BLUE AMBITION LOOP:

Achieving Ambitious 2030 Ocean-Climate Action

Non-State Actor Ambition towards Net Zero and a Resilient Ocean Economy

UN CLIMATE CHANGE HIGH-LEVEL CHAMPIONS

WORLD RESOURCES INSTITUTE

OCEAN & CLIMATE PLATFORM

Ørsted

UN GLOBAL COMPACT

RACE TO ZERO

RACE TO RESILIENCE

SUMMARY

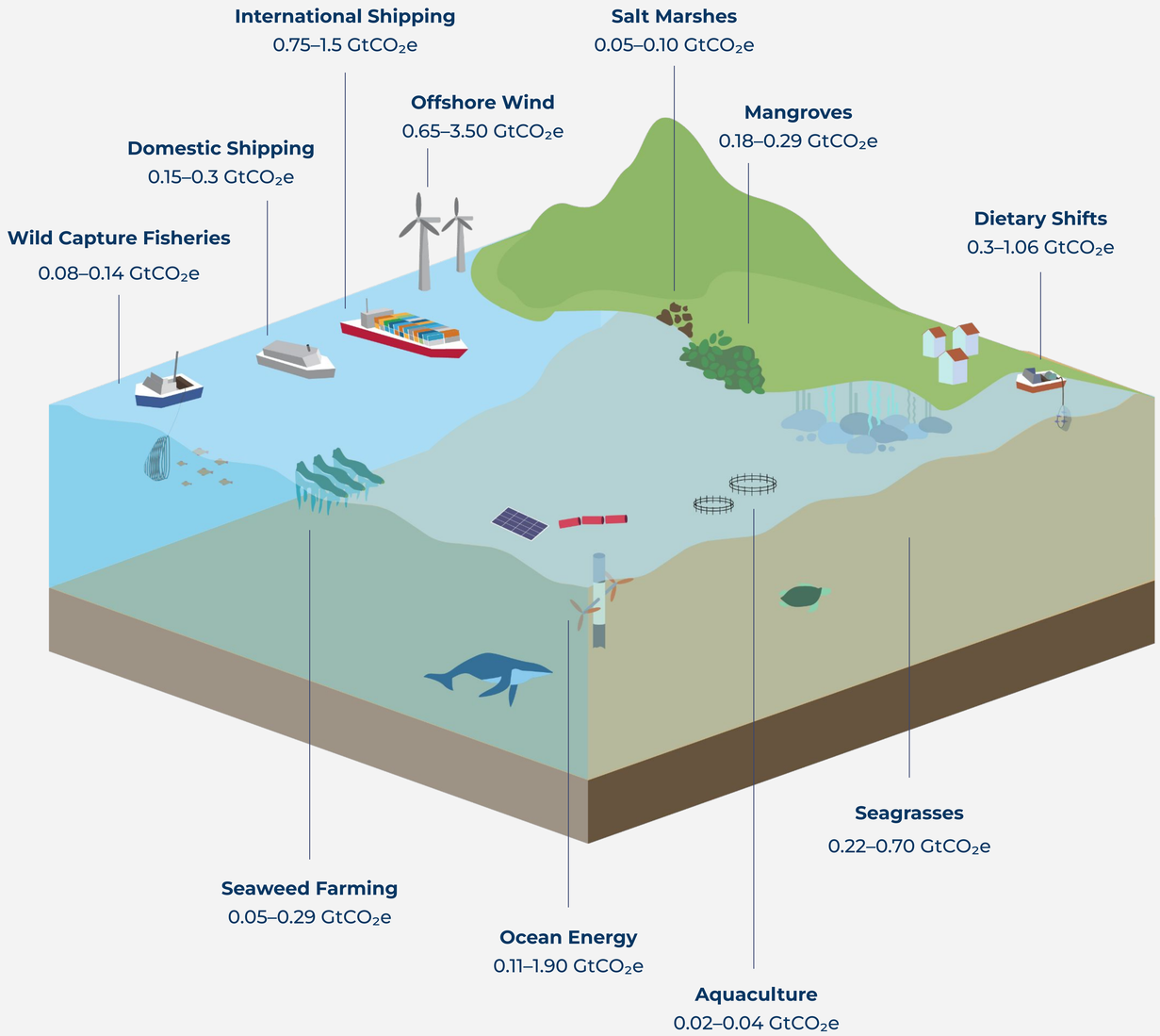
Our planet's vast ocean, its natural ecosystems and economic sectors, provide opportunities to support global efforts to combat climate change. Ocean-based climate solutions offer the opportunity to pivot from problem to solution while also creating jobs, spurring economic growth and helping meet the sustainable food and energy needs of a growing global population. Protecting and restoring the health of our ocean and its natural ecosystems is fundamental to realizing the full potential of ocean-based climate solutions. Climate change is a major driver of unprecedented ocean biodiversity loss and ecosystem degradation, which in turn undermines the ocean's ability to help mitigate climate change. As these crises are so connected, the solutions must be as well.

There has been a groundswell of momentum for ocean-based climate action, including the Ocean for Climate Declaration, Rise Up - a Blue Call to Action, Because the Ocean Declarations, Ocean Panel Call to Action, The Ocean Super Year Declaration and the High Ambition Coalition for Nature and People.

Ocean-based climate solutions have also been identified as key to deliver on the Race to Zero and Race to Resilience campaigns through immediate action to halve global emissions by 2030 and deliver a healthier, more equitable, nature-positive and net-zero carbon world by no later than 2050, in line with global efforts to limit warming to 1.5°C.

Research commissioned by the High Level Panel for a Sustainable Ocean Economy found that full implementation of key ocean-based solutions in five sub-sectors (e.g., marine conservation, energy, transport, food and carbon capture and storage (CCS)) could reduce the emissions gap needed to limit the temperature increase to 1.5°C by 21% annually by 2050 (Hoegh-Guldberg et al, 2019).

The ocean provides food, energy, water, jobs and economic benefits for people in every country, even those that are landlocked. It is a crucial buffer against climate change and a massive resource for sustainable development. This brief provides a snapshot of ambition from non-state actors across six "Blue Breakthroughs" based on the Breakthrough Agenda agreed at COP26.



