

Accelerating Ocean Climate Action



HIGH LEVEL PANEL for
**A SUSTAINABLE
OCEAN ECONOMY**

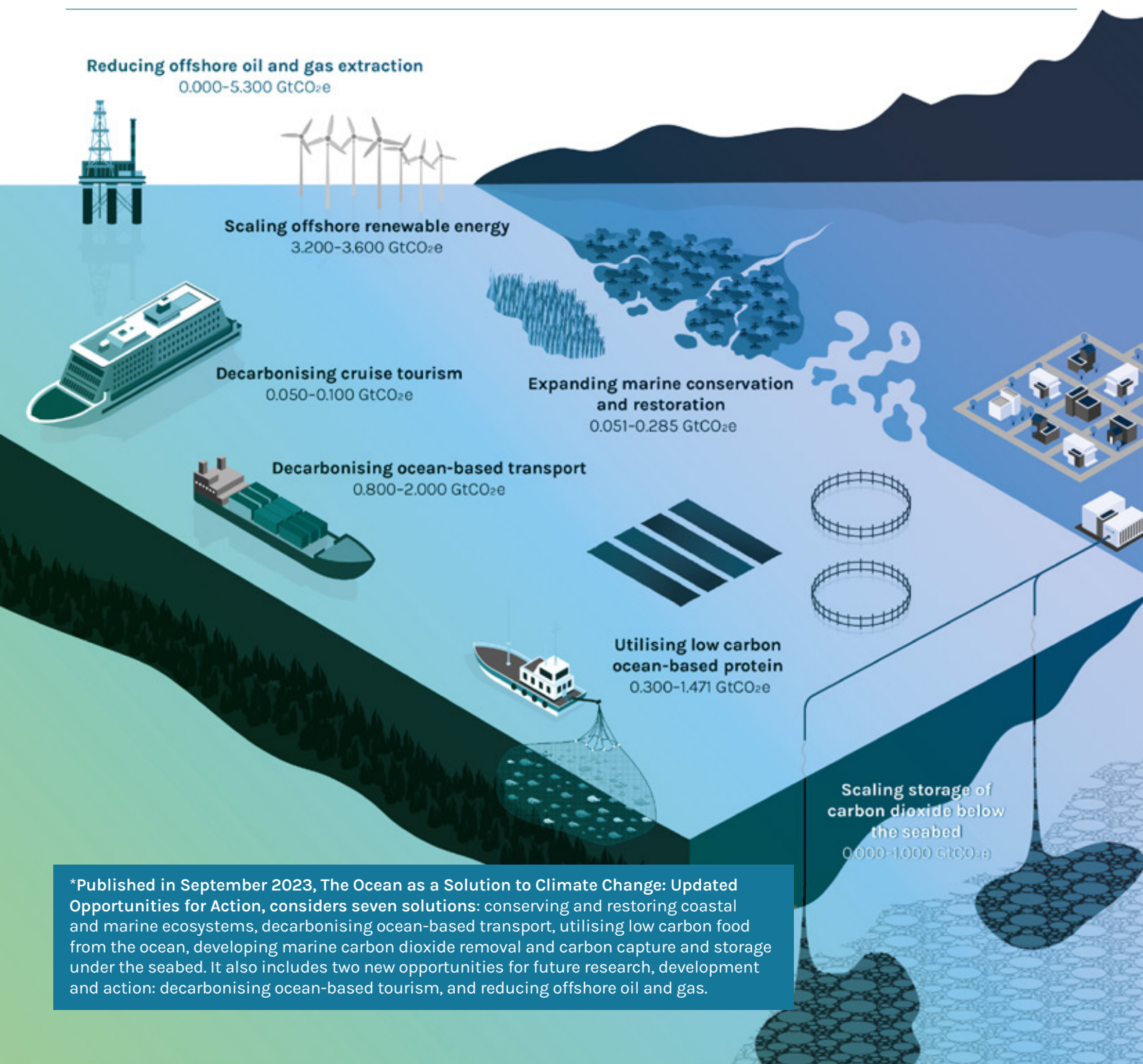
The ocean is the life source of our planet and vital for healthy human societies and a thriving world economy.

The health of the ocean, and the livelihoods and economies that depend on it, requires the world to urgently reduce greenhouse gas (GHG) emissions in line with the goals of the Paris Agreement.

With the urgent need for accelerated climate action to halt the worst impacts of climate change, the ocean offers a range of solutions that can reduce emissions and support sustainable development. The only way we can achieve the goals of the Paris Agreement is through greater climate action by all countries, including using ocean-based climate solutions to their full potential.

The latest Ocean Panel-commissioned report¹, produced by independent experts, demonstrates that ocean-based climate solutions can deliver up to 35 percent* (14 GtCO₂e) of the annual GHG emission cuts needed to limit global temperature rise to 1.5°C by 2050, based on current technology.

Ocean-based climate solutions offer a multitude of benefits, including employment opportunities, coastal resilience, enhanced biodiversity, global food security, improved water quality and health, and improved income opportunities and livelihoods in coastal areas.



