



Sustainable
Blue Economy

Rising Tide: Mapping Ocean Finance for a New Decade

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Table of Contents

Acknowledgements	2
Table of Contents.....	3
Table of Figures	5
Foreword	6
Executive summary	8
Needs and opportunities	10
Seafood	11
Ports	11
Maritime transportation.....	12
Coastal and marine tourism.....	12
Marine renewable energy	12
Recommendations.....	13
Introduction	15
Context	16
What is the sustainable blue economy?	17
What do we mean by finance for the sustainable blue economy?	18
How does this paper relate to the guidance?.....	18
Structure	19
Overview of the current sustainable blue economy finance landscape	20
Broad financing initiatives	21
EU taxonomy for sustainable activities	21
Taskforce on Climate-related Financial Disclosures (TCFD)	22
Taskforce on Nature-related Financial Disclosures (TNFD).....	24
Specific financing initiatives.....	24
Ocean Risk and Resilience Action Alliance (ORRAA)	24
Coalition for Private Investment in Conservation (CPIC)	25
IUCN Blue Natural Capital Finance Facility	26
WTW Global Ecosystem Resilience Facility.....	26
Capitals Coalition	27
MDB financing initiatives	28
Asian Development Bank's Oceans Financing Initiative (OFI) and Healthy Ocean Action Plan.....	28
World Bank PROBLUE multi-donor trust fund	29
European Investment Bank's Blue Sustainable Ocean Strategy	29

Knowledge and research initiatives	30
High-Level Panel for a Sustainable Ocean Economy	30
Friends of Ocean Action	30
Planet Tracker Initiative.....	30
Global Ocean Accounts Partnership	31
UN Global Compact Sustainable Ocean Business Action Platform	31
Gaps in the landscape	32
Survey results.....	34
Audience profile.....	35
Sector responses	40
Seafood	43
Ports	48
Maritime transportation.....	52
Coastal and marine tourism	56
Marine renewable energy	60
Recommendations for guidance development	64
Annex: Additional survey responses and results.....	71
Seafood	74
Ports	75
Maritime transportation.....	76
Coastal and marine tourism	77
Marine renewable energy	77

Table of Figures

Figure 1:	EU taxonomy overview.	22
Figure 2:	Capitals Coalition capital types.	27
Figure 3:	Focus analysis of major finance initiatives and their relevance to the blue economy.	33
Figure 4:	What type of institution do you represent?	35
Figure 5:	Are you familiar with the sustainable blue economy?	36
Figure 6:	Where is your institution active in the sustainable blue economy?	37
Figure 7:	How are the sectors of the sustainable blue economy financed?	38
Figure 8:	How source regions invest in the blue economy.	39
Figure 9:	Proportion of respondents providing financial services for key blue economy sectors.	40
Figure 10:	Percentage split of sum of greatest reported risks across sectors.	41
Figure 11:	Sum of most important non-financial considerations across sectors.	42
Figure 12:	Where do you see the wild-caught fisheries sector 10 years from now?	43
Figure 13:	Where do you see the aquaculture sector 10 years from now?	43
Figure 14:	Predicted key trends in fisheries 2020–2030.	44
Figure 15:	Predicted key trends in aquaculture 2020–2030.	44
Figure 16:	Where do you see the port sector 10 years from now?	48
Figure 17:	Predicted key trends in ports 2020–2030.	49
Figure 18:	Where do you see the maritime transportation sector 10 years from now?	52
Figure 19:	Predicted key trends in maritime transportation 2020–2030.	53
Figure 20:	Where do you see the coastal and marine tourism sector 10 years from now?	56
Figure 21:	Predicted key trends in coastal and marine tourism 2020–2030.	57
Figure 22:	Which sub-sectors of marine renewable energy do you work with?	60
Figure 23:	Where do you see the marine renewable energy sector 10 years from now?	61
Figure 24:	Predicted key trends in marine renewable energy 2020–2030.	61
Figure 25:	Within your institution, which of the following best describes your role?	72
Figure 26:	Different sectors are financed by different institutions.	73
Figure 27:	Which financial products does your organisation typically work within the seafood sector?	74
Figure 28:	Which financial products does your organisation typically work with in the ports sector?	75
Figure 29:	Which financial products does your organisation typically work with in the maritime transportation sector?	76
Figure 30:	Most common financial instruments in coastal and marine tourism sector.	77
Figure 31:	Which financial products does your organisation typically work with in the marine renewable energy sector?	78

Foreword

‘How inappropriate to call this planet Earth, when clearly it is Ocean.’

Quote commonly attributed to Arthur C. Clarke, Author

The majority of our planet is covered by a vast blue expanse, holding [97% of all our water](#) and 80% of all life forms. The ocean surrounds us and sustains us, providing the oxygen for every second breath we take, food for almost half of humanity, and critical resources for human health, leisure and energy production. Major industries such as shipping, ports, coastal tourism, fishing, aquaculture and offshore renewables depend on the ocean and impact it through their activities. This ‘blue’ economy, estimated by the OECD at a global gross value added of USD 1.5trn in 2010, has been projected to increase to USD 3trn by 2030, with some ocean industries set to grow faster than the global economy.

The blue economy must be wholly sustainable, it must encompass environmental stewardship. Already the ocean is at breaking point, faced with the triple crises of pollution, nature loss and climate change. More than [a third of fish stocks globally](#) are over-exploited and [almost 60%](#) are fished at their maximum sustainable limit, only [10-30% of coral reefs](#) are expected to survive a climate that warms to 1.5°C above pre-industrial levels (virtually all would be lost under a 2°C scenario), and marine life is being extensively damaged by plastic pollution and chemical run-off from our land-based industries. The tide of ocean-related issues is rising. It’s time to build a new relationship with this vital ecosystem, and urgently build sustainability into ocean-linked sectors.

Banks, insurers and investors have a major role to play in financing the transition to a sustainable blue economy, helping to rebuild ocean prosperity and restore biodiversity to the ocean. Through their lending, underwriting and investment activities, as well as their client relationships, financial institutions have the power to accelerate and mainstream the sustainable transition of ocean-linked industries.

This is why, in 2018, we launched the [Sustainable Blue Economy Finance Principles](#). A world-first, these guiding principles remain a keystone in the market, designed for financiers to align their activities with [Sustainable Development Goal 14](#), ‘life below water’. By following these Principles, and building sustainable blue practices into their decision-making processes, the financial sector has a unique opportunity and a clear imperative to steer the ocean economy towards sustainability. Investments that are sustainable will thrive, while those that are unsustainable risk failure and loss.

This new report sees the United Nations build on these Principles, mapping the current state of ocean finance and the transition required at the start of the UN Decades of [Ocean Science for Sustainable Development](#) and [Ecosystem Restoration](#). The report reveals the current trends in lending, underwriting and investment activities which impact the ocean, the frameworks and financial instruments that are successfully addressing ocean sustainability, and highlights new opportunities and gaps in the market. It looks across five key ocean sectors, chosen for their established connection with private finance.

This Report will be followed by practical Guidance to be launched later this year, designed to bring clear direction and detailed recommendations for financial decision-makers on how to sustainably engage with five major ocean-linked sectors; seafood, ports, maritime transport, coastal and marine tourism and marine renewable energy. This trailblazing Guidance will provide a detailed breakdown of which client activities to seek out as best-practice, which activities to challenge, and which activities to avoid financing altogether due to their damaging nature.

We believe that wide adoption of the Principles and Guidance will allow the financial sector to take ambitious steps to reshape the ocean landscape and provide a course correction towards a sustainable blue economy. We invite banks, insurers and investors to join over 50 pioneering organisations who are members of the [Sustainable Blue Economy Finance Initiative](#) to help shape the future of sustainable blue finance and to adopt and implement the Sustainable Blue Economy Finance Principles. Together we can meet the rising tide.

Founders of the Sustainable Blue Economy Finance Principles



The UN Environment Programme's Sustainable Blue Economy Finance Initiative works with banks, insurers and investors to build industry-wide guidance and standards for sustainably financing ocean sectors. With over 50 pioneer institutions already onboard, we invite interested parties to join the global community of practice and take a leadership role in shaping the future of financing the blue economy. [Find out more.](#)

Executive summary

Banks, insurers and investors have a crucial role to play in the transition towards a sustainable blue economy (SBE). To help guide them, the European Commission, European Investment Bank, WWF and the World Resources Institute launched the Sustainable Blue Economy Finance Principles in 2018.

Building on the momentum of these principles, the United Nations Environment Programme Finance Initiative (UNEP FI) hosts the Sustainable Blue Economy Finance Initiative (SBEFI), a new platform bringing together financial institutions to work with scientists, corporates and civil society to facilitate the adoption and implementation of the Sustainable Blue Economy Finance Principles, ensuring they become operational and useful for financial institutions worldwide. The SBEFI seeks to achieve the following:

- Positively influence mainstream ocean-related investment, insurance and lending to drive development that underpins a sustainable blue economy;
- Catalyse finance sector engagement and practical action to deliver a sustainable blue economy and support the ambitions of SDG14 (Life Below Water); and
- Develop concrete actions and outputs for insurers, lenders and investors to align lending, insurance and investment decisions with ocean health.

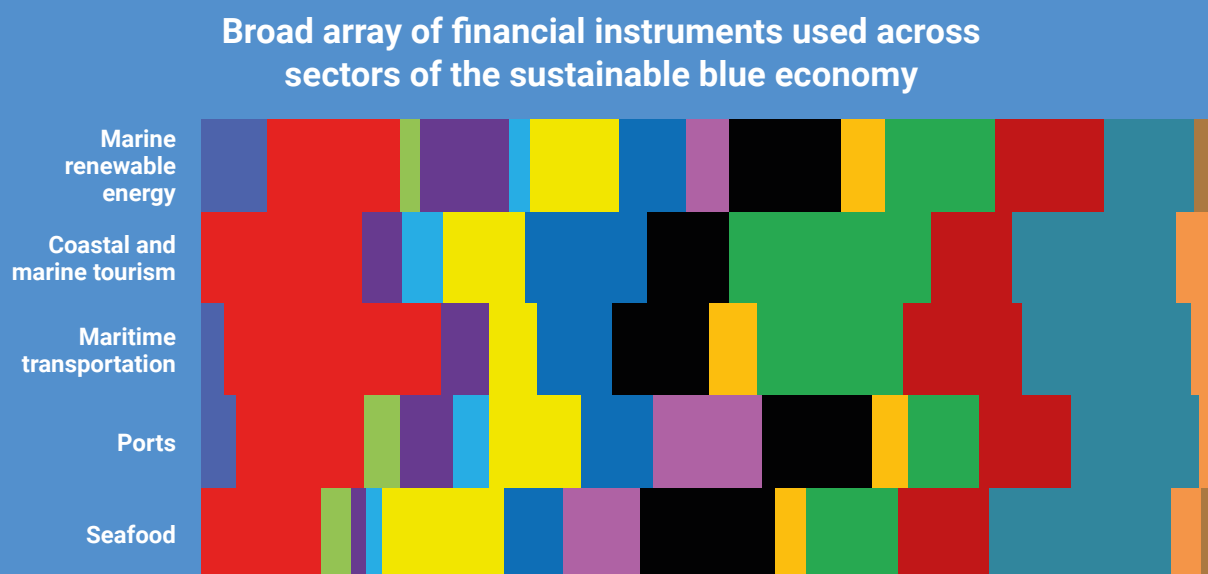
To support the work of the SBEFI, this report aims to create clarity around the state of financing for the sustainable blue economy, defining the concept of SBE finance and providing an overview of its current status. It seeks to provide insight into the transition required to realise financing for the SBE across the five key sectors that form the basis of the SBEFI's initial focus:

- Seafood (including fisheries and aquaculture);
- Maritime transportation;
- Port development;
- Coastal and marine tourism; and
- Marine renewable energy.

The report maps the current SBE financing landscape, highlighting existing initiatives and resources and identifying some of the key players and initiatives working alongside UNEP FI to build up financing for the sustainable blue economy. Crucially, it also considers some of the gaps in current focus where greater attention may be worthwhile (see overleaf). This leads into a discussion on needs and opportunities, examining where financial institutions and other stakeholders may play beneficial roles in financing the sustainable blue economy.

	General finance initiatives		Specific finance initiatives					MDB initiatives			Knowledge and research initiatives						UNEP FI SBE	Total
Area of focus	EU taxonomy	TCFD	ORRAA	CPIC	BNCFF	GERF	CC	ADB ocean	WB PROBLUE	EIB Blue SOS	Planet Tracker	GOAP	UNGC	S04A	HLP	FOA		
Building understanding																		
Defining concepts and framing the issue	X		X	X	X	X	X	X	X			X	X		X	X	X	13
Policy frameworks and enabling conditions			X		X	X	X	X	X	X			X	X	X	X	X	12
Data analysis and measurement		X				X					X	X		X		X		6
Campaigning and/or engagement			X				X				X		X		X	X	X	7
Tools for the financial industry																		
Concessional financing and seed investment			X		X	X		X	X	X								6
De-risking			X	X	X	X		X										5
Replication			X	X														2
Scaling					X													1
Principles/standards	X	X						X				X	X				X	6
Disclosure and reporting		X						X			X	X		X			X	6
Primary ocean focus			X		X	X		X	X	X		X		X			X	9

The report then considers the results of an industry survey undertaken in September 2020, which gauges the understanding and key considerations of banks, investors and insurers in the sustainable blue economy. The responses to this survey underpin the insights in this report and are described in detail in Chapter Three. Among the key insights from this survey is the breadth of instruments used by the institutions financing the sectors of the blue economy, as indicated in the chart below where each colour represents a different kind of financing instrument. This highlights that the sustainable blue economy is not ‘one size fits all’, and that a wide range of instruments may be used and applicable to the diversity of sectors and activities it comprises.



Needs and opportunities

It is evident from the survey results as well as recent literature (Responsible Investor, 2020) that financial institutions see both significant risks and areas of impact in the sustainable blue economy. Similarly, many sectors of the SBE are predicted to grow in relevance over the next 10 years. In light of both of these factors, the future development of the SBE features both clear needs to be addressed as well as opportunities to be captured. As needs and opportunities are asymmetric and look different for different sectors of the blue economy, these are explored on a sector-by-sector basis in this report, building on the results from the survey.

A number of resources have been developed to better understand some of the needs and opportunities in the sustainable blue economy (e.g. Friends of Ocean Action (2020), Sumaila et al (2020)). This report considers these for the five sectors of the sustainable blue economy guidance, alongside potential roles for financial institutions to realise the SBE and case studies of current best practice and innovation.

Seafood

There is a pressing need to move the remainder of the world's fisheries from an unsustainable to a sustainable status. Currently 21.3% of the world's fisheries remain over-exploited, which means the SDG target 14.4 to end overfishing by 2020 has not been achieved (FAO, 2020). From a financing perspective, it is vital for mechanisms and institutions to pivot away from providing capital or insurance to companies active in over-exploited fisheries. This includes seeking out sustainability certification for fisheries and introducing new solutions for monitoring, control and surveillance (MCS) of fishing effort and fisheries traceability.

Uniquely among the sectors featured in this report, fisheries are predicted by survey respondents to become less prominent within the sustainable blue economy by 2030, as—on the current trajectory—the world's wild fish stocks are maximised and aquaculture continues to grow to meet global seafood demand.

In aquaculture, key concerns relate to reducing aquaculture's negative impact on the environment while scaling up globally to meet demand for animal protein, particularly among the world's emerging middle classes. Improvements in profitability and efficiency—notably through sustainable intensification and improvements in feed conversion and new commercially available species—are additional factors for the sustained growth of aquaculture. For financial institutions, principal requirements to support continued sustainable growth are: ensuring that overall production is sustainable, with minimal environmental impact; and managing disease outbreaks and concerns over invasive species within fish farms. As with fisheries, certification, when applied effectively is an important lever to move the sector towards sustainability, both at the production level and within the seafood supply chain, where wild-caught and farmed sources converge.