Source: Hoegh Guldberg, 2019

BLUE AMBITION LOOP

Government action on ocean-based climate solutions has increased. Over 70 percent of new or updated Nationally Determined Contributions (NDCs) include at least one ocean-based climate action (Khan et al., 2022; Lecerf et al., 2021). However, a lot more needs to be done to reach the full potential of ocean-based climate solutions, including greater integration between climate and biodiversity goals.

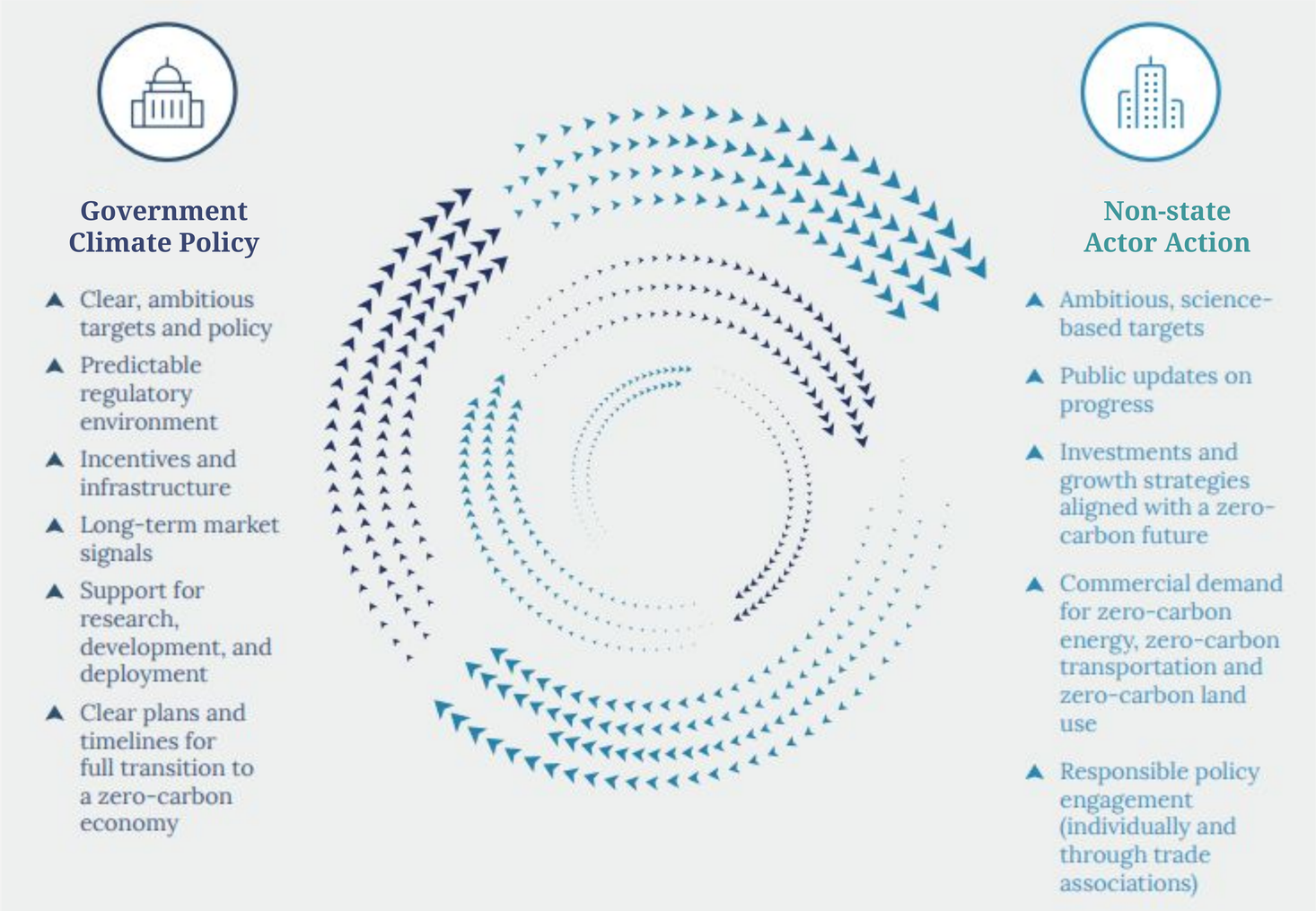
Companies, financial institutions, intergovernmental organisations (IGOs), nongovernmental organisations (NGOs), scientific institutions, and cities - are seeing opportunity in the zero-carbon ocean economy and leveraging ocean-based climate action. Companies are increasing their ambition and investment into renewable energy from the ocean, setting biodiversity targets, producing sustainable food from the ocean, decarbonising marine transport and switching to electrical coastal fleets. NGOs and IGOs are helping to accelerate efforts to sustainably use, conserve and restore coastal and marine ecosystems to maximise their carbon storage and sequestration potential.

This momentum sends a strong positive signal from non-state actors to governments in support of ambitious ocean-based climate policy. Governments can use this as a strong vote of confidence to advance ambitious policies that provide the clarity and confidence the sector needs to unlock further investments in a sustainable, low carbon and climate-resilient ocean economy.

This “blue ambition loop”—the positive feedback loop in which bold government policies and non-state actor leadership reinforce each other – can take ocean-based climate action to the next level.