*Published in September 2023, *The Ocean as a Solution to Climate Change: Updated Opportunities for Action*, considers seven solutions: conserving and restoring coastal and marine ecosystems, decarbonising ocean-based transport, utilising low carbon food from the ocean, developing marine carbon dioxide removal and carbon capture and storage under the seabed. It also includes two new opportunities for future research, development and action: decarbonising ocean-based tourism, and reducing offshore oil and gas.

Ocean Panel Action is Showing the Way

The Ocean Panel has been encouraged and inspired by the groundswell of momentum on ocean-based climate solutions since launching its Call to Action in 2019 which outlined a pathway towards greater action on ocean-based climate solutions. Since then, progress has included the Ocean for Climate Declaration, Because the Ocean Declarations, Rise Up - Blue Call to Action, The Ocean Super Year Declaration, and High Ambition Coalition for Nature and People.

Significant global progress has been made, not least through agreement in the COP26 Glasgow Climate Pact to strengthen ocean-based action within the UNFCCC which included an annual Ocean and Climate Change Dialogue.

However, the latest IPCC reports emphasise the gap that remains between climate ambition and action. The solution set and pathways for implementation are well established. What is required now is collaboration across government and industry, and the pairing of action-oriented leadership with greater levels of investment to rapidly accelerate ambition and action to close the gap.

The Ocean Panel remains committed to ocean-based climate action and urges all actors to join them in advancing the ocean as a critical solution to urgently reduce GHG emissions. To inspire others, examples of action and ambition from the 18 members of the Ocean Panel are outlined in the following pages within some of the areas of opportunity identified in the Ocean as a Solution to Climate Change: Updated Opportunities for Action report (published September 2023)*.



"In Palau, the urgency of our climate crisis resonates deeply. We recognize that the ocean – our lifeblood – must be our ally in solving these challenges. Our very existence depends on embracing the potential of ocean-based climate solutions, and we take this responsibility very seriously. The journey ahead is one of commitment, innovation and unity within the Ocean Panel and beyond, to safeguard our planet for generations to come."

Surangel S. Whipps Jr

President of Palau and
Co-Chair of the Ocean Panel



"Taking advantage of the ocean's significant potential is no longer a choice, but a necessity if we are to tackle climate change. This effort must also transcend borders, as the challenges we face know no borders. That's why the work of the Ocean Panel is so important. Collective action between countries and at all levels is paramount to achieve our shared goals and steer the whole blue planet towards a more liveable, sustainable future."

Jonas Gahr Støre

Prime Minister of Norway and
Co-Chair of the Ocean Panel

*The report was commissioned by the Ocean Panel, to assess the potential of ocean-based climate solutions for reducing greenhouse gas (GHG) emissions. The result is a synthesis of the latest science and knowledge and opportunities for action.

This paper is an independent input to the Ocean Panel process. The arguments, findings, and recommendations made represent the views of the authors. While the Ocean Panel supports the importance of the findings and recommendations identified, members have not been asked to formally endorse the report, and should not be taken as having done so.



Conserving and restoring coastal and marine ecosystems

Coastal and marine ecosystems such as mangroves, seagrasses and saltmarshes are known as 'blue carbon' ecosystems for their ability to sequester and store carbon. Their protection, conservation and restoration offers considerable climate benefit - including carbon sequestration, as well as improved coastal resilience and a host of additional co-benefits including water quality, biodiversity, improved fisheries and local employment. They are hotspots for carbon storage, with soil carbon sequestration rates per hectare up to 10 times larger than those of terrestrial ecosystems. Restoring and conserving these ecosystems globally could result in as much as 0.285 GtCO₂e sequestered and stored per year by 2050, while also contributing to the goals of the Kunming-Montreal Global Biodiversity Framework including the conservation and management of at least 30 percent of the world's ocean by 2030 (e.g. 30x30).

Examples of Ocean Panel action:



Indonesia has successfully rehabilitated 61,500 hectares of mangroves (from 2019-2022) and has committed to rehabilitate a further 600,000 by 2024. The government has also committed to designate 32.5 million hectares as Marine Protected Areas by 2030, of which over 28 million hectares are already under protection².



Canada is investing CAD 75 million (USD 57 million) over five years to address stressors on marine and coastal ecosystems and support restoration activities further inland. Restoration projects will address threats from human activity, including impacts of climate change on aquatic habitats and species located in all Canadian coastal aquatic environment³.



Jamaica has secured 57 hectares of wetland for ecological restoration as part of the development of the Falmouth Cruise Ship Pier, earmarking these wetlands for carbon sequestration and storage.



Kenya has developed a conservation strategy for seagrass and coral reef ecosystems to address threats to these areas and promote biodiversity conservation, safeguard the livelihoods of coastal communities and spur sound and focused scientific research.



Seychelles is working with the PEW Charitable Trust, the University of Oxford, Blue Economy Research Institute - University of Seychelles and partners to research the extent of the current seagrass cover and the carbon stock within seagrass soils in Seychelles. Satellite imagery and innovative mapping methods were utilized to map the seagrasses found within Seychelles' waters and to collect sediment cores to develop a baseline assessment of nature-based solutions for the Nationally Determined Contributions (NDCs).



The **UK** is progressing the evidence base for the protection and restoration of blue carbon habitats, both internationally through the Global Ocean Decade Programme for Blue Carbon, and domestically through the UK Blue Carbon Evidence Partnership⁴. The Evidence Needs Statement, published in 2023, shows the UK's ambition to fill critical evidence gaps to better protect, restore and understand vital blue carbon habitats.



