastal wetlands. Fiji launched its Sustainable Bond Framework at UNFCCC COP27 in 2022. This framework is the first of its kind by a small island developing state or a large ocean state that creates a robust taxonomy for green, blue and social projects.[255] Fiji is currently in the process of developing its first blue bond with the UNDP.[256]

Although NDCs do not have specific blue economy targets, Fiji is tapping into blue financing instruments and mechanisms for its coral reef protection and the blue economy through its Investing in Coral Reefs and the Blue Economy (ICRBE) initiative; this is a blended financing initiative[257] to create bankable projects for coral reefs protection and livelihood enhancement.[258] The country is also part of GCF's first at-scale private sector programme in the blue economy under the GFCR investment window, which aims to create a private equity fund to encourage investments in the blue economy, while protecting coral reefs.[259]

Efforts are underway for coastal tourism development via the Fiji tourism development project in Vanua Lena (World Bank)[260] and under the Drua Incubator – an area Fiji has prioritised in its NAP but not its NDCs. Contributing 40 per cent of GDP, tourism is the highest foreign exchange earner for Fiji and provides an opportunity to be mainstreamed in future NDCs.[261]

financial institutions, investors and organisations toward financing a sustainable blue economy. They encompass 14 characteristics that signatories should endorse. Some key elements of these principles include:

1. **Protection of marine ecosystems:** The principles emphasise the need to protect and conserve marine ecosystems, recognising their essential role in sustaining life below water.
2. **Transparency:** The principles advocate for transparency in financial activities, ensuring that information is accessible and easily understood by stakeholders.
3. **A science-led approach:** Decision-making should be rooted in scientific evidence, ensuring that financial activities support sustainable practices and environmental protection.
4. **Guidance for financing:** The principles provide guidance on how to finance activities that align with SDG14, in accordance with the UN Global Compact and Sustainable Ocean Principles.

The UN Blue Bond Initiative[182] complements these principles by offering practical guidance for the issuance of blue bonds and sustainability-linked bonds. Furthermore, the European Union's Taxonomy for Sustainable Activities[183] is an essential regulatory framework designed to direct finance toward activities that align with the EU's climate and energy objectives. The taxonomy recognises the significance of the ocean economy and encourages investments in ocean-related activities. Recent guidance from the Platform for Sustainable Finance Technical Working Group has expanded on this framework to include specific references to the blue economy. This guidance recognises the role of activities such as sea and coastal transport, hotels and camping grounds, fishing and fish processing, and nature-based solutions, including the conservation of coastal wetlands, mangrove forests and seagrass beds. It also emphasises the importance of coastal reef conservation and restoration.

These principles, initiatives and regulations collectively provide a framework for promoting the financing of sustainable blue economy activities while addressing environmental and social goals. All of these are intrinsically linked to a country NDC and its ability to leverage finance for its

ocean economy. The more well developed, the greater the awareness and the higher adoption of policies within the ocean space, the greater the enabling environment will be to access finance. Ultimately this will act to improve vulnerable communities' adaptive capacities and resilience to climate change and increase their prosperity from a more sustainable management of their marine environment.

4.7 NDC sectors relevant to the blue economy

The ocean economy encompasses various sectors, including fisheries and aquaculture, renewable energy, coastal management, marine pollution prevention, ecotourism, blue technology development, and training in blue economy practices.

These initiatives highlight the growing commitment to sustainability and environmental protection within the blue economy. As the blue finance sector continues to expand, we can expect to see more innovative and impactful projects and investments that contribute to the sustainable management of ocean resources and ecosystems and leverage finance for NDC implementation.

5. Key Findings and Conclusions

Based on the review of 49 Commonwealth countries' most recent NDCs, NAPs, policies and considering expert opinion, several key takeaways have been identified. While some of these align with the initial analysis undertaken in 2022, others illustrate new and emerging trends across the six themes:

1. Across all Commonwealth coastal countries' NDCs, the most disclosed themes are Theme 2 (protecting climate-critical habitats and ecosystems) and Theme 1 (restoring, conserving and financing critical coastal ecosystems (blue carbon) – with 88 per cent of countries and 65 per cent of countries having relevant disclosures, respectively. Broadly, all the regions had disclosures within these themes. However, some of the reported targets and actions within these themes were overlapping.