Figure 2: The Blue Ambition Loop for Ocean-based Climate Solutions

Source: adapted from https://ambitionloop.org/



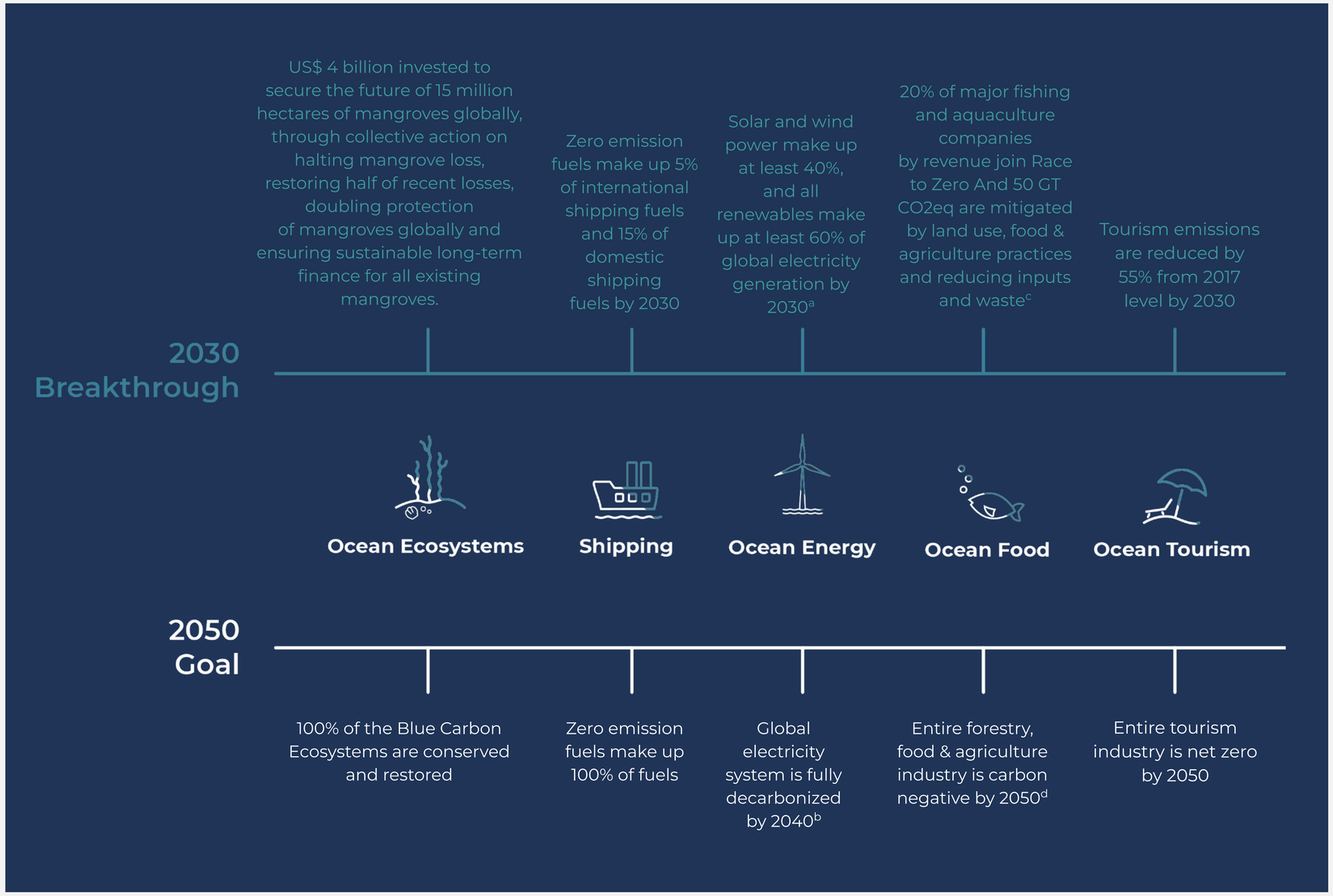
BLUE AMBITION LOOP

At COP 26, in Glasgow, 42 world leaders endorsed the Breakthrough Agenda to rapidly scale up clean technologies in five economic sectors (e.g., power, road transport, steel, hydrogen, and agriculture) that collectively account for more than 50 percent of global greenhouse gas emissions (GHGs). The Breakthrough Agenda identifies what key actors must do, and by when, to deliver much needed systems change. Implementation of the Breakthrough Agenda relies on increased collaboration between national governments and non-state actors towards specific milestones and targets, activating an "ambition loop" of climate action.

Looking across the Breakthrough Agenda, a set of crosscutting "Blue Breakthroughs" can be identified in key ocean sectors to guide ocean-based climate action. These Blue Breakthroughs provide direction for investors and policymakers to enable the acceleration of ocean investment and ocean-based solutions, building from the Ocean Climate Pathways.

Ocean-based climate solutions must all happen within a finite marine space, while also protecting and restoring the ecosystems in which the action will take place. Marine spatial planning, sustainable ocean plans, integrated ocean management and other integrated approaches to sustainably managing the marine environment based on climate and biodiversity goals will play a key enabling role.

Figure 3: Blue Breakthroughs
Source: adapted from the Breakthrough Agenda



Notes:
[a] This goal is for all renewable energy and is not disaggregated into land-based or ocean-based renewable energy. This could be helpful for further iterations of the Breakthrough Agenda to ensure clear policy signals and guidance to the ocean-based sector. A goal developed by the Global Wind Energy Council is Offshore is 380GW of offshore wind deployed by 2030. This is on the basis of offshore wind offering the most decarbonisation potential of any renewable technology. Reference to emerging ocean-based technologies such as tidal, current and floating solar could also be integrated and a clear action plan for investment and research to scale these technologies.
[b] Industry leaders expect 360 GW of offshore wind by 2030 and 2000GW of offshore wind by 2050 as a goal. This could be incorporated into further iterations of the Breakthrough Agenda.
[c], [d] Note this is a goal for the entire NbS: Land Use and Agriculture sector, of which ocean-based food is a sub-sector

OCEAN ECOSYSTEMS CONSERVATION

The protection, conservation and/or restoration of coastal and marine ecosystems (especially those known as blue carbon ecosystems - i.e., mangroves, seagrasses and saltmarshes) can contribute to achieving the long-term temperature goal of the Paris Agreement. They are powerhouses in terms of carbon removal, with soil carbon sequestration rates per hectare up to 10 times larger than those of terrestrial ecosystems (McLeod, 2011). In addition to their high carbon sequestration and storage capacity, these “blue carbon” ecosystems have the potential to deliver multiple benefits for people and biodiversity.

These ecosystems along with reefs, play a key role in strengthening coastal resilience through preventing coastal erosion, limiting storm surge and supporting local water quality, biodiversity and food security for local communities. As such, projects or initiatives aimed at the protection, conservation and/or restoration of these ecosystems also contribute directly to achieving multiple Sustainable Development Goals (SDGs), including food security (SDG 2) and decent work (SDG 8).