Australia's AUD 30.6 million (USD 20 million) Blue Carbon Conservation, Restoration and Accounting Program implements on-the-ground restoration and conservation activities in Australia and overseas. It uses Environmental Economic Accounting to demonstrate positive climate, biodiversity and social outcomes of blue carbon ecosystems.



The UK, in partnership with the **US, Chile, Costa Rica** and **France** launched the International Partnership on Marine Protected Areas (MPAs), Biodiversity and Climate Change in 2021⁵.

Priorities for further action: Conserve existing coastal and marine ecosystems to prevent further release of GHG emissions and scale up restoration efforts in line with the targets of the Kunming-Montreal Global Biodiversity Framework. Pursue high quality blue carbon projects that include equitable benefit sharing opportunities for Indigenous Peoples and local communities. Explore the potential of additional marine ecosystems, such as seaweed, as an alternative fuel and feed source to further reduce emissions. Include quantified nature-based solutions within nationally determined contributions (NDCs) and other relevant climate policies for mitigation and adaptation, with robust accounting and through advancing the scientific evidence base on blue carbon. Protect and restore reefs as important and integrated coastal defence systems for ensuring the protection of coastal blue carbon ecosystems.



Scaling ocean-based renewable energy

Ocean-based technologies – such as offshore wind (using fixed and floating technology), wave, tidal and floating solar – offer significant potential for renewable energy. Offshore wind energy resources alone would be sufficient to cover more than the world's electricity demand in 2050 and can generate jobs and boost economic development. However, delivery of offshore wind projects must be significantly increased to fulfill this potential and they should minimise the impact on marine ecosystems to enable the delivery of sustainable ocean-based energy.

Scaling ocean-based renewable energy globally could result in as much as 3.600 GtCO_{2e} reduced per year by 2050. This is equal to taking over 1.1 billion cars off the road per year.

Examples of Ocean Panel action:



France aims to reach an installed offshore wind power capacity (bottom-fixed and floating) of 2.4 GW in 2023, and approximately 5 GW in 2028 and 40 GW in 2050⁶. France will also set aside EUR 1 billion (USD 1 billion) to help the development of emerging technologies such as floating wind.



The **UK** aims to deploy up to 50 GW of offshore wind by 2030, with up to 5 GW from floating offshore wind. This will be supported by an investment of up to GBP 160 million (USD 185 million) in ports and supply chains and GBP 31 million (USD 36 million) in R&D to support the sustainable deployment of offshore wind⁷.



Indonesia is in the process of developing a tidal power plant in the strait of Larantuka, Flores which has the highest tidal movements in Indonesia. The installed capacity of the tidal turbines will be up to 30 MW⁸.



Namibia commits to enhance the use of renewable energy potential across the ocean and coastal environments (hydro, desalination, fogging, solar, wind, biomass and geothermal) in its updated Nationally Determined Contribution⁹.



Canada will establish frameworks to enable offshore renewable energy projects by proposed amendments to two joint federal-provincial Offshore Petroleum Boards. This will expand their mandate to include the regulation of offshore renewable projects and by developing the Offshore Renewable Energy Regulations, under the Canadian Energy Regulator Act, to create modern safety and environmental protection regulations for these projects¹⁰.



Portugal will invest in the production of ocean renewable energy, promoting the capture of new investments, to reach 10 GW by 2030¹¹.



Norway will allocate areas for 30 GW offshore wind power production by 2040. The government has announced a competition for offshore wind production in two areas on the Norwegian continental shelf: Sørlige Nordsjø II¹² (3000 MW) and Utsira Nord¹³ (1500 MW). The world's largest floating offshore wind park, Hywind Tampen, is now fully operational.



Australia declared two areas as suitable for offshore wind energy under the Offshore Electricity Infrastructure Act 2021 and a third has been proposed and is under public consultation. Four other priority areas will be assessed for declaration in the coming months¹⁴.



Japan aims to generate approximately 1 GW of offshore wind power per year for 10 years, awarding capacity of 10 GW by 2030 and 30-45 GW by 2040¹⁵.



The **USA** has set a goal to deploy 30 GW of offshore wind electricity generation by 2030 and to deploy 15 GW of floating offshore wind capacity by 2035. The US is also on track to complete reviews of at least 16 project plans by 2025, representing more than 27 GW of offshore wind, and in 2023 approved the third and fourth commercial offshore wind project in US waters¹⁶.

Priorities for further action: Develop ambitious national targets to increase the share of renewable energy in the energy mix, provide a stable economic and regulatory framework to stimulate investments in required infrastructure for an accelerated deployment of ocean-based energy systems, reduce barriers to scaling up offshore wind (fixed and floating turbines) and invest in new, innovative ocean-based energy sources such as floating solar photovoltaics, wave power, and tidal power.



Decarbonising ocean-based transport

Shipping is a significant enabler of world trade and economic development but is also a major source of emissions. If shipping were a country, it would rank among the top ten largest emitters of GHG emissions globally. To set international shipping on an ambitious, zero-emission trajectory aligned to 1.5°C, the sector must transition away from using fossil fuels, supported by the necessary technology and infrastructure to produce safe and scalable zero-emission fuels including, distribution, storage, and bunkering.