2. Some country NDCs have targets and actions regarding carbon sequestration specifically for mangroves. Others have grouped sequestration and restoration targets under generic (terrestrial) forest actions, without specifying whether these forest types include mangroves or other blue carbon habitats. For example, Solomon Island's NDC mentions an emissions reduction target of 31,125 tCO_2e annually by 2030 from forests; however, it does not segregate mangroves from land-based forest ecosystems. By comparison, Kiribati's contribution to reduce emissions from ocean ecosystems, including mangroves, coral reefs and seagrasses, by 10,090 tCO_2e by 2030 is clearly articulated.

3. Countries in the Pacific include the most disclosures per region at 62 per cent on supporting 'emissions reduction in maritime shipping'. In other regions of the Commonwealth, however, the link between marine transport and climate is not well articulated. That shipping falls outside the scope of the Paris Agreement may be a factor.

4. About 93 per cent of the African countries have included disclosures in their NDCs around the theme of 'building coastal resilience, including of communities, cities and infrastructure', representing the region with the highest disclosures within this theme. This is followed by the Asian region, where 63 per cent of the countries made relevant disclosures. While many Asian countries are highly vulnerable to climate-induced disasters, specifically in coastal areas, and while there is vast donor interest in supporting towards coastal resilience, these countries are yet to specify related commitments, targets and actions. There is also a need for greater alignment of their NDCs with their NAPs to assist in attracting this donor traction towards coastal resilience. For example, COP27 saw vocalisation of 'loss and damage' funds from many Asian countries for resilience building and adaptation; however, specific targets need to be first incorporated into their NDCs.

5. The European,[184] Asian and the Pacific regions have the highest disclosures related to ocean-based renewable energy – with 33 per cent, 25 per cent and 23 per cent of countries respectively. For other regions, there were no clear country targets for ocean-based renewable energy. Offshore wind capacity implementation targets are often not disaggregated to show offshore versus onshore components. Ocean-based energy options such as floating solar, wave, tidal and thermal energy are still not mainstreamed, and there is limited access to finance. Some countries (such as Bangladesh and India) have only recently started implementing floating solar and offshore wind projects.

6. Marine and coastal tourism is an emerging area of climate interest that needs more work. Given its importance to many countries' economies – in particular SIDS – NDC targets and actions related to marine and coastal tourism should be included. This is a missed opportunity. Its cross-sectoral nature could strengthen public–private partnerships and engage multiple stakeholders in the interests of sustainable development, given that marine tourism is projected to be the largest value-adding segment of the ocean economy by 2030.[185]

7. Ocean NDCs provide opportunities for regional collaboration to specifically expedite achievement of ecosystem restoration and conservation actions, to leverage blue financing, and to share best practices across all themes. The Pacific region provides a strong example of where regional collaboration is being leveraged to collectively achieve ocean targets and commitments (see Section 3.2 on the Pacific region).
8. Countries, particularly in the Asian region, need to better align their NDCs with their NAPs, particularly under the theme of climate-resilient communities, cities and infrastructure. In their NDCs, countries could also highlight some of the areas where they are already working with international development partners to achieve positive impacts.
9. There is no single mechanism or agreed approach on how ocean-based actions, plans and commitments can be effectively integrated into country NDCs and NAPS. In some instances, it was difficult to distinguish between aspiration and tangible actions, although other NDCs were clear on which actions were conditional or not. No information was found on implementation and financing mechanisms. Where policies did exist, the implementation plan and status were not mapped/tagged to NDCs or NAPs.
10. There is a consistent gap among all countries regarding leveraging private sector blue finance or public–private sector partnerships for ocean-based targets or actions in their NDC reports. Thus, while the importance of private sector financing for the achievement of both adaptation and mitigation NDCs has been globally recognised, it is not yet reflected in NDC reporting. This may be due to a combination of factors relating to lack of policy alignment, lack of capacity in drafting finance proposals, and financed/ financeable actions not being reported in NDCs.