Snapshots of Ambition:

111 **non-state actors** have made public commitments to support the conservation, protection and/or restoration of one or more blue ecosystems (mangroves, seagrasses and saltmarshes)

49 NGOs

25 Foundations

24 Businesses

7 Research Institutions

5 Entities

1 City

Over **60 organisations** are developing and/or implementing collaborative initiatives aimed at the protection and/or restoration of blue carbon ecosystems by 2030

Over **35 organisations** are supporting the establishment or development of blue carbon creditsfor voluntary carbon markets

Over **USD 3.7 million** in financial commitments have been made by **25 organisations.**

OCEAN ECOSYSTEMS CONSERVATION

Companies should eliminate activities in their operations and supply chains that contribute to the destruction of marine and coastal ecosystems and exacerbate the impacts of changing ocean conditions to successfully conserve and restore 100 percent of blue carbon ecosystems by 2050. Companies operating in the marine environment should integrate coastal and marine ecosystem protection and restoration as part of operations to ensure co-benefits for biodiversity and local communities. Energy companies are starting to set biodiversity goals and implementing measures that go beyond mitigating impacts during construction and operation – such as the installation of artificial reefs in offshore windfarms.

Financial institutions should increase their support to coastal and marine projects and programmes, including through increased access to innovative financing approaches. Local communities — such as small-scale fishing communities — should be able to access and benefit from these funds.

While marine conservation significantly contributes to both mitigation and adaptation goals under the Paris Agreement, as well multiple socioeconomic imperatives and SDGs, it is important to note that this should not substitute deep cuts to GHG emissions across all economic sectors.

Existing initiatives to highlight:

BNCFF Blue Natural Capital Financing Facility

SAVE OUR MANGROVES NOW!

INTERNATIONAL PARTNERSHIP FOR BLUE CARBON

the BLUE CARBON initiative

GLOBAL MANGROVE ALLIANCE

MARINE TRANSPORT

Shipping transports around 90 percent of global trade and accounts for 3 percent of global GHG emissions, from the combustion of fossil fuels (Faber et al., 2020). Under business-as-usual (BAU), emissions may increase by 130 percent by 2050 compared to 2008 levels (Ibid.). 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 (SZEF) including, distribution, storage, and bunkering. Significant uptake of SZEF will be necessary for shipping to be on this trajectory, with at least 5 percent of SZEF required in international shipping by 2030 and 15 percent in domestic shipping by 2030 (Osterkamp et al., 2021) to enable rapid scaling and mass adoption in the 2040s. This would equate to just over 0.6 Exajoule (EJ) of energy demand, which depending on the green hydrogen derived SZEF used, this equates to, for example, 29.8 million tonnes of ammonia.

In October 2021 the UN Climate Change High Level Champions, UMAS, Getting to Zero Coalition and the Lloyd's Register published an action plan to achieve the 2030 Breakthrough goal of 5 percent which sets out the specific near-term actions and milestones, around which businesses and governments can unite. It details what key actors must do and by when to deliver the needed transformation of the shipping sector. This action plan created a shared vision for all players in the maritime value chain and clarifies how efforts of each actor contribute to the whole, therefore increasing confidence and generating greater impact (Figure 5).

Figure 5: Progress towards key signals of change for 2030 Breakthrough Outcome

Source: adapted from Baresic & Palmer (2022)

Change Lever	Progression	Goals by 2030
Technology/Supply		• 20 large ports offer SZEF bunkering • At least 210 SZEF production facilities • All new vessels are either dual fuel or SZEF-ready
Finance		• Green corridor bonds in place • US $40bn bunkering/production SZEF investment • At least 20 G20 Countries and 10 developing countries have public finance mechanisms in place to support R, D&D
Policy		• Adoption of ambitious shipping MBM/fuel standard at IMO • Majority of G20 Countries have stringent domestic shipping decarbonization targets • International agreements on zero carbon shipping route creation
Demand		• 30 zero carbon routes by 2030 • 200 zero carbon deep sea vessels in operation • 5 million TEU of zero emission freight commitment across all shipping segments
Civil Society		• Growing SIDS/LDC participation • Increased NGO pressure • Workforce upskilling/retaining programmes in place

Key:

On track: Progression in line with requirement across all actors
Partially on track: Close to being met but insufficient evidence
Not on track: Not progressing in line with requirements

MARINE TRANSPORT

Overall, there has been a marked increase in commitments, declarations, ambition statements and positions from a range of industry stakeholders that are starting to be converted into action through the creation of standards, improvements in transparency and cross value chain collaborations coming together to test and pilot demonstrations. However, this translation from commitment to action must be accelerated to stay on course to achieve the 5 percent breakthrough goal by 2030.

In addition to clear domestic policy setting and ambitious strategies in the IMO, the following action from non-state actors will be required:

- Investment and development of SZEF production pathways with over 210 production facilities, and SZEF availability in at least 20 key ports alongside investment and development into the technologies for use onboard with commercially available fuel cell technology of large-scale usage.
- Commitments by freight purchasers for purchase of at least 5 million TEUs of zero emission TEU by 2030 and a range of shipowner commitments to order only zero emissions-ready ships will be required.
- Industry participation in demonstration projects, pilots, and R&D in the short term to learn and increase engagement

For a more detailed and complete roadmap and set of actions from all stakeholders along the marine transport value chain, see Baresic & Palmer (2022).

Snapshots of Ambition:

19 under CoZEV multinational cargo owners have committed to only purchasing ocean freight services powered by scalable zero-carbon fuels by 2040.

16 companies across the shipping value chain are members of the Sustainable Shipping Initiative

11 companies have committed to shift to zero emission fuels through the 'First Movers Coalition.'

160 companies along the shipping value chain have signed the Call to Action for Shipping Decarbonization asking governments to work with industry to deliver the policies and investments needed to reach critical tipping points in decarbonizing global supply chains and the global economy.

28 signatories to the Poseidon Principles, accounting for over 50% of shipping debt finance (approximately US$ 185 bn).

18 green shipping corridors announced between the global ports.

34 charterers and operators have committed to the Sea Cargo Charter.

Over 200 zero emission pilot and demonstration projects are currently in the pipeline, an increase of almost 100% since 2021.