Fully decarbonising international and domestic marine transport could result in as much as 2.000 GtCO_{2e} reduced per year by 2050.

Examples of Ocean Panel action:



At COP27, nine Ocean Panel member countries announced new commitments as part of the Green Shipping Challenge¹⁷, led by **Norway** and the **USA**, to decarbonise their shipping industries and significantly reduce GHG emissions. Since then, all Ocean Panel countries, working with other member states in the International Maritime Organization, adopted the 2023 revised GHG Strategy¹⁸ with the goal of net-zero-emission shipping by or close to 2050.



Australia, Canada, Chile, Fiji, France, Japan, Norway, Palau, UK and the **USA** are signatories to the Clydebank Declaration for Green Shipping Corridors²³. Through the Green Shipping Challenge, the USA and **Canada** are exploring several opportunities to establish green shipping corridors, including a green cruise corridor between Washington state, British Columbia, and Alaska, and the development of the Green Shipping Corridor Network (GSCN) on the Great Lakes St. Lawrence Seaway System.



Fiji has committed to reduce domestic maritime shipping GHG emissions by 40 percent by 2030 and the aim of complete decarbonisation by 2050 through the Pacific Blue Shipping Partnership.



Chile established the Chilean Green Corridors Network with Mærsk Mc-Kinney Møller Center for Zero Carbon Shipping to create a network of green corridors allowing for green maritime transportation of goods in and out of Chile and establish frameworks for the use of zero-or low-emission fuels¹⁹.



Japan aims to put zero-emission ships in commercial service for international shipping by 2028²⁰ and promotes efforts to achieve net-zero GHG emissions from international shipping by 2050 as stated in the International Maritime Organization's (IMO) GHG Strategy.



Palau has launched a new project to mitigate the tourism sector's carbon footprint and establish Palau as the world's first carbon neutral tourism destination. The project will develop a first-of-its-kind carbon management programme for visitors to calculate and offset the carbon footprint associated with their trip.



Portugal has committed to the creation of an Emission Control Area (ECA) for Sulphur Oxides, Nitrogen Oxides and Particulate Matter, along with other Atlantic nations. The future Atlantic ECA will connect with existing ECAs, including the recently adopted ECA for Sulphur Oxides in the Mediterranean (from May 2025), extending the protection of coastal populations against the air pollution from shipping.



Canada's Clean Marine Research, Development and Demonstration Program will fund up to CAD 1.2 million (USD 0.9 million) for project proposals from Canadian industry and academic partners to test and demonstrate zero-emission propulsion technologies on marine vessels greater than 15 gross tonnage, including battery electric and fuel cell systems²¹.



Norway has transitioned 42 percent of ferries in domestic traffic to electric power (58 ferries in successful operation and 26 on order). The world's first fully electric high-speed passenger vessel in public service was delivered in 2022 and the world's first hydrogen powered ferry is now in operation. The government has also launched improved support schemes for the introduction of green hydrogen and ammonia in shipping.



The **UK** is investing GBP 206 million (USD 264 million) between 2022 and 2025 to the research, development, and deployment of clean maritime solutions and create skilled jobs across the country²².



Kenya has begun implementing green shipping initiatives that reduce the sectors environmental impacts and improves the sectors efficiency by ratifying IMO conventions as well as launching programs that promote the consumption of cleaner fuels and support the purchase of more energy efficient vessels.

Priorities for further action: Implement available technologies to increase energy efficiency and support the development of low and zero-emission fuels as part of a broader decarbonisation of ocean industries and energy supply chains, including port facilities. Implement programmes to decarbonise domestic maritime transport through supporting affordable and effective low and zero-emission technologies and establishing appropriate targets, incentives and funding mechanisms.



Shifting to Sustainable, Nutritious Low-Carbon Protein from the Ocean

Food from the ocean, produced sustainably and using best practices, can have some of the lowest GHG emissions per unit of protein produced of all protein sources.

Increasing sustainable ocean-based food in the global diet, and reducing the share of animal-based foods, can contribute significantly to efforts to reduce emissions. At the same time, there is an urgent need to address the increasing challenges facing the fisheries and marine aquaculture sector as a result of changing climate and ocean conditions, in particular warming temperatures, deoxygenation, and acidification, through innovative, inclusive, effective and adaptive fisheries management measures.

Reducing emissions from fisheries and aquaculture and shifting diets towards low-carbon, nutritious ocean proteins (and away from high-carbon land-based protein) could result in as much as 1.471 GtCO₂e reduced per year by 2050.

Examples of Ocean Panel action:



Jamaica has allocated JAM 99.6 million (USD 6.5 million) to enhance fishing and aquaculture communities' resilience to climate change through the 'Promoting Community-Based Climate Resilience and the Fisheries Sector Project'²⁴.



Canada is launching a BlueBio2030 initiative, with an annual investment of more than CAD 6 million (USD 4.5 million) to develop innovative technologies to support sustainable seaweed farming and optimal utilisation of harvested marine resources, while safeguarding ocean health near offshore operations and coastal ecosystems.