Ports

Ports impact on both terrestrial and marine ecosystems, and are particularly vulnerable to the impacts of climate change, and face physical risks from storm damage, coastal subsidence and rising sea levels (UNCTAD, 2018). This suggests a need to modernise the port sector globally to bring it in line with the targets of both the Paris Agreement and the Sustainable Development Goals. Resilient and green infrastructure is a potential avenue for financial institutions to explore to identify opportunities to develop a more sustainable port infrastructure. Particular opportunities may exist in the decarbonisation of the sector, the highest-reported trend for the current decade.

Maritime transportation

Closely tied to the development of ports, maritime transportation is an important driver of global trade and the economy. Like ports, maritime transportation impacts on the environment in a number of ways, notably through air, water and noise pollution, the risk of introducing invasive species and collisions with wildlife. Maritime transportation has been particularly impacted in recent years by the International Maritime Organisation's decision to set a 50% decarbonisation target for the sector by 2050 to bring it in line with the Paris Agreement (IMO, 2018). The resultant needs for the maritime transportation sector are tied closely to the broader objectives of decarbonisation—be it through retrofitting existing ships to use fuels with a lower emissions profile (Hellenic Shipping News, 2020); identifying ways to optimise maritime transportation efficiency (Armstrong, 2013); and innovating new ways of transporting cargo altogether, such as reintroducing wind-powered propulsion (Zeldovich, 2020). Existing guidance for the maritime transportation industry—notably the Poseidon Principles—offer a helpful framework for moving the sector towards sustainability in line with global policy efforts on sustainability and climate.

Coastal and marine tourism

There is a clear need in the tourism industry to gain a better understanding of what sustainability means (both for mainstream tourism as well as eco-tourism) and to scale up the adoption of standards for sustainability in tourism operations. To date, the Global Sustainable Tourism Council (GSTC) has taken a leading role in developing a common standard for sustainable tourism that is used throughout the industry. However, a notable absence from the GSTC's standards at the present time is cruising, where benchmarks and regulations for sustainability vary greatly by jurisdiction and are often managed under the auspices of the IMO as adapted maritime transportation regulations. As an immediate contribution towards the scaling up of sustainability in the tourism sector, financial institutions can support the development of greater awareness and use of sustainability benchmarks in the tourism industry by demanding sustainability certification in their financed transactions.

Marine renewable energy

Favourable regulation continues to be a key factor in the contribution of marine renewables to the energy mix. In northern Europe offshore wind is increasingly competitive with non-renewable energy, but elsewhere there is a continued reliance on favourable regulation to enable investment and overcome the high costs of capital associated with the development of marine renewables. This creates a clear role for public institutions to provide the right conditions for renewables to thrive—notably in the context of subsidies for renewable energy generation.

As marine renewables grow in prominence, there is also a clear need for greater clarity around their impacts on society and the environment as well as how they interact with other users of the marine environment. For example, increasing the level of knowledge and understanding of the environmental impact of installing new wind turbines on the seabed is vital to ensuring that best practice can be developed.

Recommendations

Based on the findings from this report's survey and an assessment of the needs and opportunities for future development of the sustainable blue economy, a number of recommendations for the development of sector-specific guidance¹ have emerged.

- 1. Wherever possible, leverage existing guidance, standards and best practice for sustainability at the sectoral level.** For several of the sectors covered in this report, substantial efforts have been made to codify best practice for sustainability with considerable uptake by industry. For example, the Global Sustainable Tourism Council (GSTC) standards and Poseidon Principles for maritime transportation have parameterised sustainability on a number of key topics already. While the guidance being developed for the sustainable blue economy will target financial institutions rather than sector-specific businesses, there nevertheless exist legitimate benchmarks for best practice which, wherever possible, guidance should refer back to or take into account.
- 2. Complement and expand, rather than duplicate, existing and planned guidance directed towards financial institutions.** In addition to sector-specific sustainability guidance, this report highlights a number of existing and planned initiatives for sustainability guidance directed towards financial institutions, though generally not specifically focused on the blue economy. Nevertheless, guidance should aim to complement these existing resources, in particular the Taskforce on Climate-related Financial Disclosures (TCFD)'s work on climate-related risks, and wherever possible endeavour to ensure compatibility with forthcoming key resources such as the EU Taxonomy and Taskforce on Nature-related Financial Disclosures (TNFD).
- 3. Guidance should be applicable across financial instruments as well as to a wide range of financial institutions.** As evidenced by the survey results, financing for the sustainable blue economy operates through a variety of instruments. Guidance to direct financing towards the SBE should therefore be flexible enough to accommodate this variety of financial instruments as well as the range of capital providers.

¹ The UNEP FI Sustainable Blue Economy Finance Initiative is developing such guidance, to be published in Q1 2021. Note that these recommendations are based on the insights gained from the results of the survey, which does not in itself present a complete picture of the considerations to be taken into account in designing sector-specific guidance.

4. **Guidance should be applicable across a broad range of regional circumstances.** The conditions and contexts that the development of different sectors face will vary significantly by the market within which they operate. Some of these will be particularly advanced in comparison to others, both in the maturity of the sector itself as well as the maturity of applicable sustainability regulations and benchmarks. The guidance should be universal in its application, yet able to earmark where geographic/market-specific distinctions in approach and best practice are relevant for financial institutions to consider.
5. **Include financial institutions and other stakeholders in the development and refinement of the guidance.** It is clear from the insights gained through the survey that financial institutions can offer valuable perspectives and data into the state of the SBE market and their understanding of its risks and trends. In order to ensure broad buy-in and adoption of the SBE guidance by financial institutions, it will be crucial to include their perspectives and review of the guidance from the outset to create a resource that is helpful and practical.



Introduction

Context

It is well established that the ocean is a vital driver of planetary systems, a source of economic activity, livelihoods and food security. The Intergovernmental Panel on Climate Change (IPCC)'s 2019 special report on the ocean and cryosphere in a changing climate states:

“In addition to their role within the climate system, such as the uptake and redistribution of natural and anthropogenic carbon dioxide (CO₂) and heat, as well as ecosystem support, services provided to people by the ocean and/or cryosphere include food and water supply, renewable energy, and benefits for health and well-being, cultural values, tourism, trade, and transport. The state of the ocean and cryosphere interacts with each aspect of sustainability reflected in the United Nations Sustainable Development Goals (SDGs)”

IPCC, 2019

However, the health of the global ocean is under threat from climate change and human activity with existing financing being largely directed towards unsustainable sectors and activities. Finance for a sustainable ocean remains limited, with SDG 14 (Life Below Water) receiving the least public funding of all the SDGs in 2017 (SDG Financing Lab, 2017). Nevertheless, awareness of the key services and provisions provided by the ocean is increasing, as well as the recognition that continued ocean health decline inhibits prosperity (Friends of Ocean Action, 2020).

In an effort to address this challenge of underinvestment, recent years have seen a number of important developments, notably the creation of the Sustainable Blue Economy Finance Principles (SBEFP), which set out to define what financing² a healthy and resilient ocean looks like. These Principles are the world's first global guiding framework for banks, insurers and investors to finance a sustainable blue economy (SBE, see text box below). They promote the implementation of SDG 14, and set out ocean-specific standards, allowing the financial industry to mainstream sustainability of ocean-based sectors. The Principles were developed by the European Commission, WWF, the World Resources Institute (WRI) and the European Investment Bank (EIB).

2 Defined here and throughout this paper as capital deployed towards the sustainable blue economy, be it from investment, insurance or other financial services provided by banks, investors and/or insurance firms.

To build on the momentum of the Principles and help translate ambition into action, the [Sustainable Blue Economy Finance Initiative](#) (SBEFI) was launched at the Regional Roundtables on Sustainable Finance in Luxembourg in 2019. Hosted by the UN Environment Programme Finance Initiative (UNEP FI) the new platform brings together financial institutions³ (FIs) to work with scientists, corporates and civil society. The aim is to facilitate the adoption and implementation of the SBEFP, ensuring they become operational and useful for financial institutions worldwide. The Initiative seeks to:

- Positively influence mainstream ocean-related investment, insurance and lending to drive development that underpins a sustainable blue economy;
- Catalyse finance sector engagement and practical action to deliver a sustainable blue economy and support the ambitions of SDG14; and
- Develop concrete actions and outputs for insurers, lenders and investors to align lending, insurance and investment decisions with ocean health.

What is the sustainable blue economy?

The Sustainable Blue Economy Finance Principles define a sustainable blue economy as one that “provides social and economic benefits for current and future generations; restores, protects and maintains diverse, productive and resilient ecosystems; and is based on clean technologies, renewable energy and circular material flows”. It is an economy based on circularity, collaboration, resilience, opportunity and inter-dependence. Its growth is driven by investments that reduce carbon emissions and pollution, enhance energy efficiency, harness the power of natural capital and the benefits that these ecosystems provide, and halts the loss of biodiversity.

By this definition, and for the purposes of this report as well as the guidance to the Principles, the sustainable blue economy excludes non-renewable extractive industries (e.g. offshore oil and gas, and deep-sea mining). However, opportunities to consider how to tackle these industries in the context of a longer-term transition to sustainability may be developed in future.

This paper aims to create clarity around the state of financing for the sustainable blue economy, defining the concept of SBE finance and providing an overview of its current status. It seeks to provide insight into the transition required for financing the sustainable blue economy to be realised across the five key sectors that are the focus of upcoming industry guidance,⁴ and outline the risks and opportunities facing financial institutions looking to engage.

3 A financial institution (FI) is a company engaged in the business of dealing with financial and monetary transactions such as deposits, loans, investments, and currency exchange. In the context of this work, this includes banks, investors and insurers.

4 Turning the Tide: How to Finance a Sustainable Ocean Recovery—A Practical Guide for Financial Institutions, UNEP FI 2021

What do we mean by finance for the sustainable blue economy?

Financial institutions can play a pivotal role in developing a sustainable blue economy, so it is important that the meaning of finance for the sustainable blue economy is clearly defined. Here, finance for the sustainable blue economy is defined as “financial activity (including investment, insurance, banking and supporting intermediary activities) in, or in support of, the development of a sustainable blue economy, for example through the application of the Sustainable Blue Economy Finance Principles in financial decision-making, ESG frameworks, and reporting.”

As such, it covers both finance being deployed directly to invest in SBE projects (e.g. into specific projects) as well as financial activity/capital being deployed to support the development of the SBE more broadly (e.g. activity by financial institutions to de-risk, promote or further mainstream investment into the SBE).

Whether or not finance is sustainable depends on the activities and decisions made by financial institutions, rather than any assessment of the virtue or value of the institution itself—provided it adheres to the SBEFP and the sector-specific guidance when making its decisions. Thus, on these terms, a bond issuance by a large corporation to finance sustainable shipping is as valid a means of finance for the SBE as an impact fund investing in a community-managed fishery, and one is not ‘better’ or ‘more sustainable’ than the other.

How does this paper relate to the guidance?

To build on the momentum generated by the Principles and UNEP FI’s Sustainable Blue Economy Finance Initiative and in order to make their application more practical for financial institutions (FIs), UNEP FI will develop sector-specific guidance on financing for the SBE across five key sectors:

- Maritime transportation;
- Port development;
- Seafood (including fisheries and aquaculture);
- Coastal and marine tourism; and
- Marine renewable energy.

These sectors were selected due to their scale and nature as well-established engines of the blue economy and, as a result, their established interactions with the finance sector, which readily invests (though not always sustainably) in each of them. Other sectors of significance to the sustainable blue economy that remain at a more emergent stage—such as bioprospecting, blue carbon, and conservation finance (e.g. for ecosystem services)—are not included. However, given their prospects, these may become the subject of additional guidance in the future.

The forthcoming guidance is targeted at financial institutions (FIs) actively engaging with, or seeking to engage with, the sustainable blue economy—notably banks, large-scale investors and insurers. While this report targets the same audience (and features their insights regarding the sustainable blue economy through survey responses), it takes a broader look at the state of SBE finance overall, and as such is aimed at a broader audience.

Thus, this document is intended as a resource for financial institutions large and small, as well as policymakers, non-governmental and intergovernmental organisations looking to understand and contribute to the transition towards a sustainable blue economy.

Structure

This report has been written in support of the above-mentioned goal and to gain a better understanding of the current status of finance for the sustainable blue economy, and the appetite of FIs to finance SBE projects.

The report builds on an industry survey, undertaken in September 2020, which gauges the understanding and key considerations of banks, investors and insurers in the sustainable blue economy. The responses to this survey underpin the insights gained in this report, and are described in detail in the next chapter, with a broader range of the survey results set out in the annex.

The report goes on to map the current SBE financing landscape, building on the survey responses and highlighting the existing initiatives and resources in this space, identifying some of the key players and initiatives working alongside UNEP FI to build up financing for the sustainable blue economy.

The report then considers some of the needs and opportunities for future development of the sustainable blue economy and the potential roles of financial institutions in achieving this development. It concludes with some specific recommendations to take forward in developing the guidance for implementation of the SBEFP.

An aerial photograph of a tropical coastline. The foreground shows a large, curved white sand beach meeting turquoise water. The water transitions from light blue near the shore to deeper blue further out. The coastline is irregular, with small inlets and peninsulas. The land is covered in dense green vegetation. In the background, more land and islands are visible under a clear blue sky.

Overview of the current sustainable blue economy finance landscape

A number of sustainable finance and development initiatives exist that are relevant to financial institutions interested in the sustainable blue economy, both in terms of the insights they provide into innovative financing approaches and best practice, as well as the momentum they are able to build in mainstreaming finance for sustainability. This chapter describes some of the key initiatives in this space, their expertise, outputs and tools that build clarity and momentum for the sustainable blue economy. Given the number of green and sustainable finance initiatives that exist, this section is not comprehensive, and focuses on some of the more prominent initiatives. The chapter also does not cover sector-specific sustainability initiatives, which will be featured in the aforementioned industry guidance.

Crucially, this chapter considers some of the gaps in current focus where greater attention may be worthwhile. This leads into the later chapter on needs and opportunities, examining where financial institutions and other stakeholders may play beneficial roles in financing the sustainable blue economy.

Broad financing initiatives

This category includes those efforts by institutions aimed at changing the behaviour of the financial industry itself as it relates to sustainability.

EU taxonomy for sustainable activities

In 2019 the European Union (EU) set out to develop a classification system for environmentally sustainable economic activities to provide guidance to policymakers, industry and investors on how best to support economic activities that would contribute to achieving a climate-neutral economy.

This system, known as the '[EU taxonomy](#)', is currently in development. It is set to provide a significant benchmark for how sustainability is defined for business and investment within the EU and beyond. To qualify for classification as 'green', the taxonomy will screen for relevance across six broad policy objectives:

1. Climate change mitigation;
2. Climate change adaptation;
3. Sustainable use of water and marine resources;
4. Transition to a circular economy;
5. Pollution prevention and control; and
6. Protection and restoration of biodiversity and ecosystems.

While all of these are relevant to the sustainable blue economy, objective three on water and marine resources is particularly noteworthy for SBE development.

The taxonomy will set performance thresholds (referred to as 'technical screening criteria') for economic activities that:

- Make a substantive contribution to one of the above six environmental objectives;
- Do no significant harm (DNSH) to the other five, where relevant; and

- Meet minimum safeguards (e.g., OECD Guidelines on Multinational Enterprises and the UN Guiding Principles on Business and Human Rights) (Figure 1).

The performance thresholds are intended to help companies, project promoters and issuers access green financing to improve their environmental performance, as well as helping to identify which activities are already environmentally friendly. In doing so, it will help to grow low-carbon sectors and decarbonise high-carbon ones. The EU taxonomy is widely anticipated for initial release in 2021, and is set to be one of the most significant developments in sustainable finance in recent times.