MARINE TRANSPORT

Existing initiatives to highlight:

Getting to Zero Coalition

ZERO-EMISSIONS SHIPPING MISSION

GREEN HYDROGEN CATAPULT

SEA CARGO CHARTER

GLOBAL MARITIME FORUM

C40 CITIES

Africa Green Hydrogen Alliance

POSEIDON PRINCIPLES

SSI Sustainable Shipping Initiative

WPSP WORLD PORTS SUSTAINABILITY PROGRAM

CO ZEV CARGO OWNERS FOR ZERO EMISSION VESSELS

POSEIDON PRINCIPLES FOR MARINE INSURANCE

MISSION INNOVATION

BLUE SKY MARITIME COALITION

First Movers Coalition

OCEAN ENERGY

The accelerated and large-scale deployment of offshore renewable energy technologies is an essential step on the path to net-zero, and if done sustainability also represents a huge opportunity to support biodiversity goals. Offshore renewable energy has very low carbon emissions, produces few atmospheric pollutants and has a very low demand for water.

Offshore wind is currently the most mature of the ocean-based energy technologies and the largest in terms of current installed capacity. It is a highly competitive energy technology that can be built at an industrial scale. It relies on an abundant and predictable energy source, replaces fossil fuel at a lower cost with improved resilience to geopolitical impacts, and can revitalise coastal communities, creating skilled jobs and stimulating local economies. As such, it can be a critical technology to ensuring a just and inclusive energy transition, which also offers economies of scale to provide a range of socioeconomic benefits and job creation opportunities (particularly for displaced labour in the energy transition, such as in the offshore oil and gas sector). Once commercialised, other ocean-based renewable energy technologies hold the potential to be similarly beneficial.

The Global Wind Energy Council (GWEC) has established a target of 380 GW installed offshore wind capacity by 2030, and in collaboration with the International Renewable Energy Agency (IRENA) signed a UN Energy Compact to meet 2000GW of offshore wind installed by 2050. The International Energy Agency (IEA) estimates the gross potential for offshore wind to be more than 18 times current global electricity demand (IEA, 2019).

Examples of non-state actor commitments, targets or pledges:

Global energy companies came together to form the **Ocean Renewable Energy Action Coalition (OREAC)** and established a vision to have 2 TW of offshore wind renewable energy capacity in 2050, which would supply around 10 percent of the world's electricity. This commitment was built upon to produce the target enshrined in the UN Energy Compact signed by GWEC and IRENA, which commits to building 2000 GW of offshore wind by 2050, and 380 GW of offshore wind by 2030.

The **Global Offshore Wind Alliance (GOWA)** was founded by Denmark, IRENA, and GWEC as a public-private partnership to create a global driving force for the uptake of offshore wind through political mobilisation and the creation of a global community of practice. The aim of GOWA is to contribute to achieving a total global offshore wind capacity of a minimum of 380 GW by 2030, with 35 GW on average each year across the 2020s and a minimum of 70 GW each year from 2030.

Orsted has set an industry-leading ambition to deliver a net-positive biodiversity impact across all new renewable energy projects it commissions from 2030 at the latest. Orsted announced investments in significant new nature projects – such as ecosystem restoration in the UK's Humber Estuary, and coral reef restoration in Taiwan. The company is forging new partnerships with NGO such as WWF to unite action on ocean renewables and biodiversity, and working with the scientific community to develop a best practice toolkit that can deliver at the scale needed for sustainable and rapid energy transition.

Snapshots of Ambition:

1 energy company with a net-zero target validated as 'science-based' by the Science Based Targets Initiative.

56GW installed offshore wind capacity[4]

78 ocean-based renewable energy projects (not wind) in operation or under development globally, totalling more than 2.9GW[5]

371GW planned or proposed offshore wind capacity by 2031

OCEAN ENERGY

The IRENA World Energy Transition Outlook (2021) outlines the global energy system conditions to achieve net zero emissions by 2050 and sustain a 1.5-degree warming scenario by 2100. These system conditions include widescale electrification, grid and infrastructure buildout and large-scale growth of renewable energy shares in national energy matrices worldwide. They also include the acceleration of offshore wind development in every region of the world, as a source of large-scale, reliable, secure and affordable energy. There is 71,000 GW of offshore wind resource potential globally, according to the World Bank Group, the vast majority of which remains unexplored and untapped. Much of this technical resource potential will be suitable for floating wind applications, expected to reach commercialization by the end of this decade.

Acceleration of the transition to ocean-based renewable energy requires a new approach to deployment – how we plan, permit, incentivise, invest in and build ocean-based renewable energy infrastructure will need to adapt and step-up to the challenge.
To benefit from the substantial potential and opportunities deriving from offshore wind, it is pivotal that governments, private sector actors, international organisations and other relevant stakeholders work together to remove the barriers to scaling up investment and finance.

In order to unlock the full potential of the ocean, ocean-based renewable energy needs to be integrated with action on global biodiversity goals. Without sustainable ocean stewardship and a new approach to planning co-use of finite marine space, the interconnected crises of climate and nature become harder to solve. High levels of collaboration across industry, policymakers and civil society are needed to plan and implement integrated solutions, and to grasp the opportunity for renewable energy to become a solution for climate and biodiversity.

Industry players are also working with the Science Based Targets Initiative (SBTI) as they develop the first science-based targets for nature, expected in early 2023 to help companies take integrated action across climate and energy. Greater policy signals are needed to drive investment in step with accelerated build-out, such as designing tenders and regulatory frameworks that enable industry to deliver greater societal value.