Ghana is implementing the Feed the Future Ghana Fisheries Recovery Activity, a five-year (2021-2026), USD 17.8 million activity funded by the United States Agency for International Development to reduce fishing pressure and improve small pelagic fisheries management to encourage ecological sustainability and marine biodiversity conservation, while also improving the socioeconomic well-being, food security, and resilience of fishers and coastal communities²⁵.



Indonesia is working with Stanford's Center for Ocean Solutions to develop a National Blue Foods Assessment which aims to bring blue foods into the national development strategy, guide development for the next two decades and support the government in embedding blue foods in its blue economy framework²⁶.



Palau's Blue Prosperity Plan seeks to develop domestic tuna fisheries to make more tuna available in local markets and reduce pressure on reef fish. It also includes sustainable aquaculture that integrates renewable energy, including solar farms on fish ponds that can provide additional source of energy.



Portugal has committed to developing blue biotechnology. The Blue Bioeconomy Pact is a EUR 133 million (USD 143 million) agenda for business innovation, which aims to accelerate decarbonisation with more than 50 new products and services linked to the blue bioeconomy in areas such as algae, shellfish, biomaterials and seafood²⁷.



Namibia has committed to reduce fishmeal-based by-products emanating from fresh fish to improve the effectiveness and sustainability of marines and fisheries in its updated Nationally Determined Contribution.



The **UK's** £500 million (USD 630 million) Blue Planet Fund includes a GBP 43 million (USD 50 million) Ocean-Country Partnership Programme that helps strengthen local marine scientific expertise in developing coastal countries. The programme will help develop the skills and expertise needed to support sustainable and reliable access to food which can go into consumption nationally or trade internationally. The Blue Planet Fund is also supporting the GBP 154 million (USD 194 million) COAST programme to improve the sustainability, productivity and resilience of small-scale fisheries and unlock more sustainable, less intensive aquaculture. This includes through the Asia-Africa BlueTech Superhighway project, which will scale successful existing innovations and test new approaches to strengthen aquatic food systems in Africa and Asia²⁹.



Australia is investing AUD 70 million (USD 45 million) in the Blue Economy Cooperative Research Centre to bring together expertise in aquaculture, marine renewable energy and marine engineering as part of a collaborative effort between industry, researchers and the community. It aims to develop innovative and sustainable offshore industries to increase Australian seafood and marine renewable energy production³⁰.

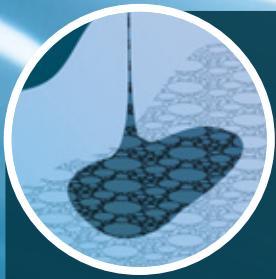


Norway has established a social mission on sustainable feed that will be further developed and implemented in 2023. This cross-sectorial project aims for all feed for farmed fish and livestock to come from sustainable sources, thus contributing to the reduction of GHG emissions in the food systems.



Kenya is investing in blue food production nationally through the establishment of new fisheries hubs and ports as well as the creation of the first-ever National Mariculture Research and Training Centre that will foster aquaculture development.

Priorities for further action: Reduce the emissions intensity of fisheries and aquaculture operations through optimising wild catch and shifting to low carbon feed options. Shift diets toward low carbon marine sources such as sustainably harvested fish, seaweed, and kelp as a replacement for emissions intensive land-based sources of protein.



Developing marine carbon dioxide removal and carbon capture and storage under the seabed

The findings of the IPCC state that Carbon Capture and Storage (CCS) is a necessary part of the solution in order to reach the 1.5°C target. Storage of carbon below the seabed has enormous potential to divert carbon from the atmosphere, but it currently faces significant technical, economic, and socio-political challenges (e.g., environmental safety) that must be adequately explored prior to deployment at the scale necessary. However, there are several promising projects underway.

Safely storing carbon below the seabed could result in as much as 1.00 GtCO₂e reduced per year by 2050.

Examples of Ocean Panel action:



Norway has committed approximately NOK 20.8 billion (USD 1.9 billion) to the “Longship” project³¹. This will be the first open-source CCS project to integrate a complete value chain of individual CO₂ providers, a flexible cross-border transport and storage solution including ship transport to infrastructure for CO₂ storage below the seabed. There is significant CO₂ storage potential in the Norwegian Continental Shelf, and several other commercial storage projects are currently being developed. New exploration licenses for CO₂ storage are awarded continuously. Phase one of Northern Lights – the transport and storage component of Longship, will be completed mid-2024 with a capacity of up to 1.5 million tons of CO₂ per year.



The **UK** announced a GBP 20 billion (USD 26 billion) investment into the early development of Carbon Capture Utilisation and Storage (CCUS). This will put it on track to support CCUS in two industrial clusters by the mid-2020s and four by 2030, and ultimately meet a commitment of permanently storing 20 – 30 million tonnes of CO₂ a year by 2030³².



The **USA** announced the Carbon Negative Shot³³ in 2021 – an all-hands-on-deck call for innovation in technologies and approaches that will remove CO₂ from the atmosphere and durably store it at meaningful scales for less than USD 100/net metric ton of CO₂-equivalent (CO₂e). In March 2023, the government also released its first-ever, whole-of-government Ocean Climate Action Plan³⁴ to advance climate solutions including both nature-based and technological solutions to mitigate climate change.