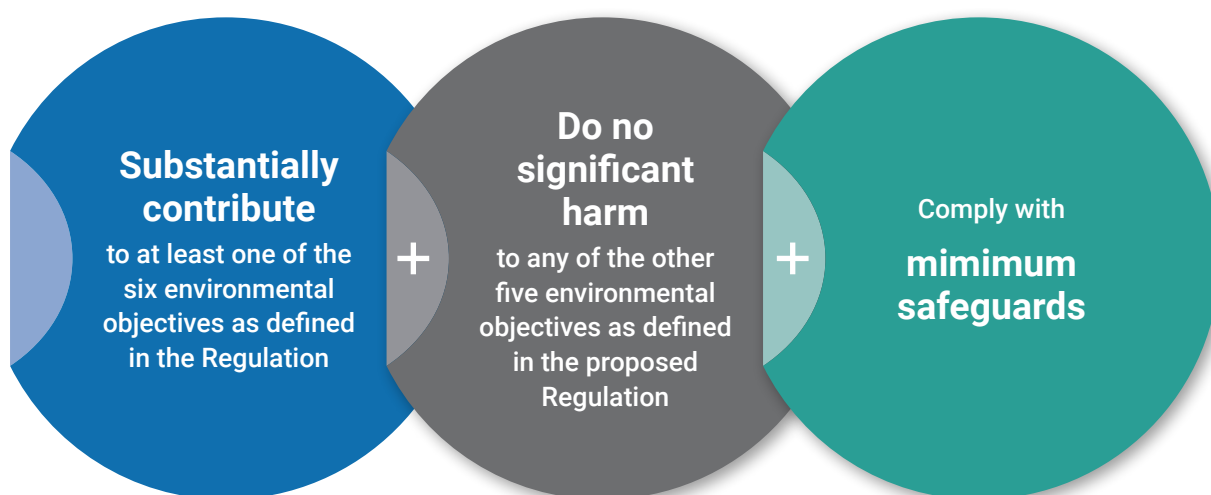


Figure 1: EU taxonomy overview.

From: Taxonomy: Final report of the Technical Expert Group on Sustainable Finance (European Commission, 2020)

Taskforce on Climate-related Financial Disclosures (TCFD)

The [Taskforce on Climate-related Financial Disclosures](#) (TCFD) was established by the Financial Stability Board following a meeting of the G20 finance ministers and central bank governors to review how the financial sector can take account of climate-related issues. As part of its review, the Financial Stability Board identified the need for better information to support informed investment, lending, and insurance underwriting decisions and improve understanding and analysis of climate-related risks and opportunities. The TCFD was established as a result of this work to develop “voluntary, consistent climate-related financial risk disclosures for use by companies in providing information to investors, lenders, insurers, and other stakeholders” (FSB-TCFD, 2020).

The TCFD considers the physical, liability and transition risks associated with climate change and what constitutes effective financial disclosures against these risks across industries. The first substantial output of the task force—the recommendations on disclosure—were published in 2017. They provide companies with a framework on how to disclose information on climate risk at different levels within their existing annual financial reporting. The core elements of the TCFD’s recommendations break down across four categories:

1. Governance – specifically describing board-level oversight of climate-related risks and opportunities and the role of management in assessing and managing these.
2. Strategy – describing the identified risks and opportunities over the short, medium and long-term, their impacts on the business and resilience of the organisation's strategy.
3. Risk management – concerning how the organisation identifies, assesses and manages climate risk.
4. Metrics and targets – discussing which metrics and targets are used to identify and assess climate risk.

The work and recommendations of the taskforce aim to help companies understand what financial markets want from disclosure in order to measure and respond to climate change risks, and encourage firms to align their disclosures with investors' needs. Thus, while the TCFD does not offer specific suggestions as to what kinds of risks to report on (leaving it to individual companies to determine what risks are material to their business), it is a powerful tool to increase disclosure, improve transparency and, perhaps most importantly, foster engagement with financial institutions to think actively about their exposure and vulnerability to climate risk.

While the TCFD is not specific to the blue economy, it offers a universal framework for action on climate risk and disclosure. This is of great significance to the blue economy—both in working to mitigate the impacts of climate change and in addressing the carbon emissions of key blue economy sectors (notably maritime transportation and tourism). Increasingly, regulators are looking to TCFD as a mandatory reporting framework on exposure to climate risk. In September 2020 New Zealand became the first country to implement mandatory TCFD reporting (Eiris & Four Twenty Seven, 2020).

The TCFD is also helpful to the development of a framework for blue economy guidance by providing an exemplary approach of engagement with financial institutions on disclosure and environmental risk. This will be of use in developing sector-specific SBEFP guidance documents. While it offers a framework for institutions to understand their general exposure to climate-related risk, it is important to emphasise that specific blue economy impacts of climate change require additional consideration—notably in the context of coastal resilience and sensitivity climate impacts, and dependencies between the health of marine and coastal ecosystems (such as mangroves and coral reefs) and climate resilience. It is hoped that the TNFD (below) may work to surface some of these additional considerations.

Taskforce on Nature-related Financial Disclosures (TNFD)

The Taskforce on Nature-related Financial Disclosures (TNFD) is closely related to the TCFD. Still in development, the TNFD will focus on nature-related risks (and possibly their impacts and dependencies). It aims to provide a similar materiality case to financial institutions for biodiversity and natural capital as the TCFD has illustrated for climate risk. Working closely with a group of 65 financial institutions, governments and corporate partners, the TNFD has a two- to three-year horizon to develop a methodology and set of recommendations on nature-based risk. Currently spearheaded by UNEP FI, UNDP, WWF and Global Canopy, the TNFD is slated to launch as a phased process in mid-2021.

Specific financing initiatives

These initiatives look specifically at key aspects of financing, such as risk, or a collection of sectors or themes, such as natural capital.

Ocean Risk and Resilience Action Alliance (ORRAA)

The [Ocean Risk and Resilience Action Alliance](#) (ORRAA) was established in response to a greater need for the insurance sector to work with financial institutions, governments, NGOs and others to reduce exposure and vulnerability in coastal communities and Small Island Developing States (SIDS). Established in the margins of 2018's Ocean Risk Summit, its mission is to build resilience in the regions and communities most vulnerable to ocean risk, by pioneering finance and insurance products that incentivise investment in nature-based solutions.

It was supported at the 2019 G7 environment ministerial by all G7 members as well as Fiji, India, Mexico and Norway.

Though established relatively recently, the ORRAA has set out a programme of work intended to draw attention to the specific risks facing coastal communities and SIDS as well as identify and develop strategies to better predict and manage 'ocean risk'. The ORRAA defines ocean risk along three typologies:

1. Immediate onset risk: This includes ocean-derived risks that occur over a short period of time, linked to a natural hazard—tropical cyclones, storm surge events, flooding and inundation are covered under this category.
2. Slow onset risk: This includes risks that manifest over a longer horizon, including sea level rise, acidification, food security challenges, impacts on human health and declines in biodiversity.
3. Risk multipliers: This includes anthropogenically driven factors that compound risk—including pollution, resource exploitation (including overfishing) and land-use change and its impacts on the marine environment.

ORRAA is working to drive investment into coastal natural capital through innovative financial products that incentivise blended and private financing. Its aim is to drive USD 500 million of investment into nature-based solutions by 2030, and surface at least 15 novel finance products by 2025 that incentivise private and blended finance into coastal natural capital.

Among its flagship projects is the development of a Coastal Risk Index with insurance firm AXA XL, which integrates the protective value of coastal ecosystems into risk models to drive a systemic shift towards nature-based solutions. The Index will calculate physical risk to coastal assets in different projected flooding scenarios up to 2050 (with and without coastal ecosystems), and then measure the fiscal risk caused by the loss or degradation of those ecosystems. The Index will also integrate social vulnerability data with the flood hazard assessments to identify where vulnerable populations will be most exposed to ocean risks and where natural solutions may have the greatest benefits to them.

The Index will enable insurers to price and transfer risk more accurately, allowing policymakers to direct financial flows more effectively and catalyse behavioural change towards proactive coastal ecosystem management.

In addition, ORRAA recently launched an Innovation Challenge to identify and nurture a pipeline of six to ten novel, viable and fundable finance and insurance projects to build coastal resilience. Open to individuals or consortiums of organizations across public, private, local civil society, international NGOs and academia, the challenge is based on a proven method of nurturing innovative ideas to scale that has supported over USD 35 million of investments by the Global Resilience Partnership. During the challenge, the winners and their teams are given help to identify challenges and opportunities to become investment- or funding-ready. This support includes customized mentoring, a leadership academy, networking opportunities and monitoring, evaluation and guidance.

Coalition for Private Investment in Conservation (CPIC)

The [Coalition for Private Investment in Conservation](#) (CPIC) comprises a group of civil society organizations, private and public sector financial institutions and academia working to develop a framework for increasing investment in conservation-linked projects across the world (CPIC, 2017). To do so, CPIC members are working to create 'investment blueprints' to enable replication and scalability of conservation-linked investment. Initially, the Coalition is focused on five priority investment sectors for which it has established working groups:

- Coastal Resilience;
- Forest Landscape Conservation and Restoration;
- Green Infrastructure for Watershed Management;
- Sustainable Agriculture Intensification; and
- Sustainable Coastal Fisheries.

Of these, coastal resilience and sustainable coastal fisheries are particularly relevant to the sustainable blue economy. Though given the issues surrounding nutrient run-off and the role of coastal mangrove forests as green infrastructure, all of the CPIC working groups touch on facets of the sustainable blue economy. In addition to developing the blueprints, CPIC aims to serve as a hub for stakeholders to connect and develop investable deals.

IUCN Blue Natural Capital Finance Facility

The International Union for the Conservation of Nature (IUCN), through its focus on ‘Blue Natural Capital’, has implemented projects using blended financing models to foster investment in protecting, restoring and enhancing natural ecosystems. Its [Blue Natural Capital Finance Facility](#) (BNCFF) “supports the development of sound, investable blue natural capital projects with clear ecosystem service benefits, based on multiple income streams and appropriate risk-return profiles” (BNCFF, 2018).

The BNCFF assists project partners in assessing, preparing and structuring opportunities into bankable investments, and facilitates access to debt, equity and donor funding.

More specifically, the BNCFF provides technical assistance to beneficiaries to prepare technical, legal and financial dimensions of blue natural capital projects (for example in mangroves, seagrasses or salt marshes) as well as small seed investments in order to secure additional financing from other potential investors. The BNCFF also offers grant funding or reimbursable grants (depending on the project) and can facilitate introductions between projects and potential funders. This serves not only to build opportunities for specific projects, but contributes to establishing an investment pipeline of bankable projects, building investor confidence in blue natural capital.

The BNCFF has constructed multiple ‘investment packages’ (similar in concept to CPIC’s blueprints, in which the IUCN also participates) for potential approaches in different contexts—including investment packages for small islands, coasts and deltas. Project impacts are identified and monitored against a set of environmental and social standards.

WTW Global Ecosystem Resilience Facility

Global insurer Willis Towers Watson (WTW) established the [Global Ecosystem Resilience Facility](#) (GERF) to develop resilience for vulnerable ecosystems, such as coral reefs and mangroves, through innovative finance and risk management opportunities (WTW, 2020). The GERF focuses in particular on ocean ecosystems due to their historically lower availability of risk management measures and their increasingly apparent role in providing vital services to coastal communities worldwide.

The GERF develops and provides innovative risk finance (notably insurance-linked) mechanisms to incentivize country adoption of environmental policies through concessional finance and advice in their use and applicability. To date, the GERF has focused on developing risk pools and expanding the potential for parametric insurance in protecting ecosystems, exploring the potential for structures that reduce risks facing communities grappling with hurricanes, coral bleaching events and coastal turbidity. Alternative risk transfer solutions, such as catastrophe bonds, are also a focus.

The GERF further provides access to catastrophe and financial modelling, as well as options for risk management and risk transfer to WTW's clients. The facility incentivizes the continued implementation and monitoring of management frameworks and policies by providing access to concessional finance to fund increased resilience of ecosystems and communities. Given its close alignment on subject matter, the GERF is a natural partner and active participant in the ORRAA.

Capitals Coalition

The [Capitals Coalition](#), comprising both the Natural Capital Coalition (NCC) and the Social & Human Capital Coalition (S&HCC), was established in January 2020. It brings together the existing work of the NCC and S&HCC and offers a more integrated perspective on sustainable development and value from nature, society and people (Figure 2).



Figure 2: Capitals Coalition capital types.

Source: Capitals Coalition (2020)

The Coalition has adopted a ‘capitals approach’, which provides decision makers with a lens to identify connections between society, business, communities, ecosystems and climate. Organisations can identify, measure and value their impacts and dependencies across these types of capital. It aims to go beyond a ‘business as usual’ approach such as CSR by looking specifically at:

- Impacts and dependencies between capital types, and the business case for protecting and investing in the health and resilience of different types of capital;
- Measurement and valuation of capital types to highlight their significance and make clear their dependencies and inter-linkages; and
- Moving from silos to systems—fostering a more systemic understanding of capital types as an interconnected system and the implications for decision-making in business.

The Coalition provides a pre-competitive space to explore these linkages and build strategies to capture a systems approach for organisations to adopt (Capitals Coalition, 2020).

MDB financing initiatives

In recent years many of the world’s multi-lateral development banks (MDBs) have established financing efforts for the development of the sustainable blue economy. This section outlines some of the key initiatives and their objectives.

Asian Development Bank’s Oceans Financing Initiative (OFI) and Healthy Ocean Action Plan

The Asian Development Bank (ADB)’s Healthy Ocean Action Plan is the bank’s overarching framework for blue economy activity, with flagship programmes in sanitation, marine plastics, green ports and shipping, and coastal resilience. To support the Healthy Ocean Action Plan, the [Oceans Financing Initiative](#) aims to increase the amount and efficacy of financial capital for healthy oceans and sustainable blue economies through six objectives:

- Define standards and metrics for blue economy investments;
- Develop pipelines of bankable blue economy projects with developing member countries;
- Innovate financial instruments including blue bonds, insurance, and sustainability linked loans;
- Generate, leverage, and de-risk financial capital from public and private partners;
- Align taxes and subsidies with ocean health and the blue economy; and
- Strengthen the blue economy enabling environment and enhance capacity.

In support of the first objective, ADB developed an Ocean Finance Framework that defines a typology of blue economy investments together with standards and eligibility criteria for ADB oceans finance.

The OFI is being piloted in Southeast Asia through ADB’s [ASEAN Green Catalytic Finance Facility](#). Through the Initiative, the ADB has committed to scale up blue economy investments to USD 5 billion between 2019-2024 (ADB, 2020).

World Bank PROBLUE multi-donor trust fund

The World Bank's latest blue economy initiative, [PROBLUE](#), is a new multi-donor trust fund (MDTF) that supports "healthy and productive oceans" (World Bank, 2020).

PROBLUE supports the implementation of SDG 14 in a way that is aligned with the World Bank's goals of ending extreme poverty and increasing the income and welfare of the poor in a sustainable way (ibid). PROBLUE focuses on four key themes:

- The management of fisheries and aquaculture;
- The threats posed to ocean health by marine pollution, including litter and plastics;
- The sustainable development of key oceanic sectors such as tourism, maritime transport and off-shore renewable energy; and
- Building the capacity of governments to manage their marine and coastal resources in an integrated fashion.

European Investment Bank's Blue Sustainable Ocean Strategy

The European Investment Bank (EIB)'s [Blue Sustainable Ocean Strategy](#) (Blue SOS) aims to improve the health of oceans, build stronger coastal environments and boost sustainable blue economic activity. To achieve this, the Blue SOS seeks to provide long-term loans and other types of financing worth €2.5 billion between 2019-2023 for governments, local authorities and the private sector towards the following sectors:

- Sustainable coastal development and protection;
- Sustainable seafood production;
- Green maritime transportation; and
- Blue biotechnology.

EIB will also offer technical assistance to help build and prepare sustainable ocean projects for financing. Through these activities, the EIB expects to mobilise at least EUR 5 billion in investment (leveraging additional capital from other sources along the way) that will contribute to improve the health of the oceans and their resources (EIB, 2020).