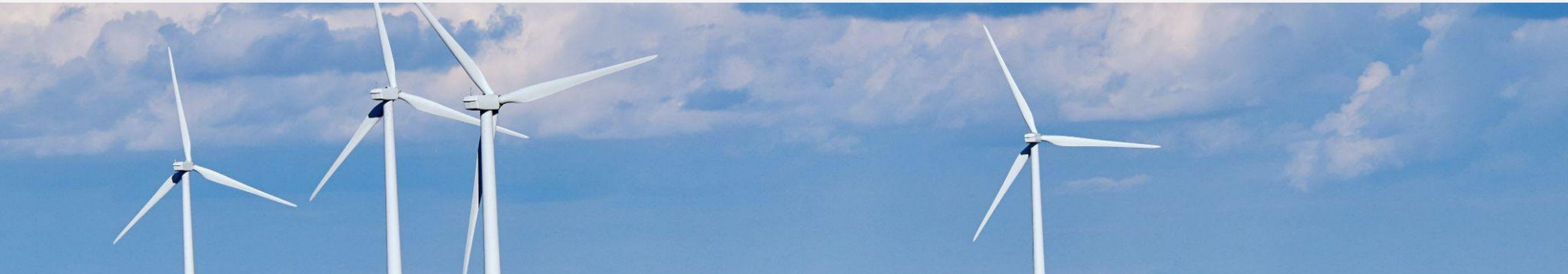
Existing initiatives to highlight:

OREAC OCEAN RENEWABLE ENERGY ACTION COALITION

Global Offshore Wind Alliance

UN GLOBAL COMPACT OCEAN STEWARDSHIP COALITION

CLEANaction Coalition Linking Energy And Nature for action



OCEAN FOOD

Fisheries and marine aquaculture play a pivotal role in supporting countries to achieve sustainable development, particularly in the fight against poverty, hunger, and malnutrition. In 2018, the sector contributed 32 million tonnes of aquatic plants, as well as 156 million tonnes of fish for direct human consumption and provided 3.3 billion people with almost 20 percent of their average per capita intake of animal protein (FAO, 2020).

Blue food – food derived from aquatic animals, plants or algae – is dependent on healthy and productive marine and coastal ecosystems. Thus, any action that contributes to reducing pressure on marine ecosystems has the capacity to positively impact ocean-based food.

Figure 6: Regional distribution of non-state actor commitments aimed at GHG reductions.

Note: Countries highlighted show headquarters of companies who have made commitments to date
Source: authors

Snapshots of Ambition:

Over **10** fishing and aquaculture companies are signatories to Race to Zero and 12 joined the Science-Based Targets Initiative

Over **27** corporations made public commitments to reducing emissions (CO 2 and GHG) in the fisheries and aquaculture sub-sectors (Figure 6)

At least **1** seaweed company is a signatory to Race to Zero committing to halving their emissions by 2030

At least **1** aquaculture organization committed to ensuring farmers have access to insurance and integrated risk management strategies by 2025 as part of R4 Rural Resilience Initiative

Of the thirteen corporations that control 11-16% of the global marine catch (9-13 million tons), at least seven (54%) have made commitments to reduce GHG emissions from their fisheries and aquaculture operations, two joined Race to Zero, and three joined the Science-Based Targets Initiative.

Over **6** fishing and aquaculture companies are signatories to Race to Zero and 12 joined the Science-Based Targets Initiative

OCEAN FOOD

The fisheries and marine aquaculture sector will face increasing challenges due to changing climate and ocean conditions, in particular where warming water temperatures, deoxygenation, and acidification in aquatic environments are already impacting the distribution and abundance of fish stocks in many regions. Additionally, illegal, unreported, and unregulated (IUU) fishing impacts ocean biodiversity, sustainability, nutrition and economic security for small-scale fishing communities. There is an urgent need to address these through innovative, inclusive, effective and adaptive fisheries management measures. A key gap in the analysis is the lack of non-state actor targets on seaweed and algae as a source of sustainable ocean-based food.

If well managed, the response to the challenges facing the sector can also generate opportunities, including that the fisheries and marine aquaculture sector can contribute to the reduction of emissions, through the employment of energy-efficient practices.

Existing initiatives to highlight:

SeaBOS

Examples of non-state actor commitments, targets or pledges:

Maruha Nichiro, the world's largest seafood company, committed to a 30% CO2 emissions reduction rate from a 2017 baseline and to reach net zero by 2050.

Thai Union, the largest canned tuna producer and fifth largest shrimp farmer, will reduce GHG emissions by 30% (total emitted GHG per ton of production) in their factories, against their 2016 baseline.

Fisheries Innovation Scotland is developing a fuel transition roadmap covering the short, medium and long-term to establish a vision for Scottish fisheries.

Fiskebat (The Norwegian fishing fleet's organization), a member of the Green Shipping Program, aims to reduce GHG emissions from the fishing fleet by at least 40% by 2030, measured against emissions from 2005.

OCEAN TOURISM

Tourism is a highly emissions-intensive industry, contributing 8–11 percent of global greenhouse gas (GHG) emissions in 2013 (WTTC, 2021). Globally, around 49 percent of tourism-related emissions are generated by transport and just over 6 percent by accommodation (WTTC 2021).

As coastal and marine tourism recovers from the pandemic, there is an opportunity to double down on efforts to improve sustainability and the long-term resilience of tourism. Resorts, hotels and cruise operators can continue to develop and implement science-based targets for GHG emissions reduction from operations and develop management plans for the use of energy, water and food.

Snapshots of Ambition:

At least

7

cruise operators have net zero plans, targets or pledges

At least

14

coastal resorts and hotel chains have pledged to reduce emissions by half by 2030 and achieve net zero emissions by 2050.

Examples of non-state actor commitments, targets or pledges:

MSC Cruises, the world's largest privately held cruise company, committed to achieve net zero greenhouse gas emissions by 2050.

Carnival Cruises, the world's largest travel leisure company with over 100 cruise vessels, will reduce greenhouse gas emissions by 40% (total emitted GHG per ton of production), against their 2008 baseline.

Royal Caribbean Group, the second largest cruise line operator in the world, will launch its first net zero emission ship by 2040.

Iberostar Group, a global tourism and hotel group, pledged to achieve net zero greenhouse gas emission by 2050.

Existing initiatives to highlight: **Glasgow Declaration on Climate Action in Tourism**

OCEAN FINANCE

Adequate, accessible and targeted finance is key to delivering Blue Breakthroughs in all of the sectors mentioned above. Furthermore, the finance sector is not only a critical facilitator, it is also key to a broader rebalancing of economies towards sustainability and resilience. To date, finance actors have made significant commitments to climate finance:

Still, financing for sustainable ocean action is limited, dispersed and dwarfed by historic funding of unsustainable ocean activities. Innovative sources of ocean financing range from new targeted funding and de-risking mechanisms and dedicated intermediaries to the use of specific processes, including, blue bonds and public-private partnerships. Impact investors are playing a key role in identifying investment opportunities and working with local partners, as evidenced by the Glasgow Financial Alliance for Net Zero (GFANZ) (GFANZ, 2021).