Country NDC documents constitute a critical policy instrument to communicate their ambitions, plans and efforts at the ocean–climate nexus and ultimately attract finance for implementation. However, our analysis indicates that most countries are not harnessing this opportunity. During the analysis, it was evident that many countries were leaders in this space, both in ambition and action; however, many of these initiatives were not disclosed in key policy documents – that is, their country NDCs and NAPs. This is due to constraints such as lack of awareness, lack of co-ordination across government entities, competing priorities, lack of alignment across policy documents (especially in the case where countries have their own standalone National Ocean Policy or plan) and lack of finance. However, this presents a missed opportunity. The clearer and more well-defined that projects are within NDC financing plans, the more likely they are to attract finance.

Roadmap to success

As the significant and transformational opportunities associated with creating a sustainable blue economy are realised,[186] harnessing blue finance instruments and mechanisms across all NDC themes will be critical. This will require adequate technical assistance, capacity building and finance.

Regional collaboration between different Commonwealth regions should be encouraged to expedite ocean-based actions through mutual 'learning-by-doing', as these countries have similar challenges and opportunities in the ocean space, as well as offering efficiencies of shared capacity-building resources.

Project preparation facilities could be established and hosted within MDBs (or other international organisations) to create bankable blue projects through private sector financing or public–private partnerships to achieve ocean-based actions across ocean sectors, including blue carbon, aquaculture, tourism, blue ports and shipping, and ocean-based renewable energy. Furthermore, blue investments can be de-risked through mechanisms in blended financing, including concessional/aid financing, equity investment and development financing.

A comprehensive framework for integration and adoption of ocean-based actions into country NDCs should be established. This should consider the variation between countries' economic and geographical potential for action and be underpinned by the principle of 'common but differentiated responsibilities and respective capabilities in the light of different national

circumstances'. Trial implementation of this framework with selected Annex 1 and non-Annex 1 partie[187]under the UNFCCC should be piloted.

Critical stakeholders should harness the momentum in the ocean space under the UNFCCC under the 'Ocean Dialogue' to: 'Encourage Parties to consider, as appropriate, ocean-based action in their national climate goals and in the implementation of these goals, including but not limited to nationally determined contributions, long-term strategies and adaptation communications.' This should be underpinned by the Sharm el-Sheikh Implementation Plan,[188] as well as the UN High Seas Treaty[189] in the lead up to COP28 and beyond.

Annex 1 – List of National Determined Contribution Reports Reviewed

The following list contains the most recent NDCs reviewed in this report (as available on 25 October 2023) and the date they were submitted as specified on the UNFCCC public registry of NDCs.