Priorities for further action: Invest in the research necessary to understand and minimise environmental impacts of long-term storage of carbon in the seabed and regulatory and economic barriers. Monitor and assess promising CCS projects underway and ensure data is shared transparently and publicly.



Invest in Observation and Research

In addition to enhancing action towards each ocean-based climate solution, there is an urgent need for additional funding and support for integrated local to-global observation and research to better inform decision-makers on the observed and projected impacts of climate change, warming and acidification on the ocean, and the role of the ocean in the global carbon cycle.

Examples of Ocean Panel action:



The **UK, USA, Canada, France** and **Japan** support the G7 Future of the Seas and Oceans Initiative³⁵ to strengthen and sustain the global observing system that provides the data required to understand the impacts of climate on our ocean, and champion the transformative ocean science needed for ocean climate action through the G7 Ocean Decade Navigation Plan.



Australia has invested AUD 23.3 million (USD 15 million) in the Climate and Oceans Support Program for the Pacific (COSPPac) which supports Pacific Island countries to monitor, analyse and communicate climate, ocean and sea level information to strengthen climate and disaster resilience³⁶.



Portugal will launch the Atlantic Observatory in coordination with the International Research Center of the Atlantic (AIR Centre), including the Autonomous Regions of the Azores and Madeira, by the end of 2024³⁷.



Canada is investing CAD 154 million (USD 116 million) to the 'Transforming Climate Action: Addressing the Missing Ocean' initiative which will undertake research into the ocean's role in climate change and will identify and demonstrate the transformation solutions required to respond to the climate change crisis³⁸.



Seychelles' Blue Economy Research Institute is supporting the Ministry of Agriculture, Climate Change and the Environment of Seychelles, Sustainability for Seychelles (S4S) and Kiel University to work on providing a vulnerability assessment for Sea Level Rise (SLR) by generating detailed knowledge on potential SLR impacts for most Seychellois islands and for a variety of future scenarios.



Indonesia through Archipelagic and Island States Forum (AIS Forum) initiated the Academia Network, comprised of academics and students from universities and research institutes around the world, to raise awareness and common ocean issues faced in AIS Countries. The Network provides a space for individuals to exchange knowledge, research findings and new ideas³⁹.



Mexico has established a one-of-a-kind ocean knowledge platform for the country to generate data and information on ocean-based activities and identify knowledge gaps and opportunities to address them⁴⁰.



Japan operates the WebGIS service MDA Situational Indication Linkages (MSIL) to collect and share marine-related information and has allocated USD 1 million for its operation and improvement. MSIL deals with 250 kinds of marine related information including satellite-observed information, information of marine ecosystem (e.g. sea turtles spawning areas, marine mammals habitats and bird habitats), information of coastal nature (e.g. coral reefs, seaweed beds and mangrove forests) and information of legal areas (e.g. national parks and Ramsar wetlands)⁴¹.



About the Ocean Panel

The High Level Panel for a Sustainable Ocean Economy (Ocean Panel) is a unique initiative by 18 world leaders who are building momentum for a sustainable ocean economy in which effective protection, sustainable production and equitable prosperity go hand in hand. By enhancing humanity's relationship with the ocean, bridging ocean health and wealth, working with diverse stakeholders and harnessing the latest knowledge, the Ocean Panel aims to facilitate a better and more resilient future for people and the planet.

Established in September 2018, the Ocean Panel has been working with government, business, financial institutions, the science community and civil society to catalyse and scale bold, pragmatic solutions across policy, governance, technology and finance to ultimately develop an action agenda for transitioning to a sustainable ocean economy. Co-chaired by Norway and Palau, the Ocean Panel is the only ocean policy body made up of serving world leaders with the authority needed to trigger, amplify and accelerate action worldwide for ocean priorities.

The Ocean Panel comprises members from Australia, Canada, Chile, Fiji, France, Ghana, Indonesia, Jamaica, Japan, Kenya, Mexico, Namibia, Norway, Palau, Portugal, Seychelles, the United Kingdom and the United States and is supported by the UN Secretary-General's Special Envoy for the Ocean. The Secretariat, based at World Resources Institute, supports with analytical work, communications and stakeholder engagement.

For more information www.oceanpanel.org

Countries across our blue planet are coming together for a sustainable ocean economy. Nations large and small, across all ocean basins, at every stage of economic development, at every extreme of the ocean environment from the tropics to the arctic. Ocean Panel countries account for approximately:

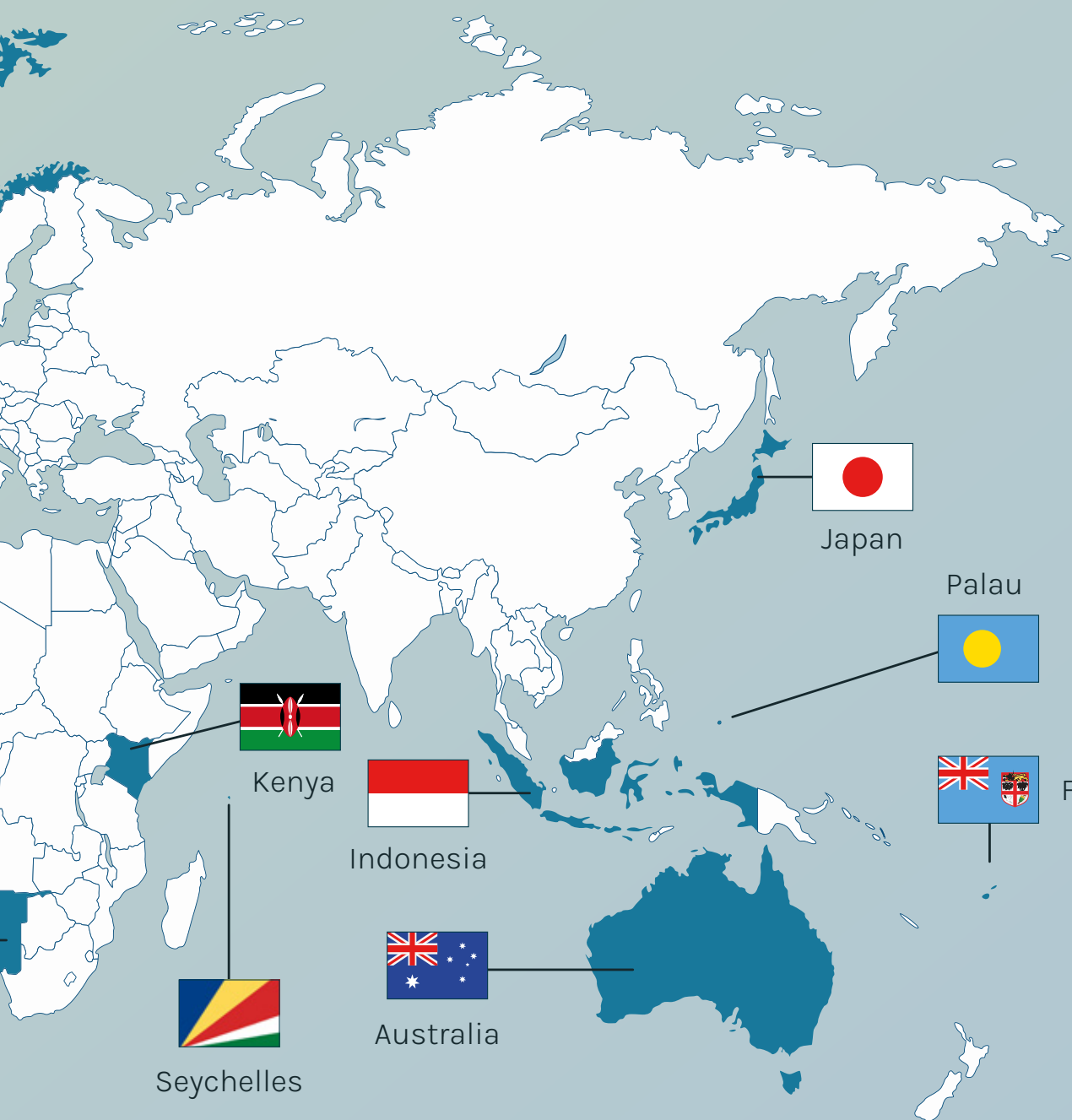
45% of global EEZs

26% of the world's fisheries

24% of the world's shipping fleet

50% of global coastlines



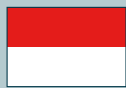


Japan

Palau



Kenya



Indonesia



Fiji



Australia



Seychelles

References and Notes

1. Hoegh-Guldberg, O., et al. 2023. "The Ocean as a Solution to Climate Change: Updated Opportunities for Action." Report. Washington, DC: World Resources Institute. Available online at <https://oceanpanel.org/publication/ocean-solutions-to-climate-change>
2. Govt of Indonesia, The State of Indonesia's Forests 2022; <https://backpanel.kemlu.go.id/Shared%20Documents/The%20State%20of%20Indonesias%20Forest%202022.pdf>
3. Govt of Canada, Coastal Restoration Fund; <https://www.dfo-mpo.gc.ca/oceans/crf-frc/description-eng.html>
4. PRESS RELEASE, UK escalates support for global marine environment 29 June 2022; <https://www.gov.uk/government/news/uk-escalates-support-for-global-marine-environment-at-un-ocean-conference>
5. International Partnership on MPAs, Biodiversity and Climate Change; <https://www.mpabioclimate.org>
6. Offshore Wind Biz, France to Build 50 Windfarms by 2050; <https://www.offshorewind.biz/2022/02/11/macron-france-to-build50-offshore-wind-farms-by-2050>
7. UK Govt, Offshore Wind Net Zero Investment Roadmap; https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1167856/offshore-wind-investment-roadmap.pdf
8. Tidal Power Plant Larantuka, Indonesia; <https://www.tidalbridge.com/projects/tidal-power-plant-larantuka-indonesia-3/>
9. UNFCCC, Namibia's Updated Nationally Determined Contribution; https://unfccc.int/sites/default/files/NDC/2022-06/Namibia%27s%20Updated%20NDC_%20FINAL%2025%20July%202021.pdf
10. Govt of Canada, Building Offshore Renewables in Newfoundland and Labrador and Nova Scotia; <https://www.canada.ca/en/natural-resources-canada/news/2023/05/building-offshore-renewables-in-newfoundland-and-labrador-and-nova-scotia.html>
11. Reuters, "Portugal to launch first offshore wind auction", 23 Jan 2023; <https://www.reuters.com/business/energy/portugal-launch-first-offshore-wind-auction-eyes-10-gw-by-2030-2023-01-23/>
12. Norway, SØRLIGE NORDSJØ II; <https://sn2offshorewind.com/>
13. Norway, Utsira Nord; <https://www.utsira.no/en/utsira-nord/>
14. Govt of Australia, Establishing Offshore Wind; <https://www.dcceew.gov.au/energy/renewable/establishing-offshore-infrastructure#:~:text=The%20OEI%20enables%20the,offshore%20wind%20and%20solar%20farms>
15. Nature, "Japan's unique terrain and conditions offer huge wind energy potential"; <https://www.nature.com/articles/d42473-022-00217-8>
16. PRESS RELEASE, "Biden Administration Jumpstarts Offshore Wind Energy Projects to Create Jobs", 29 Mar 2023; <https://www.whitehouse.gov/briefing-room/statements-releases/2021/03/29/fact-sheet-biden-administration-jumpstarts-offshore-wind-energy-projects-to-create-jobs/>
17. Green Shipping Challenge <https://greenshippingchallenge.org/>
18. International Maritime Organization, 2023 IMO Strategy on Reduction of GHG Emissions from Ships; <https://www.imo.org/en/OurWork/Environment/Pages/2023-IMO-Strategy-on-Reduction-of-GHG-Emissions-from-Ships.aspx#:~:text=The%202023%20IMO%20GHG%20Strategy%20also%20includes%20a%20new%20level,by%20international%20shipping%20by%202030>