Knowledge and research initiatives

This section looks at other initiatives in the landscape that are making a noteworthy contribution to the understanding of sustainable finance, including some around research, disclosure and tracking.

High-Level Panel for a Sustainable Ocean Economy

Established in 2018, the [High-Level Panel for a Sustainable Ocean Economy](#) (HLP) is an initiative of 14 serving world leaders (co-chaired by Norway and Palau) that aims to build momentum towards a sustainable ocean economy. A key objective is to develop a common understanding of what a sustainable ocean economy looks like. In partnership with stakeholder and expert groups, the HLP has published 16 'blue papers' covering a number of ocean sustainability topics. These papers, published throughout 2020, will form the basis of the HLP's agenda for action.

Key papers for finance are 'National Accounting for the Ocean and Ocean Economy' (Fenichel et al, 2020) and 'Ocean Finance: Financing the transition to a sustainable ocean economy' (Sumaila et al, 2020), which address key considerations for policymakers on the economics of the ocean and national accounts, and the potential steps and instruments needed to unlock finance for the sustainable ocean economy.

Friends of Ocean Action

Working alongside the High-Level Panel, the Friends of Ocean Action is an informal grouping of ocean leaders identifying solutions for a number of key ocean sustainability topics through 'action tracks'. These action tracks cover plastic pollution, sustainable ocean production, ending illegal, unreported and unregulated (IUU) fishing, marine protection and conservation, decarbonising the maritime and shipping sectors, liberating ocean data, financing ocean innovation, eliminating harmful fisheries subsidies, gender parity, science-based targets and deep-sea mining. Within their financing ocean innovation action track, the Friends of Ocean Action released the Ocean Finance Handbook in early 2020. It provides an overview and guide for stakeholders on what comprises sustainable finance, how it works and how it may be applied in the blue economy (Friends of Ocean Action, 2020).

Planet Tracker Initiative

[Planet Tracker](#) is a non-profit financial think tank aiming to align capital markets with the concept of 'planetary boundaries', which provide limits to economic activity based on environmental conditions. The Initiative covers elements of market failure related to environmental limits, including the seafood-focused 'Fish Tracker', which uncovered exposure to financial risk for investors in publicly traded seafood companies targeting over-exploited fish stocks.

Planet Tracker aims to create in-depth financial analytics to raise awareness of ‘value at risk’ to the financial community. It uses sector-specific reporting and briefing papers to engage with institutional investors to ultimately redirect capital markets towards sustainable development objectives. Their theory of change is to equip the financial community with detailed relevant knowledge on environmental limits and value at risk, and build constructive rationales for (short-term) action, working with data providers, the financial community and corporations to embed the value of nature into global capital allocations (Planet Tracker, 2020).

Global Ocean Accounts Partnership

The [Global Ocean Accounts Partnership](#) (GOAP) is a coordination and communication structure for institutions (including national governments, intergovernmental institutions, inclusive representative bodies for the private sector, and research-intensive institutions) to recognise and account for the role for the ocean in providing key services to the economy and society. It focuses on mapping the relationship between the ocean, economic prosperity and social well-being. The Partnership seeks to ensure that the value and benefits of the ocean are recognised and accounted for in decision-making about social and economic development and relevant policies, by developing a shared technical framework for ocean accounting,

“coupled with collaborative capacity-building activities that support the development, maintenance, and ongoing use in decision-making, of holistic ocean accounts that link together social, environmental and economic statistics”

Global Ocean Accounts Partnership, 2020

UN Global Compact Sustainable Ocean Business Action Platform

The [Sustainable Ocean Business Action Platform](#) of the United Nations Global Compact convenes leading actors from business, academia and government institutions to determine how ocean industries can advance progress towards the Sustainable Development Goals (SDGs), particularly goal 14 (Life Below Water). The platform will

“focus on growth, innovation and sustainability, aiming to mobilise the private sector to take tangible action to leverage the ocean as a resource to deliver [the SDGs]”

UNGC, 2020

Under the auspices of the platform, the UN Global Compact has developed a set of Sustainable Ocean Principles (SOP) that offer a business-focused perspective on developing a sustainable blue economy. The SOP are distinct from—but complementary to—UNEP FI’s Sustainable Blue Economy Finance Principles. Where UNEP FI’s Principles focus on financial institutions and their financing, lending, investing and insuring activities in the sustainable blue economy, the Global Compact focuses on the activities of corporate actors. The SOP

“aim at promoting the well-being of the ocean for current and future generations, and to emphasize the shared responsibility of businesses to take necessary actions to secure a healthy and productive ocean”

UNGC, 2020b

The UNGC’s guidance documents provide a set of actions that can be implemented by the private sector, including an analysis of their sustainability challenges and opportunities. It is worth highlighting that this guidance has been written by companies operating within the sectors themselves and remains subject to change and revision.

Gaps in the landscape

Based on this overview of some of the most prominent financing mechanisms we can construct an outline of where the focus of financing initiatives and their relationship to the sustainable blue economy currently sits. Figure 3 provides this outline. An interesting observation from this landscape assessment, and a clear reason for the added value of UNEP FI’s Sustainable Blue Economy Finance Initiative, the Principles and upcoming guidance documents, is that none of the currently existing financing initiatives focus on both the financial community as a whole (as is the case for the EU taxonomy and the TCFD) and exclusively the blue economy as a whole (as do some of the MDB initiatives and on-finance specific initiatives such as the OECD’s Sustainable Oceans for all). As a result, there is a clear gap in the current landscape that the UNEP FI SBE guidance aims to fill.

	General finance initiatives		Specific finance initiatives					MDB initiatives			Knowledge and research initiatives						UNEP FI SBE	
Area of focus	EU taxonomy	TCFD	ORRAA	CPIC	BNCFF	GERF	CC	ADB ocean	WB PROBLUE	EIB Blue SOS	Planet Tracker	GOAP	UNGC	S04A	HLP	FOA		Total
Building understanding																		
Defining concepts and framing the issue	X		X	X	X	X	X	X	X			X	X		X	X	X	13
Policy frameworks and enabling conditions			X		X	X	X	X	X	X			X	X	X	X	X	12
Data analysis and measurement		X				X					X	X		X		X		6
Campaigning and/or engagement			X				X				X		X		X	X	X	7
Tools for the financial industry																		
Concessional financing and seed investment			X		X	X		X	X	X								6
De-risking			X	X	X	X		X										5
Replication			X	X														2
Scaling					X													1
Principles/standards	X	X						X				X	X				X	6
Disclosure and reporting		X						X			X	X		X			X	6
Primary ocean focus			X		X	X		X	X	X		X		X			X	9

Figure 3: Focus analysis of major finance initiatives and their relevance to the blue economy.

A large number of jellyfish are shown swimming in dark water. The entire scene is bathed in a deep red light, which makes the jellyfish appear to glow. They are of various sizes and species, with some showing distinct internal structures like the manubria and oral arms. The jellyfish are scattered throughout the frame, creating a sense of depth and movement.

Survey results

Audience profile

In September 2020 UNEP FI polled members of its network and the wider sustainable finance community to gain insight into the current activity of investors in the blue economy, and their perception of the risks and predictions as to the future development of the five sectors highlighted as part of this study. Of the more than 100 individuals who participated in the survey, 74 represented financial institutions (Figure 4). Their responses and the insights gained are discussed in this chapter.⁵ Additional survey responses are available in the annex.

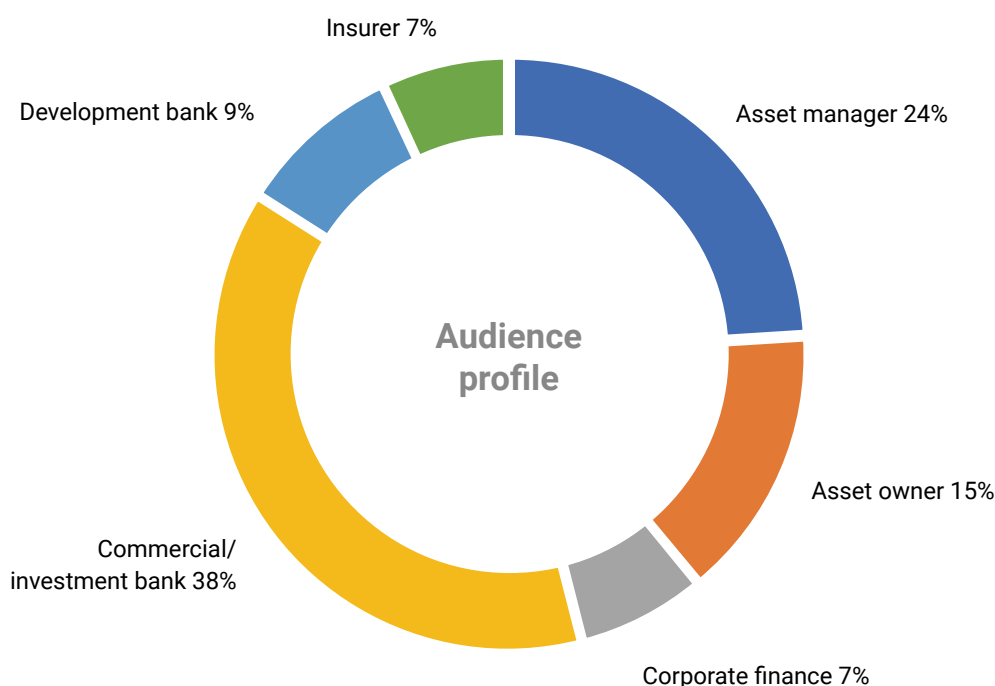


Figure 4: What type of institution do you represent?

Number of respondents: 84

Of the 74 respondents, the majority represented commercial and investment banks, with a broad range of asset managers and asset owners also participating. Responses from the insurance sector were limited by comparison.

The majority of respondents were familiar with the blue economy (Figure 5),⁶ though most had not fully applied this within their institutions. Those that had were largely commercial banks and asset managers with more than USD 50 billion in AUM.

⁵ The figures in this section represent aggregates across all responses unless otherwise indicated in figure captions.

⁶ Defined throughout the survey as one that provides social and economic benefits for current and future generations; restores, protects and maintains diverse, productive and resilient ecosystems; and is based on clean technologies, renewable energy and circular material flows.

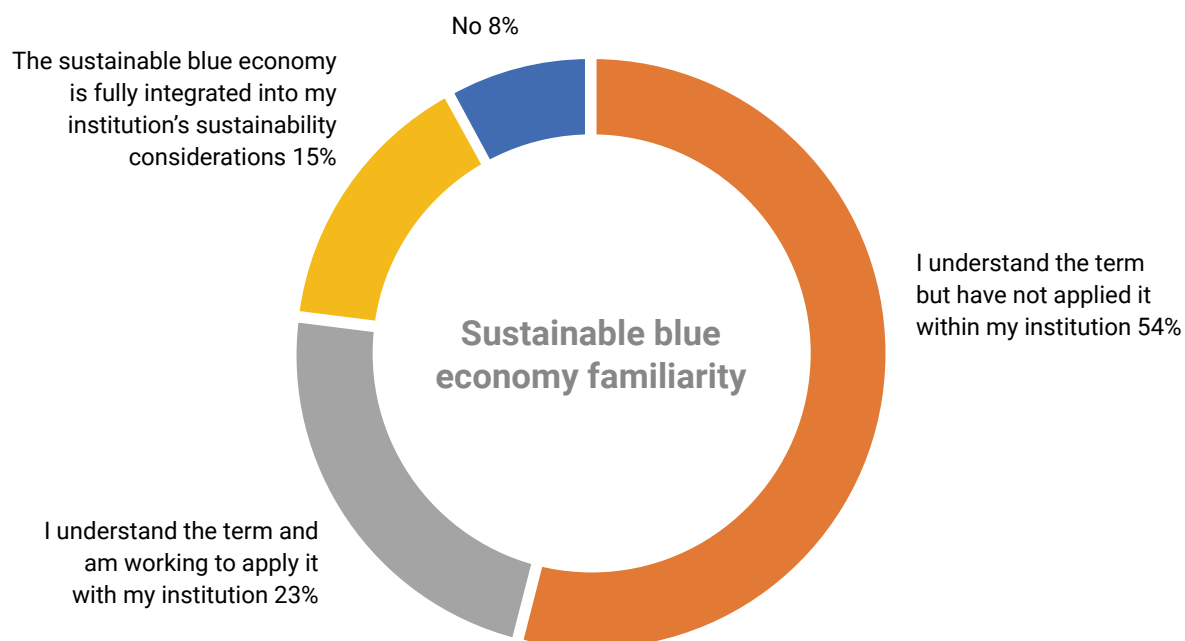


Figure 5: Are you familiar with the sustainable blue economy?

Number of respondents: 74

European institutions dominated the responses to the survey, likely in large part due to the maturity of sustainability considerations among European financial institutions in comparison to other markets, where ESG and sustainability in finance is less developed. Notably, the second highest category of responses stemmed from Africa and the Middle East.

The largest proportion of institutions report not being active in the five regions highlighted in the survey (Figure 6), reflecting the relative emergence of the sustainable blue economy as a topic and issue area. Beyond this, the Asia Pacific region features the highest overall reported instances of blue economy investment—this may be as a result of the concentration of blue economy-related activity, notably around seafood and maritime transportation, taking place in this region.

Where is your institution active in the sustainable blue economy?

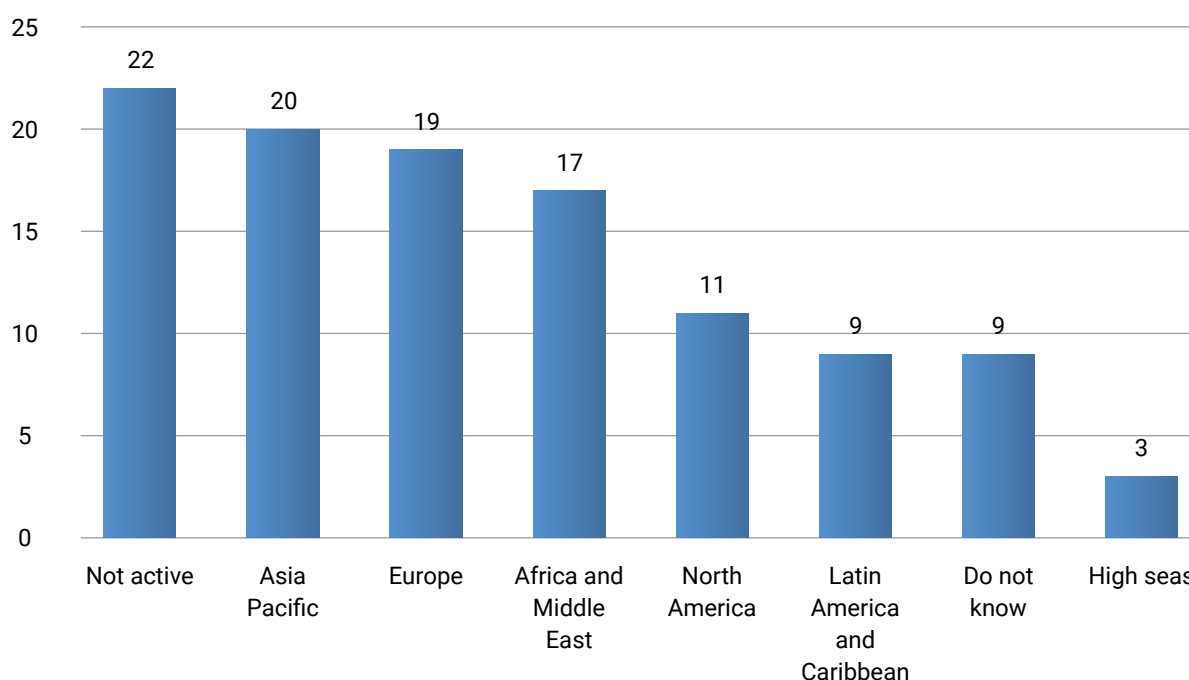


Figure 6: Where is your institution active in the sustainable blue economy?