1. Antigua and Barbuda – 2 September 2021.
2. Australia – 16 June 2022.
3. Bahamas, The – 7 November 2022.
4. Bangladesh – 26 August 2021.
5. Barbados – 30 June 2021.
6. Belize – 1 September 2021.
7. Brunei – 30 December 2020.
8. Cameroon – 11 October 2021.
9. Canada – 12 December 2021.
10. Cook Islands – 1 September 2016.
11. Cyprus (EU NDC) – 18 December 2020.
12. Dominica – 4 July 2022.
13. Fiji – 13 December 2020.
14. Gabon – 6 July 2022.
15. Gambia, The – 2 September 2021.
16. Ghana – 4 November 2021.
17. Grenada – 1 December 2020.
18. Guyana – 20 April 2016.
19. India – 26 August 2022.
20. Jamaica – 1 July 2020.
21. Kenya – 28 December 2020.
22. Kiribati – 3 March 2023.
23. Malaysia – 30 July 2021.
24. Maldives – 28 December 2020.
25. Malta (EU NDC) – 18 December 2020.
26. Mauritius – 5 October 2021.
27. Mozambique – 27 December 2021.
28. Namibia – 30 July 2021.
29. Nauru – 14 October 2021.
30. New Zealand – 3 November 2021.
31. Nigeria – 30 July 2021.
32. Niue – 28 October 2016.
33. Pakistan – 21 October 2021.
34. Papua New Guinea – 20 December 2020.
35. Samoa – 30 July 2021.
36. Seychelles – 30 July 2021.
37. Sierra Leone – 30 July 2021.
38. Singapore – 4 November 2022.
39. Solomon Islands – 19 July 2021.
40. South Africa – 27 September 2021.
41. Sri Lanka – 24 September 2021.
42. St Kitts and Nevis – 25 October 2021.
43. Saint Lucia – 27 January 2021.
44. St Vincent and the Grenadines – 29 September 2016.
45. Togo – 12 October 2021.
46. Tonga – 9 December 2020.
47. Trinidad and Tobago – 28 February 2018.
48. Tuvalu – 16 November 2022.
49. United Kingdom – 29 September 2022.
50. United Republic of Tanzania – 30 July 2021.
51. Vanuatu – 9 August 2022.

Annex 2 – Indicative Generic and Thematic Interview Questions

Generic questions

Q. Does your country have a National Adaptation Plan (NAP)? If yes, are there specific challenges relating to: i) including and ii) updating the ocean-based actions in the NAP?

Q. Does your country have a National Ocean Policy (NOP) or any other strategy related to ocean-based initiatives? If yes to all three – do you think there is a good level of co-ordination between these documents – across responsible ministries, activities, actions?

Q. Are there any other policy documents in your country that include ocean-based actions – mitigation and/or adaptation and NbS? Are you aware if there is alignment between these key policy documents? What are some of the challenges in achieving this alignment in your country?

Q. If your country has a NAP, are you aware of any ocean-based actions that appear in the NAP but not in the NDCs? This is especially related to themes like restoring, conserving and financing critical coastal vegetation, and protecting climate-critical habitats and ecosystems.

Q. Is there any evidence in your country of strong ocean-based actions on one of the policy documents – catalysing climate finance for implementation? If yes, do you have any examples of one of these ocean-based projects contained in policy document that has attracted climate finance – a grant, blended loan, other?

Q. What actions have been taken to create these/prioritise projects? Any country-specific examples from different countries? (Any GCF, GEF, AF programmes in blue economy?)

Q. Are there any public/private sector and/or blended finance initiatives that complement government ocean-based action work taken in the country to reach NDC targets on oceans? Can you give us an example (for example, Blue Bonds in Belize)?

Q. Overall, in your opinion, what has been the progress in achieving the NDCs since the previous and the latest update? [To be asked to only countries that have revised NDCs.]

Q. What are the specific challenges that your country has faced/ is facing in achieving some of its ocean-based actions contained within the NDCs/ NAPs?

Thematic questions

Theme 1: Restoring, conserving and financing critical coastal ecosystems (blue carbon) vegetation

Q. What are some specific ocean-based actions, measures, interventions/projects/ programmes pertaining to 'protection, restoration and sustainable management of coastal and marine ecosystems' (mangroves, seagrass beds, tidal salt marshes) and their carbon storage?

Q. Are there any associated actions around carbon sequestration (blue carbon) through restoration of lost and degraded coastal ecosystems, including mangroves, salt marshes, seagrass beds?

Q. Are there any specific interventions/ programmes or any public, private or international investments or mechanisms that have mobilised or are mobilising blue financing for conserving and restoring marine ecosystems?

Q. In case of marine conservation actions, what are some policy actions and measures related to marine protected areas and other effective area-based conservation measures for the protection and restoration of critical marine ecosystems and species for enhanced sequestration from blue

carbon ecosystems? Do you have any other high-level marine conservation strategy / policy document guiding national and local conservation actions?