19. PRESS RELEASE: Chilean Ministries of Energy, Transport and Telecommunications, and Foreign Affairs, together with the Mærsk Mc-Kinney Møller Center for Zero Carbon Shipping launch joint project to establish green shipping corridors in Chile, 13 April 2022; https://cms.zerocarbonsshipping.com/media/uploads/documents/Chilean-Green-Corridors-Network_2022.04.13.pdf
20. Govt of Japan, Roadmap to Zero Emission from International Shipping; https://www.mlit.go.jp/en/maritime/GHG_roadmap_en.html
21. Govt of Canada, Clean Transportation System - Research and Development Program; <https://tc.canada.ca/en/programs/clean-transportation-system-research-development-program>
22. UK Govt, UK SHORE; <https://www.gov.uk/government/news/dft-launches-uk-shore-to-take-maritime-back-to-the-future-with-green-investment>
23. Clydebank Declaration for green shipping corridors; <https://www.gov.uk/government/publications/cop-26-clydebank-declaration-for-green-shipping-corridors>
24. Govt of Jamaica, 2022/2023 Estimates of Expenditure, 16 February 2022; <https://jis.gov.jm/resilience-to-climatechange-being-enhanced-in-fishing-communities/>
25. Tetra Tech, 27 August 2021; <https://www.tetrattech.com/en/projects/supporting-the-recovery-of-ghanas-small-pelagicfisheries-sector>
26. Govt of Indonesia, National Blue Foods Assessment; https://www.t20indonesia.org/wp-content/uploads/2022/08/Integrating-Blue-Foods-into-Food-System-Policy-and-Practice_Tf4.pdf
27. European Union, Blue Biotech; https://research-and-innovation.ec.europa.eu/research-area/environment/bioeconomy/blue-bioeconomy_en
28. UNFCCC, Namibia's Updated Nationally Determined Contribution; https://unfccc.int/sites/default/files/NDC/2022-06/Namibia%27s%20Updated%20NDC_%20FINAL%2025%20July%202021.pdf
29. UK Govt, Blue Planet Fund; <https://www.gov.uk/government/publications/blue-planet-fund/blue-planet-fund>
30. Blue Economy Research Centre, Australia; <https://blueeconomyrc.com.au/>
31. Longship Project, Norway; <https://norlights.com/about-the-longship-project/>
32. UK Govt, CCUS Net Zero Investment Roadmap; https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1167167/ccus-investment-roadmap.pdf
33. Carbon Negative Shot, USA; <https://www.energy.gov/fecm/carbon-negative-shot>
34. Ocean Climate Action Plan, USA; https://www.whitehouse.gov/wp-content/uploads/2023/03/Ocean-Climate-Action-Plan_Final.pdf
35. G7 Future of the Seas and Oceans Initiative; <https://www.g7fsoi.org/>
36. Govt of Australia, Climate and Oceans Support Program in the Pacific; <http://cosppac.bom.gov.au/#:~:text=Our%20aim%20is%20to%20enhance,climate%2C%20tides%20and%20the%20ocean.>
37. Atlantic Observatory; <https://www.ipma.pt/en/investigacao/eeagrants/detail.jsp?f=en/investigacao/eeagrants/atlanticobservatory.xml>
38. Transforming Climate Action, Canada; <https://www.transformclimateaction.ca/>
39. Academia Network, AIS Forum; <https://www.aisforum.org/academia-network>
40. Ocean Panel, Developing an Ocean Knowledge Platform; <https://action.oceanpanel.org/initiative/mexico/developing-anocean-knowledge-platform/>
41. Japan, MDA Situational Indication Linkages; <https://earth.jaxa.jp/en/data/2557/index.html>