The ocean has to be fully integrated into the climate finance architecture, including through comprehensive natural capital accounting that fully includes the ocean. We need to scale up ocean finance by increasing funding of early-stage, nature-positive and science-based opportunities as well as through large-scale investment into zero-carbon, resilient and nature-based coastal blue infrastructure (Thiele et al, 2020).

Snapshots of Ambition:

The OECD estimates that, through blended finance arrangements, ODA leveraged a total of US$ 2.96 billion of private finance in support of ocean-related projects, equivalent to an annual average of US$ 593 million. Private finance was mobilised both for ocean-based industries and ecosystems as well as for land-based activities that reduce negative impacts on the ocean, such as waste management, sanitation and water treatment (OECD, 2020).

Scaling requires integrating ocean criteria into sustainability finance frameworks (e.g. EU Taxonomy, Task Force on Climate-related Financial Disclosures (TCFD), Taskforce for Nature-related Financial Disclosures (TNFD)) (Hornidge, 2022) and could be facilitated by setting up a dedicated multilateral ocean finance institution (De Sanctis et al 2022). Blue bonds and blue loans can help deliver funds to ocean-friendly projects and protect critical clean water resources. The IFC's Guidelines for Blue Finance provide a list of eligible use of proceeds to support private investments that are aligned with the Green Bond Principles and Green Loan Principles and contribute to the UN's SDG Goals 6 and 14 (IFC, 2022). The International Monetary Fund, central banks and financial regulators also need to incorporate ocean climate change and biodiversity risks into their regulatory frameworks (Thiele, 2021).

Whilst there is some progress at the sectoral level, such as The Poseidon Principles, which so far apply to 30% of shipping loans and establish a framework for assessing and disclosing the climate alignment of ship finance portfolios (Sumaila, 2021), there is limited overall reporting of ocean impacts of the financial sector as a whole.

"Turning the Tide" provides a practical toolkit for financial institutions to pivot their activities towards financing a sustainable blue economy (UNEPFI, 2021). To scale-up financial flows – and reallocate existing flows to more sustainable activities – a strong policy framework is also required.

Examples of non-state actor commitments, targets or pledges:

The **Glasgow Financial Alliance for Net Zero** (GFANZ) commits to tripling clean energy investment by 2030.

MDBs annual climate action targets for 2025: at least US$ 65 billion of climate finance in total, with US$ 50 billion for low-income and middle-income countries; an increase in adaptation finance to US$ 18 billion; and private mobilisation of US$ 40 billion.

Leading financial institutions and other stakeholders formed the **Ocean Risk and Resilience Action Alliance (ORRAA)** to drive investment into coastal and ocean natural capital and surface at least 50 novel finance products by 2030, positively impacting the resilience of at least 250 million climate vulnerable people.

Launch of the **Ocean Engagement Fund** by Credit Suisse/Rockefeller.

CONCLUSION AND NEXT STEPS

The ocean is a powerful source of untapped solutions and innovation. As the ocean-climate nexus continues to gain recognition on a global scale, now is the **time for implementation and action**.

Non-state actors are playing an increasingly important role in the transition to a net zero, resilient and nature-positive economy. The scale and urgency of the climate crisis require a **whole-of-society approach**, including those from the ocean economy, as well as strong commitments from the private sector and investors. The examples of ambition and action from non-state actors highlighted in this brief provides grounds for optimism, but the commitments, targets and declarations must be turned into action if we are to achieve the goals of the Paris Agreement.

Considering the potential of the ocean for climate solutions, it is critical to emphasise that this potential rests on a healthy, biodiverse ocean that is able to support a sustainable blue economy and the ocean's role as a key natural climate regulator. Investment into marine conservation and sustainable ocean stewardship must accompany action in each of the ocean sub-sectors identified in this brief. **Advancing climate and biodiversity ambition must go hand in hand**. There is great potential to utilise coastal and marine ecosystems in ocean infrastructure and co-locate marine protected areas, aquaculture and ocean-based renewable energy to advance an integrated and sustainable marine environment.

The **Blue Breakthroughs** — the action plans for ocean sectors developed under the leadership of the High-Level Climate Champions — can help accelerate and guide the action that is already underway. The High-Level Climate Champions welcome the engagement of additional partners to collectively define and implement these action plans towards 2030.

About this Brief

This brief identifies, aggregates and visualizes examples of ocean-based climate action and ambition by non-state actors. It serves as a companion piece to existing analysis on government commitments in NDC – identifying the potential for a Blue Ambition Loop to accelerate ocean-based climate action.

This brief has been compiled by the High-Level Climate Champions to raise awareness of non-state actor ambition in key ocean-based sub sectors that align with the Breakthrough Agenda to help incentivize greater action from both government and non-state actors.

For the purposes of this report, non-state actors include companies, financial actors (e.g., investors, asset managers, asset owners, banks, public funds), cities and organisations — including civil society and foundations. It includes both clearly defined quantifiable pathways ("targets") to reduce greenhouse gas emissions as well as clearly articulated intention or ambition to undertake ocean-based climate action ("pledges", "commitments" and "declarations").

The targets, commitments or ambition from non-state actors presented in this brief are not exhaustive but intended to be indicative of the contribution of non-state actors towards ocean-based climate action in the six ocean sub-sectors presented in this brief. The targets, commitments and ambitions identified are based on information publicly available and recorded in existing databases, declarations and initiatives and are constantly being updated. The numbers presented in this brief will therefore only represent a snapshot.

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ENDNOTES

1. Breakthrough Agenda. More information available at https://www.irena.org/publications/2022/Sep/Breakthrough-Agenda-Report-2022

2. Oceans and Climate Zones Climate Action Pathway. More information available at https://unfccc.int/climate-action/marrakech-partnership/reporting-tracking/pathways/oceans-and-coastal-zones-climate-action-pathway

3. Sustainable Ocean Plans. More information available at https://oceanpanel.org/publication/100-sustainable-ocean-management-an-introduction-to-sustainable-ocean-plans/#:~:text=A%20Sustainable%20Ocean%20Plan%20aims,ecosystems%20that%20underpin%20that%20development.