The types of instruments used to invest in the blue economy are mainly well-established, mainstream approaches such as corporate financing and working capital loans (Figure 7), the most popular instruments in aggregate across sectors. However, certain sectors, such as renewables, see a greater role for more emerging instruments such as green- and blue-labelled bonds. This highlights that the sustainable blue economy is not 'one size fits all', and that a wide range of instruments may be used and applicable to the diversity of sectors and activities it comprises.

Of additional note is the way in which regional differences in financing materialise in blue economy investment. North America favours public equity and active or passive shareholding, project bonds and private equity, while the European market more equally deploys a wide range of instruments, including corporate bonds (much more prominent than for the North American respondents) and trade finance (Figure 8).

In part this can be attributed to the much higher number of European respondents, likely skewing the variety in responses, though this does highlight different preferences for financing between markets. Emerging markets, notably in Latin America and the Caribbean and Africa and the Middle East where blue economy sectors are less established, show the greatest disposition towards working capital loans—a relatively straightforward instrument flexible in its application to a wide variety of projects and sectors.

Most common financial instruments used by sector

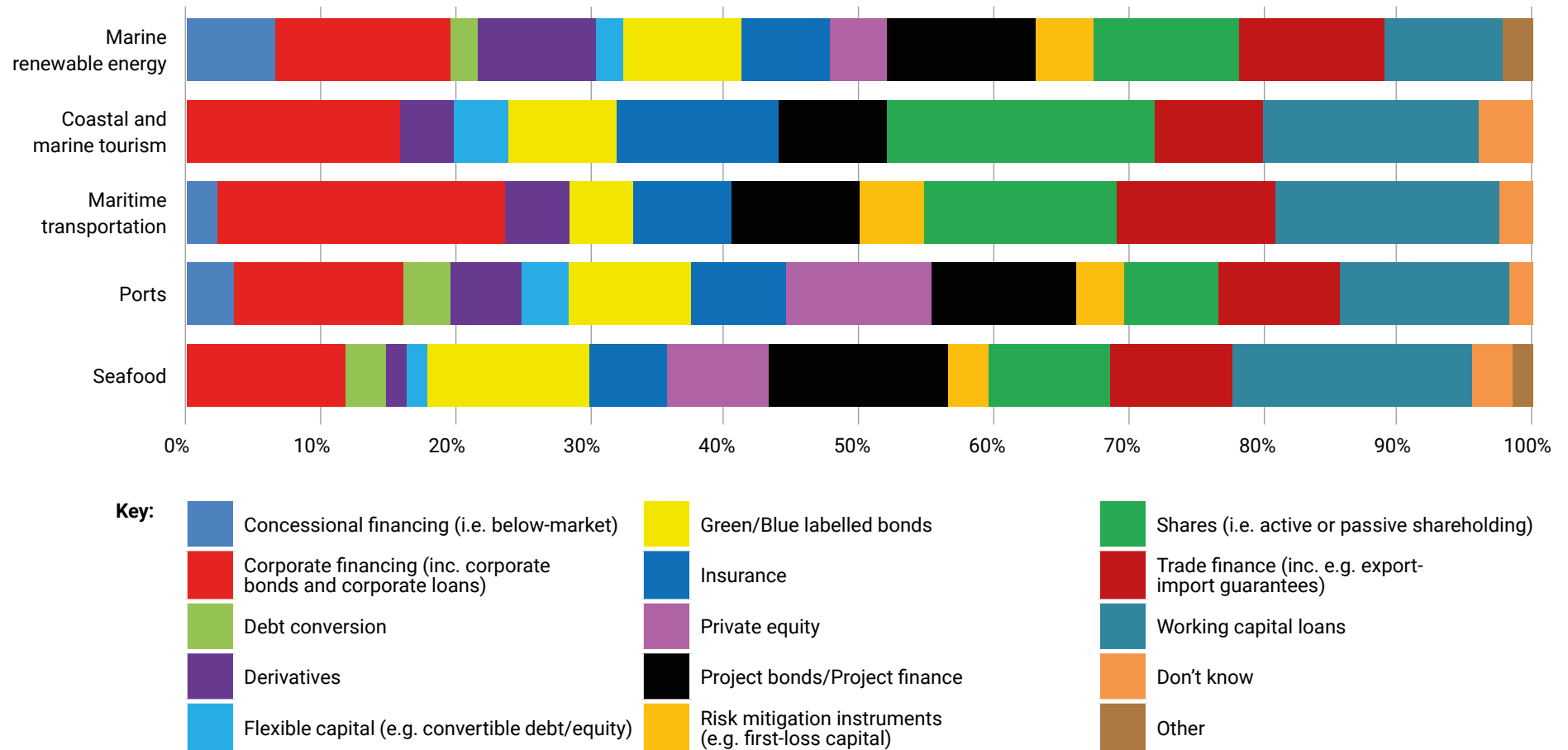


Figure 7: How are the sectors of the sustainable blue economy financed?

How source regions invest in the blue economy

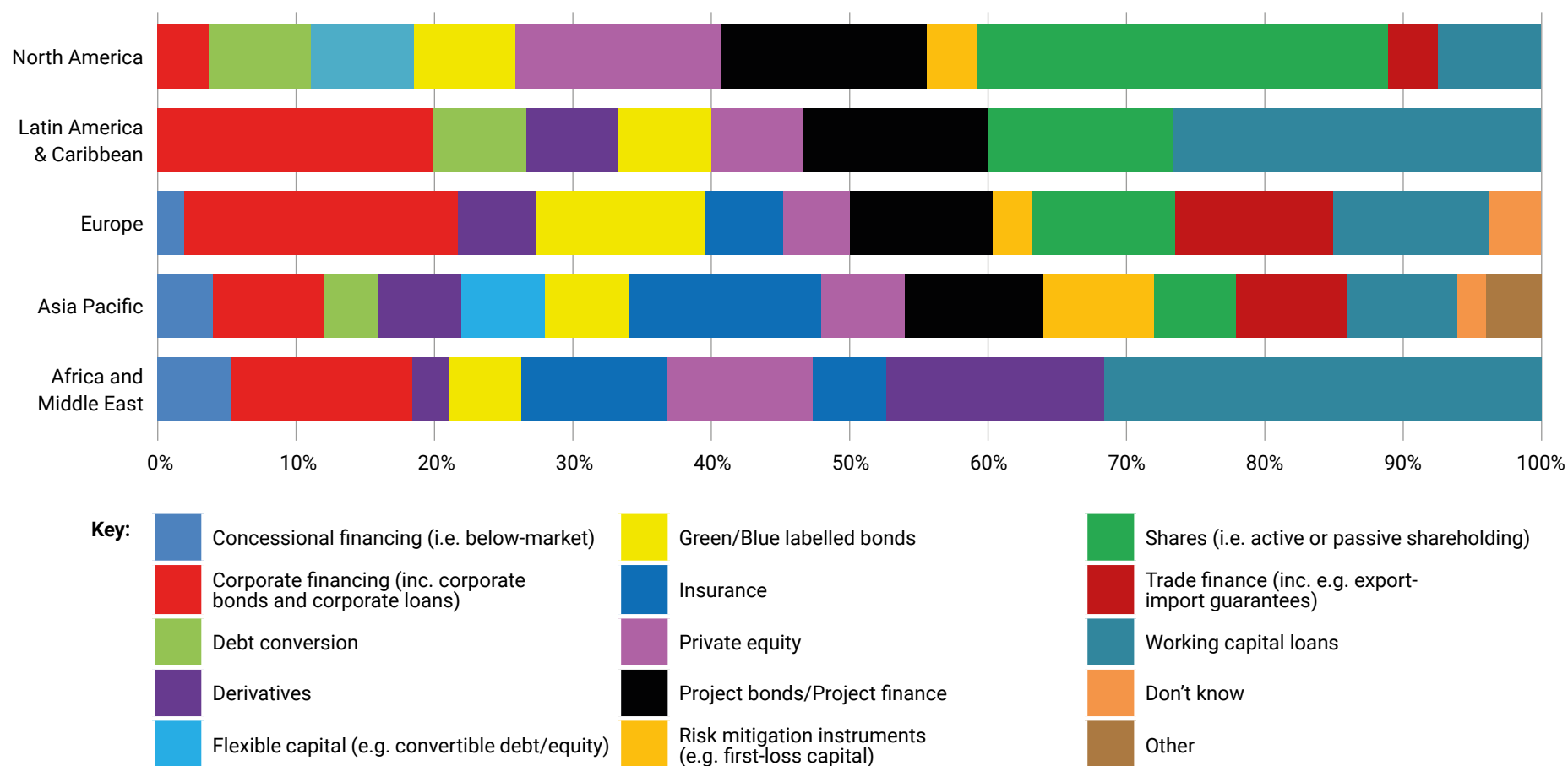


Figure 8: How source regions invest in the blue economy.

Sector responses

How financial institutions engage in the sustainable blue economy varies significantly across the five sectors (seafood, ports, maritime transportation, offshore renewable energy and coastal and marine tourism), with some noteworthy trends appearing across sectors. Most of the sectors were relevant to roughly a third of respondents (Figure 9)—an expected result as the sectors feature little overlap and rely on different types of financing. An interesting finding from the survey is the high proportion of respondents involved in the seafood sector. In part, this is likely due to the type of audience the survey was able to reach. Seafood financing has been a particularly prominent area of study in recent years, raising awareness and interest among financial institutions. However, it is also attributable to the status of seafood as among the world's most traded commodities.

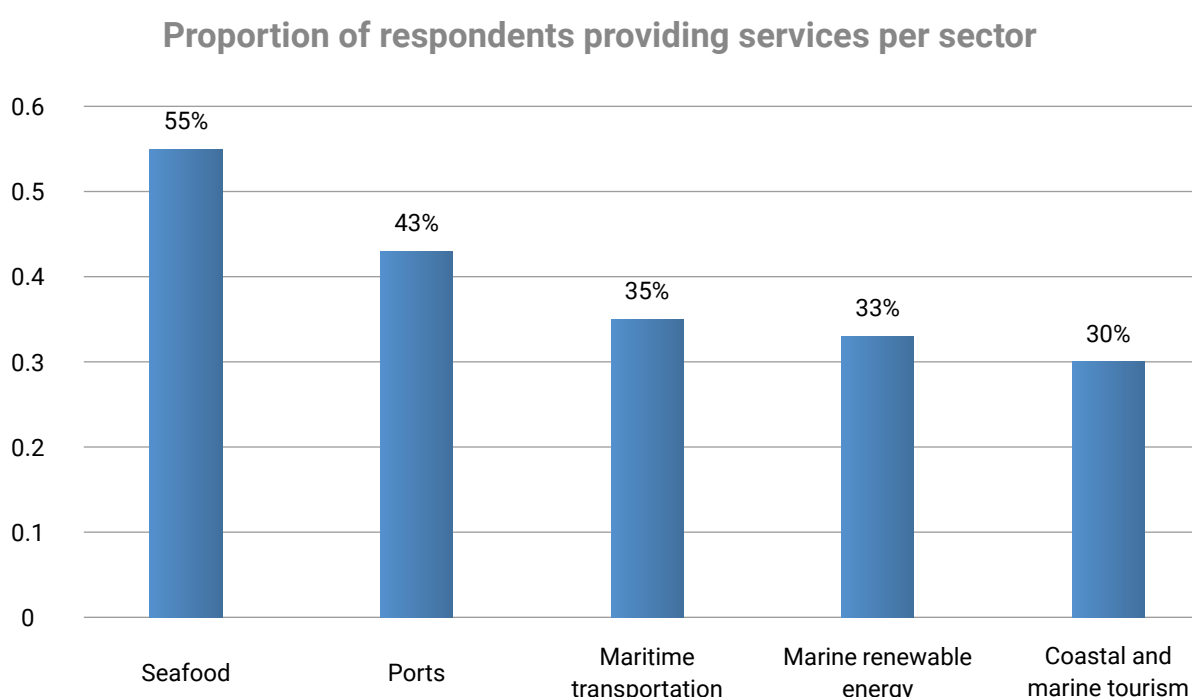


Figure 9: Proportion of respondents providing financial services for key blue economy sectors.

Number of respondents: seafood (39/71), ports (24/56), maritime transportation (17/49), coastal and marine tourism (14/47), marine renewable energy (14/43)

Common themes appeared across sectors as a whole, notably with regard to what non-financial impacts respondents look for and what risks are considered particularly critical. Here, participants were asked to select their top three considerations regarding risk and non-financial considerations (i.e. impact). Based on aggregate responses, climate considerations rank as most pressing—be it as a risk factor (Figure 10) or in seeking out climate resilience as a primary area of impact (Figure 11).

Climate change dominates perceived risks across sectors

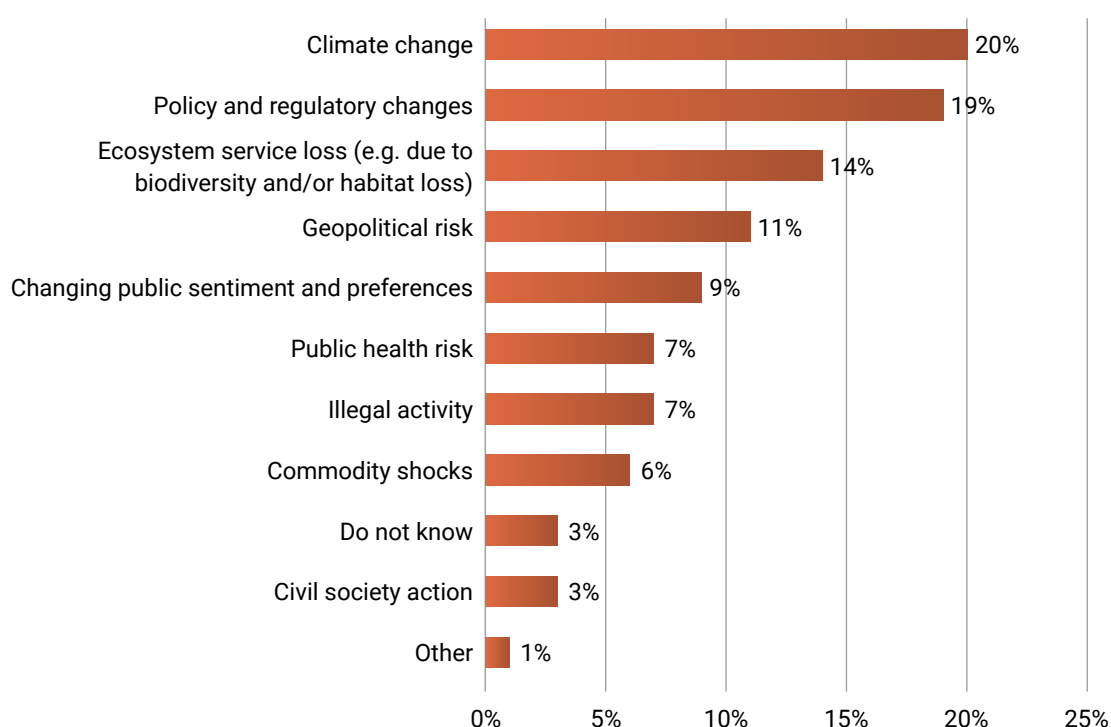


Figure 10: Percentage split of sum of greatest reported risks across sectors.

At the sector level, this dominance of climate considerations is trumped by more pressing sector-specific concerns. For example, in seafood climate risk (61.5% of respondents) was surpassed only by the risk of ecosystem service loss (73%), a critical dependency for the seafood sector. The same was true for the ports sector, where policy and regulatory changes were considered the most pressing risks.⁷ Tellingly, for each of the sectors explored, climate risk ranks as the second highest concern for financial institutions.