Theme 2: Protecting climate-critical habitats and ecosystems

Q. What are some of the actions related to protecting climate-critical habitats and ecosystems? What are some of the programmes/projects that complement these commitments/targets mentioned?

Q. Are nature-based solutions (NbS) being employed to sustain ecosystems to ensure resilience against climate-related threats? Why are these ones being prioritised?

Theme 3: Supporting emissions reduction in maritime shipping

Q. Are there any actions/interventions/ programmes related to the emissions reduction from domestic and international maritime transport?

Q. Are there any measures mentioned for GHG emissions from shipping between ports within the national jurisdiction – this includes ferries, maritime shipping, waterborne navigation infrastructure, bulk carriers, oil tankers and container ships?

Q. Are there any emissions reduction actions from fishing activities and aquaculture?

Theme 4: Coastal resilience, including of communities, cities and infrastructure

Q. What are some of the actions or programmes related to climate-smart cities and towns and their sustainable approach (with loss of coastal ecosystems as a barrier against natural disasters due to unplanned urban expansion)?

Theme 5: Ocean-based renewable energy

Q. What are some of the measures pertaining to the scaling-up and harnessing of ocean energy and offshore wind?

Q. Are there any efforts related to ocean-based renewable energy that are being undertaken but are not mentioned in the NDCs?

Q. Are there efforts underway for R&D and pilots around energy extracted from ocean waves, tides, currents.?

Q. Are their efforts around harnessing ocean-based renewables through specific technology like floating photovoltaic solar and floating offshore wind turbine installation?

Theme 6: Marine and coastal tourism

Q. Are there any efforts on promoting sustainable coastal and maritime tourism activities?

Q. Are there any actions reported on rehabilitation and conservation of ecosystems and coastal areas specifically for touristic use, while ensuring responsible forms of tourism?

Q. What are emissions reduction targets from touristic activities, including cruises and coastal and maritime tourism activities?

Q. Are there any policies and tax mechanisms present to support a low-emissions tourism sector?

Annex 3 – Additional Country Examples

Fiji

Fiji demonstrated climate leadership both in the Pacific and globally by giving legal status to its climate policies through its Climate Change Act of 2021. This sets a precedent for other nations to also embed their NDC commitments into national law. Notably, Fiji mainstreamed ocean–climate governance for greater climate commitments through its National Ocean Policy (NOP) of 2021, which aligns with NDC targets for conserving ocean reservoirs as carbon sinks through restoration, enhancement and conservation of coastal ecosystems such as mangroves, seagrasses and coral reefs.[190]

With more than 300 islands, the wealth and resources associated with Fiji's vast marine area represent significant natural capital and are crucial for food security. To meet the 2030 targets, the Ministry of Fisheries has developed maps and action plans and is consulting with stakeholders, non-governmental organisations (NGOs) and inter-governmental organisations (IGOs), such as IUCN, through programmes like the Pacific–European Union Marine Partnership (PEUMP) Programme. As stated, a representative from the Climate Change Division, Fiji: 'Under MSP, which is a thorough and science-based analysis, Fiji better justifies and defines the need for 30% protected areas, providing the science and evidence base behind why certain areas were selected with EEZ'. In the implementation of the NOP, marine spatial planning and blue economy are priority areas of the government and its development partners.

Fiji has also demonstrated leadership in improving coastal resilience and sustainable livelihoods in coral reef communities and improving market access in two islands through its Reef to Ridge Fiji 2016–2022 projects. A nature-based sea walls construction project will target more than 3,000 people across 16 climate-vulnerable Fijian communities, addressing vulnerabilities through enhanced technical knowledge and financial assistance for locally designed measures. Further, the project will build the capacity of Fiji's Ministry of Waterways (MoW), target communities and other stakeholders to manage these interventions and implement similar measures in other communities.