4. Fuels which have net zero well-to-wake GHG emissions and have the potential to be produced at a competitive price compared to fossil fuels over a long period of time, whilst also having the potential to be produced at the volumes necessary to meet a significant amount of global maritime demand (i.e., in EJ of energy by the 2030s) (Smith et al., 2021)

5. Based on internal UMAS calculations. Fuels such as methanol would have to be sustainably sourced and produced as e-fuel options in a similar way to other synthetic fuels.

6. https://www.globalmaritimeforum.org/news/getting-to-5-an-action-plan-for-delivering-zero-emission-fuels-in-shipping

7. GWEC Market Intelligence

8. Ocean Energy Systems Annual Report 2021, IEA Technology Collaboration Programme

9. The 2020 Joint Report on Multilateral Development Banks' Climate Finance as revised in August 2021

REFERENCES

Baresic, D., and K. Palmer. 2022. Climate Action in Shipping: Progress towards Shipping 2030 Breakthrough. UMAS and High Level Climate Champions. Available online at https://climatechampions.unfccc.int/wp-content/uploads/2022/09/GTZ_ClimateActionInShipping.pdf

De Sanctis, C., P. Lamy, E. Letta, G. Pons, J.F. Pons, M. Mueller, K. Sack, K. Teleki, T. Thiele, and A.M. Waite. 2022. Delivering a Sea - Change: A G7 Ocean Finance Deal. ORRAA/ Europe Jacques Delors G7 Policy Brief. Available online at https://www.europejacquesdelors.eu/publications/europe-jacques-delors-institute--orraa-launch-report

Faber, J. S. Hanayama, S. Zhang, P. Pereda, B. Comer, E. Hauerhof, W.S. van der Loeff, T. Smith, Y. Zhang, H. Kosaka, et al. 2020. Reduction of GHG Emissions from Ships—Fourth IMO GHG Study 2020—Final Report. Available online at: https://www.imo.org/en/OurWork/Environment/Pages/Fourth-IMO-Greenhouse-Gas-Study-2020.aspx.

FAO. 2020. The State of World Fisheries and Aquaculture 2020. Sustainability in action. Rome. Available online at https://doi.org/10.4060/ca9229en

GFANZ. 2021. Call to Action. Available online at https://www.unepfi.org/wordpress/wp-content/uploads/2021/10/GFANZ-call-to-action.pdf
Hoegh-Guldberg, O., et al. 2019. ''The Ocean as a Solution to Climate Change: Five Opportunities for Action.'' Report. Washington, DC: World Resources Institute. Available online at https://oceanpanel.org/opportunity/climate/

Hornidge, A-K, S. Unger, M. Visbeck, M. Schoderer, T. Thiele, et al.2022. Safeguarding the blue planet – three recommendations to sustainably use and govern the ocean and its resources . T7 POLICY BRIEF. Available online at https://www.think7.org/publication/safeguarding-the-blue-planet-eight-recommendations-to-sustainably-use-and-govern-the-ocean-and-its-resources/

IEA 2019. Offshore Wind Outlook. Available online at https://www.iea.org/reports/offshore-wind-outlook-2019

IFC. 2022. Guidelines for Blue Finance Guidance for financing the Blue Economy, building on the Green Bond Principles and the Green Loan Principles. Available online at https://www.ifc.org/wps/wcm/connect/industry_ext_content/ifc_external_corporate_site/financial+institutions/resources/guidelines-for-blue-finance

Khan, M., E. Northrop, and L. Schindler Murray. 2022. Ocean Based Climate Action in Nationally Determined Contributions (NDCs). Working Paper. Washington, DC: World Resources Institute.

Lecerf, M. et al. 2021. Coastal and marine ecosystems as Nature-based Solutions in New or Updated Nationally Determined Contributions. Ocean & Climate Platform, Conservation International, IUCN, GIZ, Rare, The Nature Conservancy, Wetlands International and WWF. Available online at https://ocean-climate.org/wp-content/uploads/2021/10/coastal-and-marine-ecosystemDEF.pdf

Mcleod, E., G.L. Chmura, S. Bouillon, R. Salm, M. Björk, C.M. Duarte, C.E. Lovelock, et al. 2011. "A Blueprint for Blue Carbon: Toward an Improved Understanding of the Role of Vegetated Coastal Habitats in Sequestering CO2 ." Frontiers in Ecology and the Environment 9 (10): 552–60

Sumaila, R. et al. 2021. Financing a sustainable ocean economy. Nature Comms. Available online at https://www.nature.com/articles/s41467-021-23168-y.pdf

Thiele, T., G. Alleng, A. Biermann, A. et al. 2020. Blue Infrastructure Finance: A new approach. integrating Nature-based Solutions for coastal resilience. IUCN.
Thiele T. 2021. The Financial System Meets Environmental Protection, ISPI Commentary, ISPI, 10 June. Available online at https://www. ispionline.it/it/pubblicazione/financial-system-meets-environmental-pro- tection-30778

United Nations Environment Programme Finance Initiative (UNEPFI). 2021. Turning the Tide: Howto finance a sustainable ocean recovery—A practical guide for financial institutions. Geneva United Nations Framework Convention on Climate Change. 2021. Ocean Climate Pathway. Available online at https://unfccc.int/climate-action/marrakech-partnership/reporting-tracking/pathways/oceans-and-coastal-zones-climate-action-pathway#eq-1

OECD. 2020. "Reframing Financing and Investment for a Sustainable Ocean Economy", OECD Environment Policy Papers, No. 22, OECD Publishing, Paris. Available online at https://doi.org/10.1787/c59ce972-en.

Osterkamp, P., T. Smith, and K. Søgaard. 2021. Five percent zero emission fuels by 2030 needed for Paris-aligned shipping decarbonization. GMF. Available online at https://www.globalmaritimeforum.org/news/five-percent-zero-emission-fuelsby-2030-needed-for-paris-aligned-shipping-decarbonization.

WTTC. 2021. A Net Zero Roadmap for Travel and Tourism 2021. London: WTTC. Available online at https://wttc.org/Portals/0/Documents/Reports/2021/WTTC_Net_Zero_Roadmap.pdf.