⁷ Of the risks featured in the survey, policy and regulatory changes rank second highest overall—perhaps reflecting the rapidly changing regulatory environment surrounding the ocean and sustainability throughout global markets. Ecosystem service loss, which would disrupt the operations of many sectors (notably seafood), also feature strongly as reported risks.

Climate resilience and positive environmental impact are biggest non-financial considerations across sectors

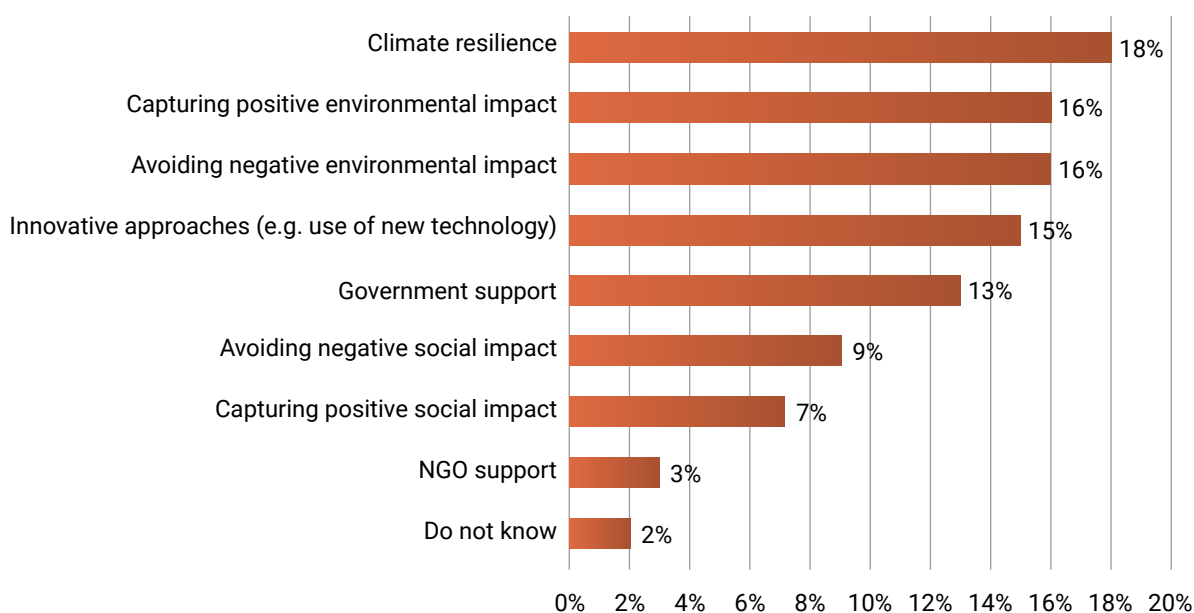


Figure 11: Sum of most important non-financial considerations across sectors.

At the aggregate level, non-financial considerations focus primarily on environmental conditions—notably capturing positive environmental impacts in projects—which, alongside climate resilience and the desire for innovative approaches, underscores a trend for financial institutions to focus on solutions for building a sustainable blue economy. Avoiding negative environmental impact features less prominently, as does both positive and negative social impact (this may be attributable in part to the target audience of the survey and their perception of UNEP FI as focusing more on environmental considerations).

This trend held relatively firm at the sector-specific level, with only maritime transportation and renewable energy favouring a non-environmental consideration the most. In maritime transportation, 56% of respondents focused on innovative approaches to the sector, perhaps in response to relatively recent decarbonisation signals to the merchant fleet presented by the International Maritime Organisation (IMO) in 2018 (IMO, 2018). In renewable energy, 77% of respondents considered government support a key factor in financing, likely driven by the high costs associated with capital in the sector and the need for public subsidies and tax benefits to enable investment in renewables (though it is worth noting that the development of this sector is in itself a strategy for emissions reductions).

The survey polled respondents about data sources used to understand the market and trends for the sectors to which they provide financial services. While varied across sectors, key themes and terms emerged from survey data that suggests financial institutions rely in particular on industry news sources, NGOs, direct company engagement and government statistics to build their understanding.

Seafood

Given the important distinctions between fisheries and aquaculture, these are broken down within the survey results, with different responses to key survey questions. Most significantly, respondents offered very different perspectives on where they see fisheries and aquaculture in 10 years, relative to the blue economy as a whole (Figure 12 and Figure 13). While aquaculture is perceived as a growth sector, most respondents believe fisheries will decline in size.

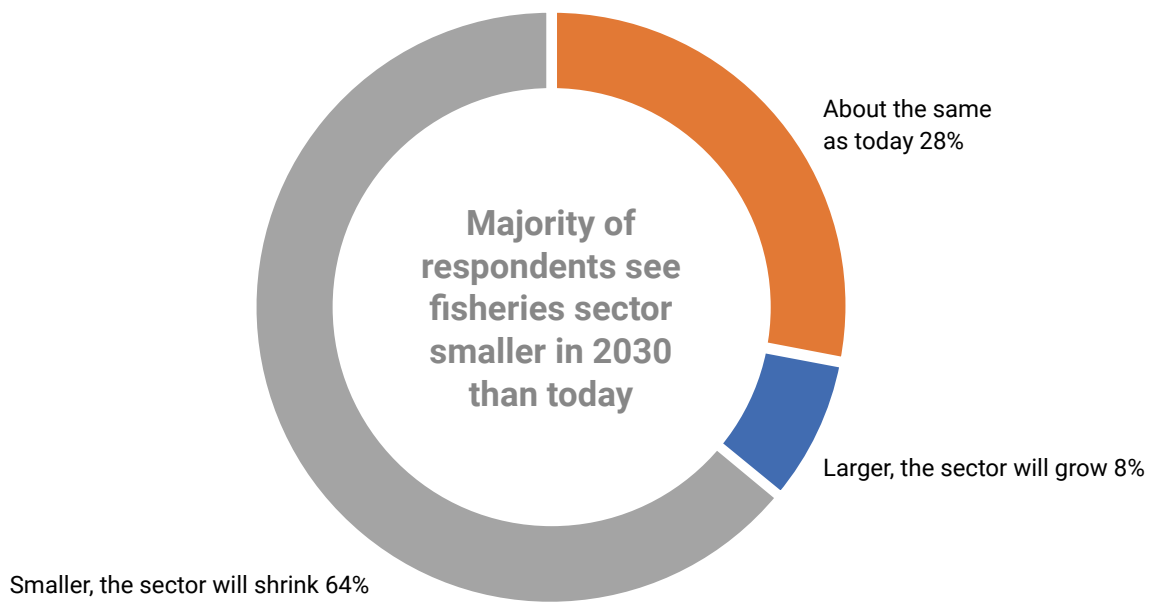


Figure 12: Where do you see the wild-caught fisheries sector 10 years from now?

Number of respondents: 25

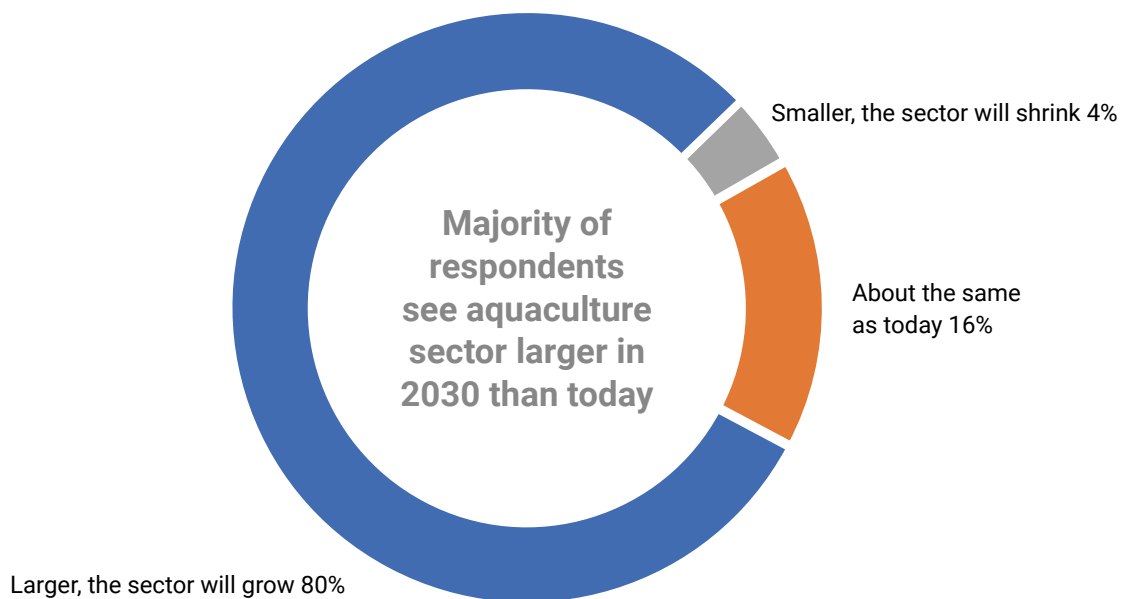


Figure 13: Where do you see the aquaculture sector 10 years from now?

Number of respondents: 25

Needs and opportunities

As touched upon through the survey results (Figure 14 and Figure 15), seafood faces a number of pressing challenges in order to effect a transition to sustainability and meet the targets of the SDGs, notably SDG 14 (Life Below Water). This applies to both wild-caught fisheries and aquaculture, though the specific issues are different.

Sustainability dominates key trends in fisheries to 2030

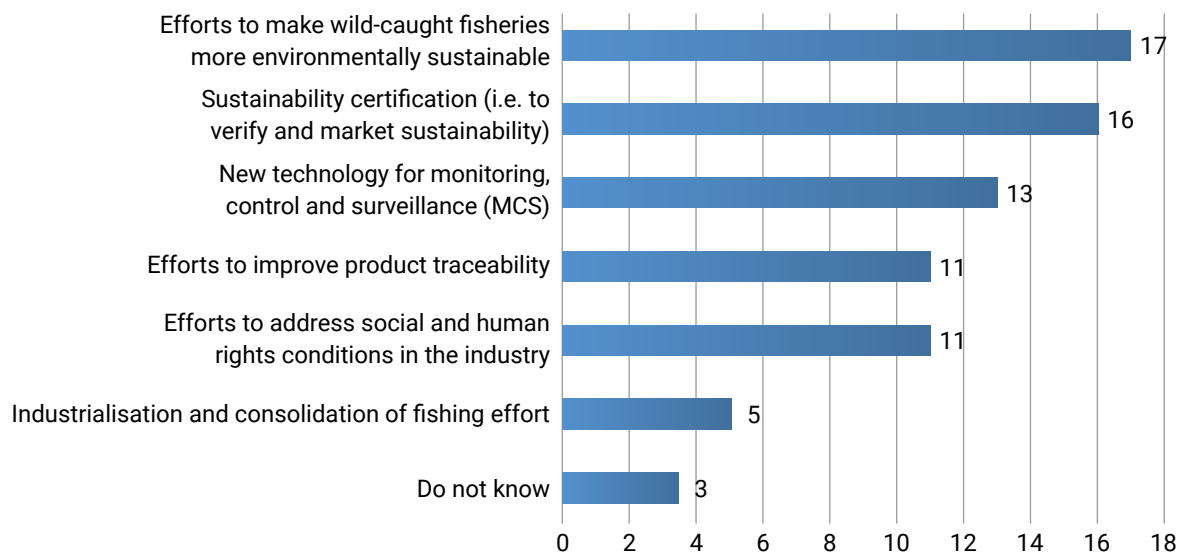


Figure 14: Predicted key trends in fisheries 2020–2030.

Reducing environment impact dominates trends in aquaculture to 2030

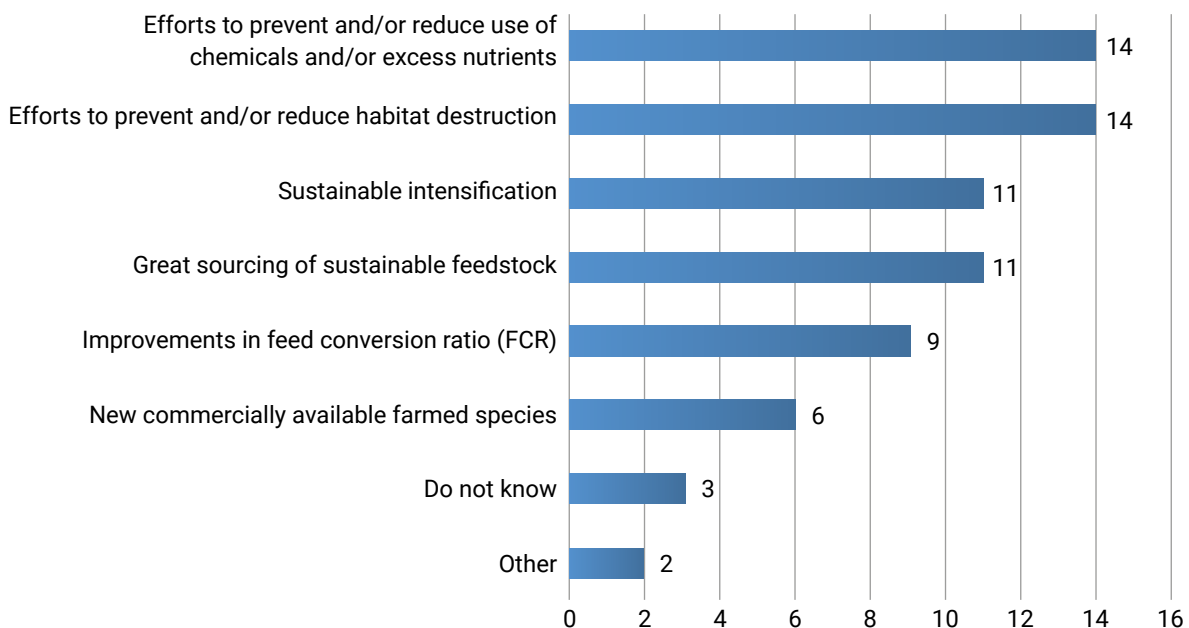


Figure 15: Predicted key trends in aquaculture 2020–2030.

There is a pressing need to move the remainder of the world's fisheries from an unsustainable to a sustainable status. Currently 21.3% of the world's fisheries remain over-exploited, which means SDG target 14.4 to end overfishing by 2020 has not been achieved (FAO, 2020). It is vital from a financing perspective for financing mechanisms and financial institutions to pivot away from providing capital or insurance to companies active in over-exploited fisheries.⁸ This includes seeking out sustainability certification for fisheries and introducing new solutions for monitoring, control and surveillance (MCS) of fishing effort and fisheries traceability.

Uniquely among sectors featured in this report, fisheries are predicted to become less prominent within the sustainable blue economy by 2030, as—on the current trajectory—the world's wild fish stocks are maximised and aquaculture continues to grow to meet global seafood demand.

In aquaculture, key concerns relate to reducing aquaculture's negative impact on the environment while scaling up globally to meet demand for animal protein, particularly among the world's emerging middle classes. Improvements in profitability and efficiency, notably through sustainable intensification and improvements in feed conversion and new commercially available species, are additional factors for the sustained growth of aquaculture.

For financial institutions, requirements to support continued sustainable growth are ensuring production is sustainable, with minimal environmental impact, including disease outbreaks and concerns over invasive species within fish farms. Certification, as for fisheries, is an important lever when applied effectively to move the sector towards sustainability as a whole, both at the production level as well as within the seafood supply chain, where wild-caught and farmed sources converge.

Seafood is highly vulnerable to climate change, especially wild-caught fisheries which are dependent on stable environmental conditions for fish stocks to thrive. Species ranges, in particular at middle to high latitude, are severely impacted by climate change and may move key commercial stocks from one country's EEZ into another, with potentially severe impact for fishing rights, trade and related investments.

Understanding these biological changes as a result of climate change, identifying cross-border management regimes as well as possible alternatives that are able to safeguard industry productivity, will be essential to managing these impacts. The Food and Agriculture Organisation of the United Nations suggests that (sustainable) aquaculture may also provide a viable alternative livelihood for affected communities needing to offset regional reductions in caught fish (FAO, 2016).