Fiji's National Disaster Management Organisation (NDMO) is also working on a Multi-Hazard Early Warning System Roadmap, which when completed should guide development banks in reaching global targets for early warning systems enshrined under the UNFCCC.

Australia

Australia is working on programmes for the management of 62 marine parks that protect coastal ecosystems and habitats. Efforts are also underway for the development of new Sea Country Indigenous Protected Areas.

The country is also running a Reef Restoration and Adaptation Program (RRAP) and is a global leader in coral reef restoration and adaptation research and solution deployment.[191] Australia's NDC does not cover specific ocean-based actions regarding blue financing, even though it is a key bilateral donor supporting the Indo-Pacific countries to achieve their ocean-based NDC targets. In addition, initiatives by the Australian Government in blue carbon and blue financing include: $30 million in funding for restoration, conservation and accounting for blue carbon ecosystems; leading an international partnership for blue carbon with 50 partners; capacity building on measurement, reporting and verification (MRV); a national ocean ecosystem account; an emissions reduction fund supporting methods to secure carbon credits; and supporting the Indo-Pacific region through various programmes like the Pacific Blue Carbon programme with US$6.3 million from 2018 to 2024. A parallel programmes are the the Indonesian Blue Carbon programme with US$2 million from 2019 to 2023 the blue carbon for climate change and mitigation and sustainable livelihoods in Sri Lanka with US$430,000 in 2019–2022, and the IORA Ocean Blue Carbon Hub, and the Blue Carbon Accelerator Fund.

United Kingdom

The UK's vision for the marine environment is for 'clean, healthy, safe, productive, and biologically diverse oceans and seas'.[192] The UK Marine Strategy's revision is underway, due to be published in 2023. It will include blue carbon, sustainable fisheries and offshore renewable energy.

The emissions from international aviation and shipping have not been included within the UK's NDC, in line with advice from the Climate Change Committee (CCC) and the UK's independent advisers. These emissions are reported as a memo item in the UK's GHG Inventory, and the UK supports efforts to reduce these emissions through actions taken by the International Civil Aviation Organization and the International Maritime Organization focusing on international emissions.[193]

For mitigating emissions from ocean transport, alongside a clear policy and regulatory framework, the UK is supporting the decarbonisation of the UK maritime sector through R&D funding and investment, via the UK Shipping Office for Reducing Emissions (UK SHORE) programme. This is the greatest ever government investment in UK commercial maritime and focuses on accelerating the technology necessary to decarbonise our domestic maritime sector. Between March 2022 and November 2023, the UK SHORE programme has awarded over £155m in funding to 74 projects across the UK. In addition, Operation Zero, launched at COP26, is an industry coalition convened by the UK Government's Department for Transport with a vision to support the deployment of zero-greenhouse gas emission offshore wind operations and maintenance vessels in the North Sea by 2025.[194]

The UK is already a world leader in offshore wind with the most installed capacity in the European region and second in the world behind China. There is 14.2GW of offshore wind already generating electricity in Great Britain, enough to power over 10 million homes.[195] The country is building on this success with a bold ambition for up to 50GW of offshore wind by 2030 and introducing measures to accelerate the deployment of offshore wind while maintaining protections to the marine environment. The UK also possesses tremendous tidal energy resources. The UK is the world leader in tidal stream generation technologies, with over half of the world's deployment of this cutting-edge innovation situated in UK waters.

To ensure effective monitoring and evaluation of its commitments and targets, the UK has published an Environmental Improvement Plan.[196] This plan sets out delivery mechanisms and measures, along with interim targets to gauge progress. In addition, the Outcome Indicator Framework[197] provides a comprehensive set of indicators that highlight environmental changes relating to the 10 goals mentioned within the 25-year Environment Plan. Specific metrics are also being set up under the UK's National Adaptation Programme to track progress on its commitments.[198]

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3 Nationally Determined Contributions (NDCs) | UNFCCC

4 WRI Analysis of Updated NDCs Reveals Need for Transformational Change | News | SDG Knowledge Hub | IISD

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