8 Work to uncover this exposure by investors to such operational risk in seafood companies was undertaken by Planet Tracker (2019) and the move towards investment in sustainability, with possible steps taken by financial institutions, outlined in Towards investment in sustainable fisheries (Holmes et al, 2014) and the Ocean Finance Handbook (Friends of Ocean Action, 2020).

Nevertheless, a number of financing solutions have been put forward that work to address some of these fundamental needs within the seafood sector. Some, such as risk financing through parametric insurance, offer a means to insulate fishing communities from the impacts of climate-linked events (such as tropical cyclones) on the ecosystems on which their livelihoods depend.⁹ Others, such as biodiversity offsetting for marine conservation or sovereign blue bond issuances, as recently done by the Seychelles, help safeguard the underlying status of the marine environment on which commercial fisheries rely. These, combined with public sector-driven measures (notably related to fisheries management and enforcement) can make a tangible difference in addressing needs in the seafood sector.

In addition to a great need for change and improvement in the seafood sector, there are substantial opportunities for the development of fisheries, and aquaculture in particular, as engines of the sustainable blue economy worldwide. Specific opportunities for financial institutions to engage with sustainable seafood are particularly noteworthy in the context of impact investing, where substantial momentum has been generated in the past 10 years to effect investments in sustainable fisheries and aquaculture.¹⁰ As for the other sectors covered, an integrated approach to the sustainable development of the seafood sector, taking into account other users of the marine environment through maritime spatial planning (MSP), may be especially helpful.

9 A notable example here being the work of Willis Towers Watson's Global Ecosystem Resilience Facility in developing parametric insurance in the event of coral bleaching in the south Pacific.

10 This includes such examples as Aqua-spark, Althelia Ecosphere's Sustainable Ocean Fund, and Rare's Meloy Fund.

Case study: 'Insurance as Reward' for fishing communities in the Pacific

Global insurer Willis Towers Watson (WTW) established the Global Ecosystem Resilience Facility (GERF) to develop resilience for vulnerable ecosystems, such as coral reefs and mangroves, through innovative finance and risk management opportunities (WTW, 2020). In the context of the Pacific, a number of innovative approaches have been conceptualized to extend risk financing and insurance to vulnerable communities, including fishing communities in Vanuatu, where livelihood protection coverage has been modelled in the context of the impact of tropical cyclones. Vanuatu is prone to many different types of extreme weather events, all of which impact on the population and their livelihoods. Most important among these for fishers and coastal zone communities are tropical cyclones and heavy rain events. The livelihood protection coverage proposed in this case study is a form of parametric insurance, using indices of key perils cyclone intensity (through wind speed) and rainfall amount (daily peak rainfall), measured across a geographical area consistent with the scale of data available and the distribution of land areas in Vanuatu (WTW, 2020b).

An individual index for each peril is available for each geographical area (comprising individual islands with close neighbouring islands, with some subdivision for larger islands). Because the risk profile is different for each area, a mechanism for which the value of the metric (peak wind speed or one-day rainfall) at a fixed return period is used to define pay-out triggers. This enables the pricing of the insurance product to be constant across all of the regions, ensuring equity in terms of the provision of the base coverage by the government and also greatly reducing the administrative burden for additional 'blocks' of insurance purchased by individuals to top up coverage.

While the precise structure of the triggers will need to be refined via input from both the government and beneficiaries, WTW envisages three or four trigger levels, enabling small pay-outs for smaller events which are likely to happen relatively frequently, and progressively larger pay-outs for more intense events, such that the total coverage limit could be paid out for a single large event or for several smaller events in the same annual policy period. This form of insurance contract allows upscaling in a straightforward manner; blocks of coverage can be purchased for a fixed premium, and each provides pay-outs at the same trigger levels. WTW foresees opportunities for the administrative processes to be embedded within the private sector, with the Pacific Catastrophe Risk Insurance Company (PCRIC, the regional sovereign insurance pool) potentially able to reinsure the primary insurance company issuing the policies, or directly insure the government for the first block of insurance for each individual (WTW, 2020b).

Ports

Alongside maritime transportation, ports play a critical role in the global economy and the economic development of countries, notably in the developing world. As such, they have historically been subjected to a 'light touch' approach to environmental regulation, with maritime transportation not initially covered by the 2015 Paris Agreement, and both the International Maritime Organisation and individual port authorities setting subsequent targets for emissions reductions (IMO 2018; City of Rotterdam, 2019). Nevertheless, ports and port operations impact on both terrestrial and marine ecosystems, particularly in areas of vulnerable habitat or high biodiversity, in addition to human health impacts from potentially hazardous working conditions and impacts on coastal communities.

Both ports and maritime transportation are experiencing an inflection point in their relationship with climate and the environment. Financial institutions active in port investment see a number of environmental considerations as the largest trends in the decade to 2030, with nearly 53% identifying decarbonisation as the biggest trend, followed by more stringent environmental regulations (47%) and climate resilience (42%).

Ports are particularly vulnerable to the impacts of climate change, and face physical risks from storm damage, coastal subsidence and sea level rise (UNCTAD, 2018). This suggests a need to modernise the port sector globally to bring it in line with the targets of both the Paris Agreement and the Sustainable Development Goals.

50% of respondents predict the port sector will continue to grow in the next 10 years, with a sizeable minority of 39% predicting it will remain roughly the same size as it is today (Figure 16). Key trends in port investment in the next 10 years were reported to include decarbonisation (52%), more stringent environmental regulations (47%), greater investment in infrastructure, notably through the Belt and Road Initiative (42%) and climate resilience (42%) (Figure 17).

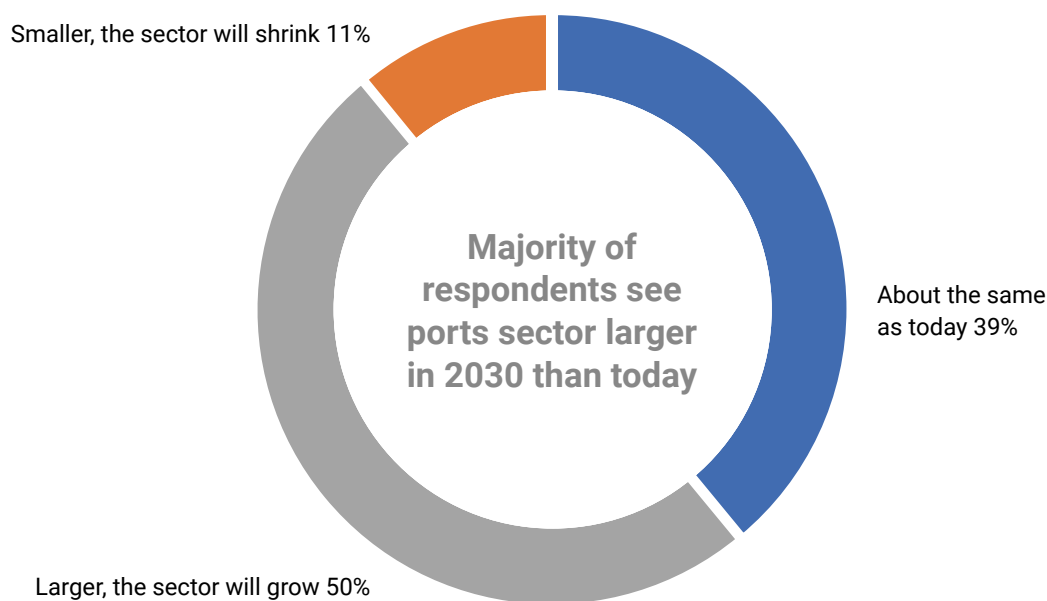


Figure 16: Where do you see the port sector 10 years from now?

Number of respondents: 18

Decarbonisation biggest trend in ports, alongside tighter regulations to 2030

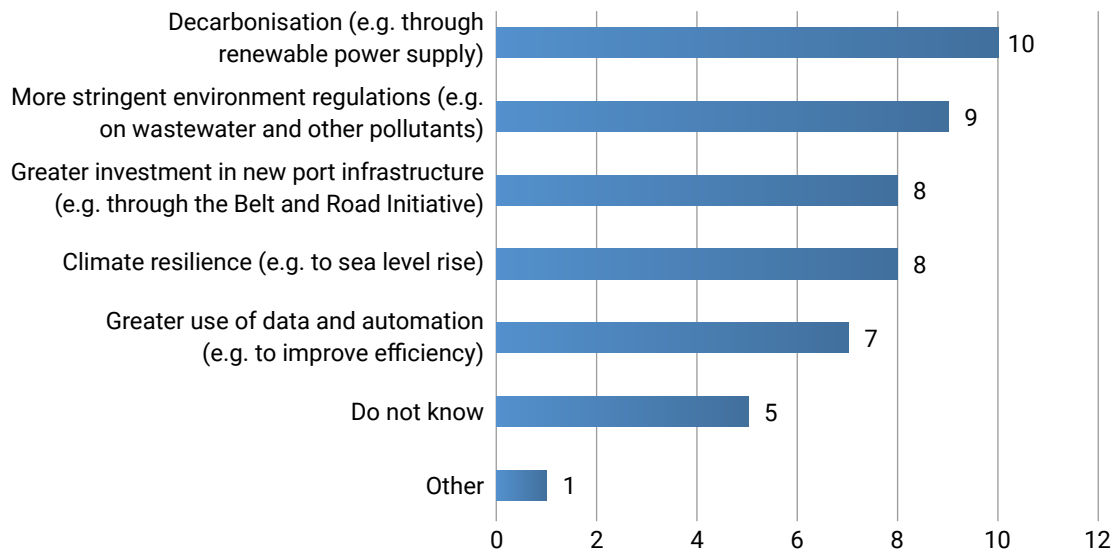


Figure 17: Predicted key trends in ports 2020–2030.

Needs and opportunities

Survey respondents noted that ports are likely to be a considerable source of future growth (Figure 16). With the continued investment in megaprojects such as the Belt and Road Initiative, opportunities for port investment will be plentiful in the years ahead. The key challenge will be to translate these investment opportunities into ones that are sustainable, starting with how ports are developed and where they are sited. As for the other sectors covered, siting and developing ports and their related operations in the context of an integrated approach to the management of marine spaces (e.g. through maritime spatial planning) will be instrumental in developing a sustainable blue economy. For financial institutions, the clear needs are to focus financing activity towards entities and markets striving to make changes to business-as-usual approaches in the port sector, such as embracing innovation in fuels, efficiency, power generation, waste reduction and encouraging social sustainability for the communities around major ports. Resilience to climate change is another area of concern, particularly with respect to the implications of sea level rise.

Resilient and green infrastructure is a potential avenue for financial institutions to explore in order to understand better the potential opportunities to develop a more sustainable port infrastructure. For example, the Port of Singapore's Tuas Port development features a number of innovations in design and operation to integrate sustainability considerations and protect the surrounding natural habitat, including the relocation of affected coral reefs. The World Ports Sustainability Programme is a particularly valuable resource of port innovations¹¹ in the context of climate and sustainability. The World Association for Waterborne Transport Infrastructure (PIANC) has produced 'Sustainable Ports: A Guide for Port Authorities' (2014), which catalogues the sustainability needs of the ports sector.

Particular opportunities may exist in the decarbonisation of the sector, the highest-reported trend for the current decade. To date, a number of ports worldwide have made efforts to move in this direction, both with respect to their energy sourcing, carbon capture and storage opportunities as well as decarbonisation of port-associated transport (Port of Rotterdam Authority, 2019).

More specific opportunities for sustainable ports include the expansion of cold ironing facilities with lower carbon footprints, embracing the circular economy in procurement related to port infrastructure, promoting diversity in employment and leveraging ports as a nucleus for enterprise and entrepreneurs, fostering new start-ups and network effects between businesses, regulators and academia. Ports are also able to play a key role in driving the adoption of certain standards worldwide, by offering incentives for specific benchmarks on e.g. energy efficiency or fuel use that penetrate the global market (see case study).

11 sustainableworldports.org/project/maritime-and-port-authority-of-singapore-singapores-next-generation-port/

Case study: Maritime Singapore Green Initiative

In 2011 Singapore's Maritime and Port Authority (MPA) established the Maritime Singapore Green Initiative to reduce the environmental impact of shipping and ports and promote green shipping in Singapore. Initially a five-year programme, it was extended in 2019 to run to 2024 on the basis of four interrelated pillars:

- Green Ship Programme;
- Green Port Programme;
- Green Energy and Technology Programme; and
- Green Awareness Programme.

These voluntary programmes for businesses involved with ports and shipping in Singapore recognise and provide incentives to companies that adopt clean and green shipping practices over and above the minimum required by International Maritime Organization (IMO) Conventions. As a major shipping hub and nexus for South East Asia, Singapore is a key player in the global network of ports. Its leadership in promoting green ports and shipping provides a clear signal of the emerging focus on sustainability across the industry.

With a particular focus on ports, the Green Port Programme (GPP) encourages ocean-going vessels calling at the Port of Singapore to adopt solutions to reduce the emission of pollutants. Vessels that qualify for certain thresholds (using LNG as a marine fuel within the Port of Singapore and exceeding the IMO's Energy Efficiency Design Index (EEDI) requirements) are eligible for a 25% concession in port dues during their stay in Singapore. Those that opt in to additional conditions receive an additional 10% concession.

To be eligible for the concession, vessels must be outfitted to accept LNG as a fuel, influencing how vessels worldwide are outfitted because of the opportunities provided in Singapore (Maritime and Port Authority of Singapore, 2019). This is a powerful instrument and a clear demonstration of the effect financial incentives can have on industry behaviour.

With respect to broader financing, this provides an example of how port financiers may look to port authorities to leverage their capabilities to influence the market to mainstream sustainability, and offers a pathway for port financing and operations to incorporate sustainability. Equally, this presents an area of potential risk for shipping financiers to be aware of, particularly as efforts to make ports more sustainable expand through the world's major markets and affect operating costs for shipping concerns.

Maritime transportation

Closely tied to the fortunes of ports, maritime transportation is a key driver of global trade and the economy. Maritime transportation comprises the vessels and infrastructure that drive global trade, fishing, offshore platforms, naval, passenger and tourism on the world's seas. Shipping carries 80% of global trade by volume, 70% by revenue, and is the most efficient means of moving goods on a CO₂/tonne/km of cargo moved basis (Climate Bonds Initiative, 2020). There are over 50,000 merchant ships trading internationally, transporting every kind of cargo. While vital to the economy, like ports maritime transportation impacts on the environment in a number of ways, notably through air, water and noise pollution, the risk of introducing invasive species and collisions with wildlife. Financing this sector and its transition to sustainability is, therefore, an important and complex task.

While there was no clear trend as to the future scale of the maritime transportation sector, only a minority (13%) believed it would be smaller than today (Figure 18).

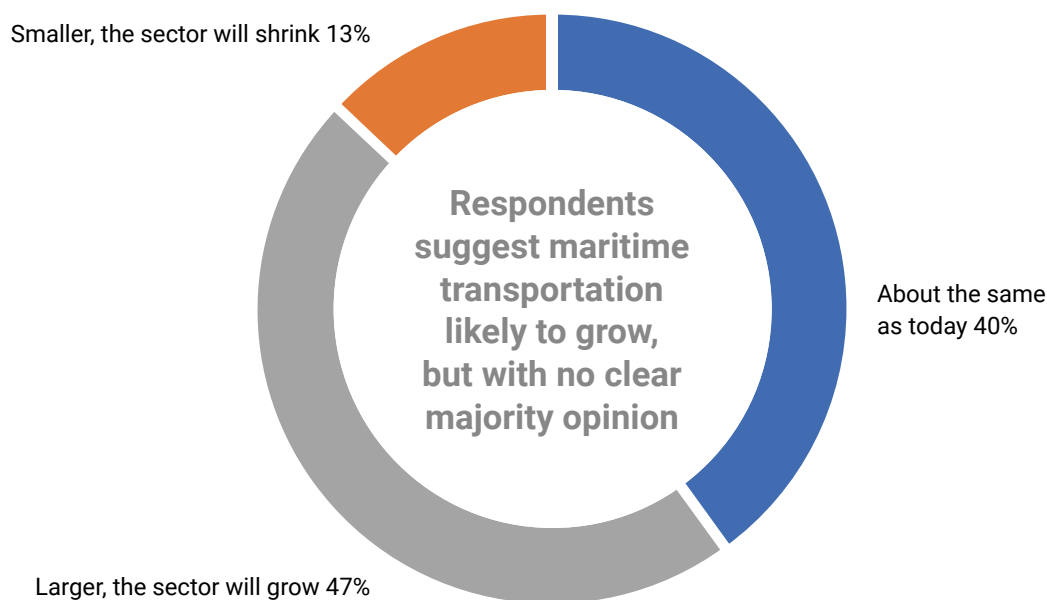


Figure 18: Where do you see the maritime transportation sector 10 years from now?

Number of respondents: 15

Key trends in maritime transportation are decarbonisation (62% of respondents highlighted this as a trend¹²), greater environmental regulation (56%) and greater use of digital and remote sensing for vessel tracking and recording ocean data (44%). Maritime transportation has been particularly challenged in recent years by the International Maritime Organisation's goal for a 50% decarbonisation of the sector by 2050 to bring it in line with the Paris Agreement. As a result, it is unsurprising that the most significant reported trend in the maritime transportation sector is for decarbonisation, followed by greater environmental regulation (Figure 19).

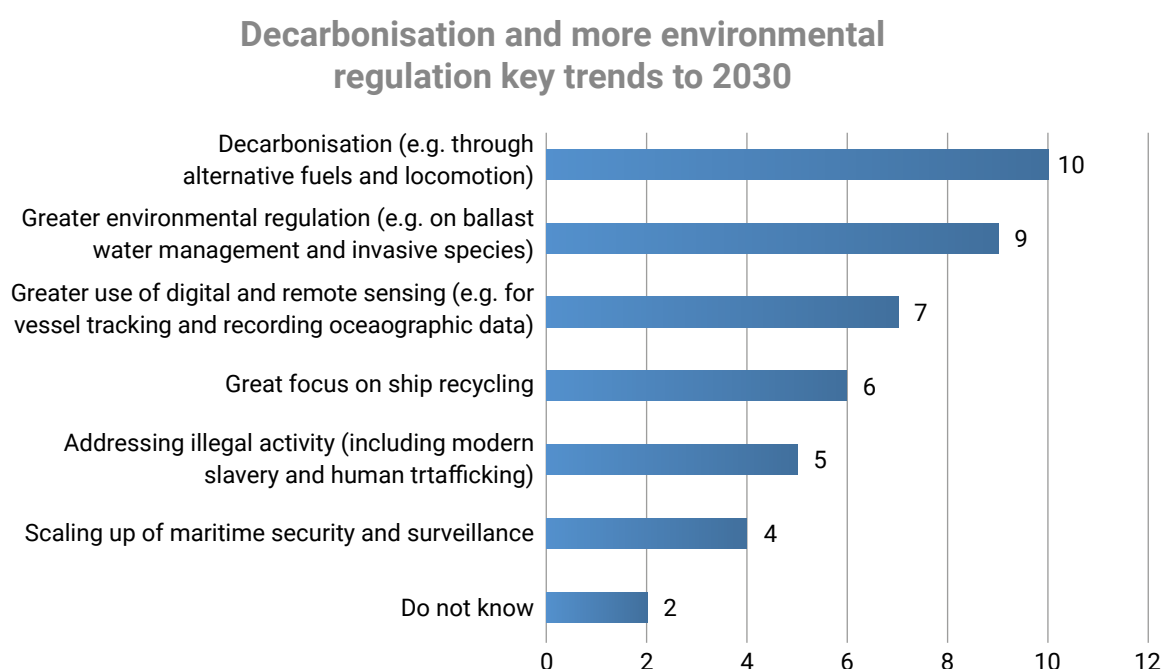


Figure 19: Predicted key trends in maritime transportation 2020–2030.

Needs and opportunities

The needs for the maritime transportation sector are tied closely to the broader objectives of decarbonisation—be it through retrofitting existing ships to use fuels with a lower emissions profile (Hellenic Shipping News, 2020), identifying ways to optimise maritime transportation efficiency (Armstrong, 2013), or innovating new ways of transporting cargo altogether, such as the reintroduction of wind-powered propulsion (Zeldovich, 2020).

12 This response rate is a product of the IMO ruling on decarbonisation of the maritime transportation sector in line with the Paris Agreement. See: unfccc.int/sites/default/files/resource/250_IMO%20submission_Talanoa%20Dialogue_April%202018.pdf

Where finance towards ‘business as usual’ in the maritime transportation sector has come from relatively traditional trade finance, working capital loans and corporate finance (Figure 30, Annex 1), future financing may require greater sources of risk financing and green- or blue-labelled bonds as the sector moves into uncharted, greener territory. Existing guidance for the maritime transportation industry, notably the [Poseidon Principles](#), offer a helpful framework in moving the sector towards sustainability in line with global policy efforts on sustainability and climate.

In addition to addressing maritime transportation’s contributions to climate change, another key need is the scaling up of maritime surveillance and security, notably in response to piracy, particularly in the Gulf of Guinea and South East Asia (CIMSEC, 2020). Greater coordination between coastal states on enforcement and security on key global maritime routes is especially important—currently, concerns for territorial sovereignty in key countries has stymied greater regional cooperation.

This has clear implications for maritime transportation finance, notably with respect to the cost of insurance as well as greater fuel costs associated with higher steaming speeds and following lengthier routes to reduce the risk of exposure to piracy. Greater effort in addressing broader illegality, notably modern slavery, remains a pressing need in maritime transportation, including in developed markets (Nautilus International, 2018). Furthermore, determining where shipping lanes are sited in an integrated fashion that takes into account other users of the marine environment (e.g. through maritime spatial planning) will be instrumental in developing a sustainable blue economy.

Case study: NEOLINE sail-based North Atlantic shipping route

Recent years have seen the development of a number of innovative approaches to sail-based maritime transportation. Among these is NEOLINE, a French transport company established in 2015, which has established a project for the development of a new roll/on-roll/off (RoRo) shipping line on the North Atlantic route between St Nazaire in France and Baltimore (USA), with stopovers in Halifax (Canada) and St Pierre & Miquelon. The project is based on the operation of two innovative sail-based RoRo vessels, using 4100m² sails as the main propulsion system, reducing carbon emissions on this route by up to 80%. The vessels will be constructed at a shipyard in Turkey and operated in compliance with IMO and EU regulations and will operate under an EU flag.

Financing institutions, include the European Investment Bank, French banks and private equity funds, have contributed senior and junior debt to complement NEOLINE's own raised capital to meet the EUR 104 million project cost. The project is in line with EIB's Climate Strategy, and in light of the project's significantly reduced emissions footprint offers a means to decarbonise participating banks' shipping debt portfolios.

For NEOLINE, a brand-new entrant in the shipping market, this capitalisation allows them to operate with a competitive decarbonised shipping solution on the vital North America–Europe shipping route, and offer a relatively stable transport rate due to significantly less exposure to fuel price volatility. In addition, thanks to modern accurate weather routing and adaptive energy management using diesel-electric auxiliary propulsion, NEOLINE argues it is able to provide reliable transit times. To date, NEOLINE has tentative agreements with three shippers on the westbound route and is in discussion with North American shippers to populate the eastbound return.

Construction of the vessels is scheduled to commence in early 2021, and they will be operational in 2022. NEOLINE intends to grow their approach beyond the North Atlantic market, and is already in early discussion about a potential Latin American route.

Nevertheless, substantial opportunities in maritime transportation do exist—both in identifying solutions to address the above needs and in leveraging the role of maritime transportation in the global economy and physical presence across the global ocean. For example, the merchant fleet can be utilized as a service platform for digital and remote sensing to improve global weather prediction, contribute to oceanographic research (Smith et al, 2019) and create further efficiencies in the sector (Trelleborg Marine Systems, 2018).

Coastal and marine tourism

Tourism is a substantial contributor to the world's economy. It represents approximately 10.3% of global GDP in 2019 from direct, indirect and induced impact, and provides one in ten jobs (World Travel and Tourism Council, 2020). Coastal and marine tourism faces a number of challenges and potential opportunities in the context of developing a sustainable blue economy.

On the basis of the survey results, and while acknowledging the limited number of respondents, tourism appeared likely to retain its current status in the blue economy (Figure 20), though again it is probable that this response has been significantly influenced by the impact of Covid-19.

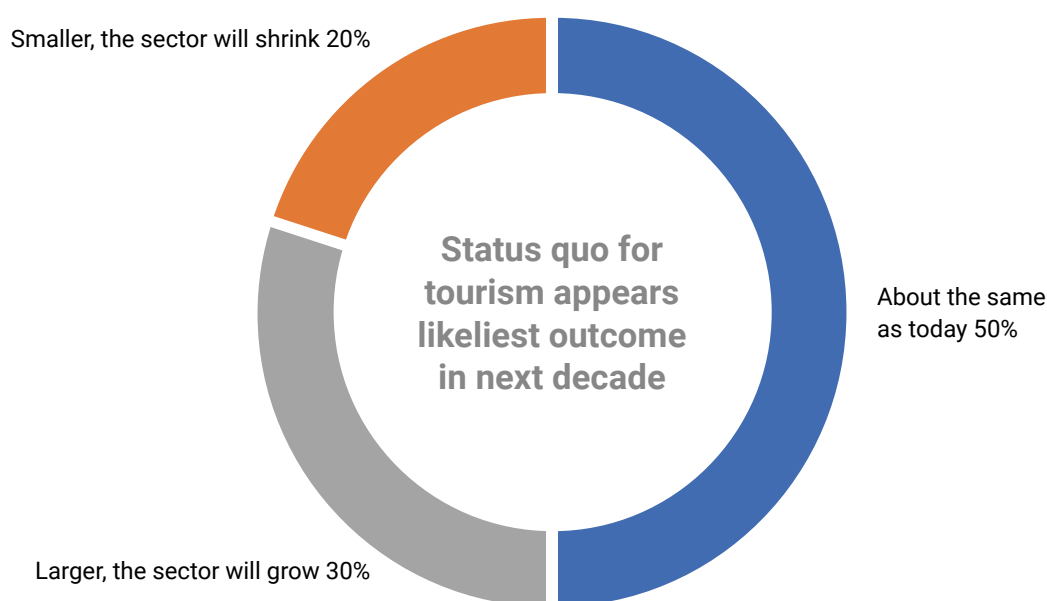


Figure 20: Where do you see the coastal and marine tourism sector 10 years from now?

Number of respondents: 10

Key perceived trends in coastal and marine tourism relate mainly to the adoption of standards for tourism development and its environmental impact, and the scaling up of sustainable eco-tourism models. This is followed closely by a greater focus on sustainability in cruising (Figure 21), which shares a number of regulations and governing bodies with the maritime transportation sector, linking these two sectors despite substantially different operational profiles.

It should be noted that, while the survey underpinning this report did not take the impacts of Covid-19 on the global economy into account explicitly, it is clear that tourism is one of the hardest-hit industries worldwide—the UN World Tourism Organisation reports international tourist arrivals are down 70% on the first eight months of 2020 compared to 2019 (UNWTO, 2020). Thus, while the reported trends highlighted below reflect the perspective of financial institutions under normal circumstances, the developments and priorities of the sector have likely shifted in the context of the pandemic.

Financial institutions predict adoption of environmental standards as biggest tourism trend to 2030

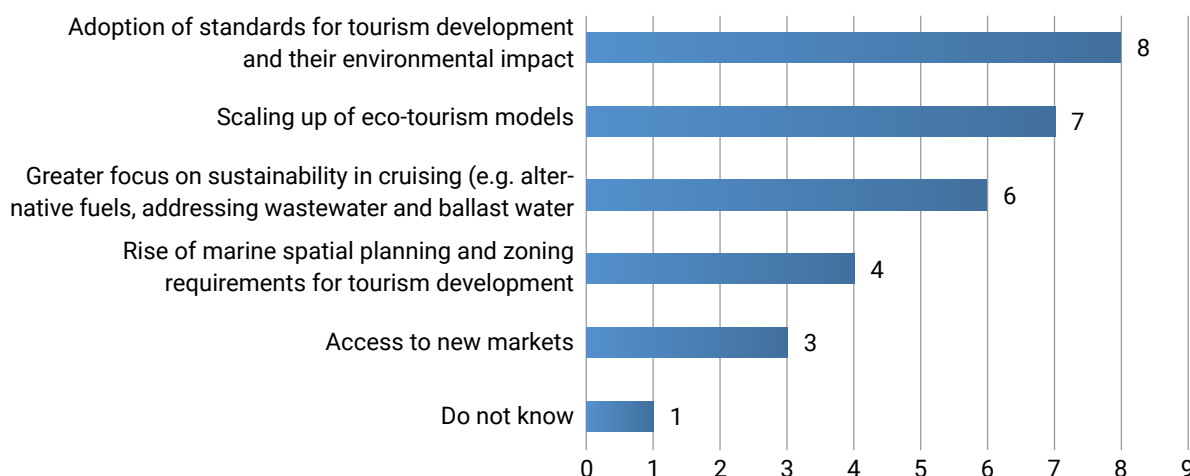


Figure 21: Predicted key trends in coastal and marine tourism 2020–2030.

Needs and opportunities

A clear need in the tourism industry is to gain a better understanding of what sustainability means (both for mainstream tourism as well as eco-tourism) and to scale up the adoption of standards for sustainability in tourism operations. To date, a global standard body for tourism, the Global Sustainable Tourism Council (GSTC) has taken a leading role in developing a common standard for sustainable tourism for use throughout the industry.

A notable absence from the GSTC’s standards at the present time is cruising, where benchmarks and regulations for sustainability vary greatly by jurisdiction and are often managed under the auspices of the IMO as adapted maritime transportation regulations. While generally helpful in the regulation of e.g. fuel standards and emissions, these may be a less appropriate fit in the context of e.g. wastewater, where the number of people aboard merchant vessel as compared with cruise ships differs by orders of magnitude. Thus, a clear need exists for the development and scaling up of distinct sustainability standards for the cruise industry that focus on, inter alia, alternative fuels, wastewater, invasive species and their socioeconomic impact, particularly on small island developing states (SIDS).

As an immediate contribution towards the scaling up of sustainability in the tourism sector, financial institutions can support the development of greater awareness and use of sustainability benchmarks for the tourism industry by demanding sustainability certification in their financed transactions.

Opportunities that leverage these needs also exist, notably in the context of developing new forms and markets for tourism—scaling up the potential for sustainable tourism and ecotourism¹³ worldwide and entering new markets for coastal tourism, notably in Africa, where the pre-COVID-19 potential for consumer spending on tourism was forecasted to double on 2015 values by 2030 (Brookings, 2018). For both new and existing developments, consideration for the interaction between tourism and other sectors of the marine environment, and a systemic approach to developing the use of the marine environment (e.g. through maritime spatial planning) will be crucial for the transition to a sustainable blue economy.

Public institutions have a role to play in setting the standard for what amounts to tourism best practice and promoting the development and marketing of sustainable tourism destinations and alternatives. For example, the European Commission established the EDEN network of socially, culturally and environmentally sustainable tourism destinations across Europe that serves to both promote emerging, lesser known tourism destinations in a sustainable fashion as well as de-congest over-visited tourism destinations (European Commission, 2019).

13 An associated need here is to clearly define what comprises ecotourism, and the distinction between this and making mainstream tourism sustainable in its own right.

Case study: Ayla Oasis Regeneration Project

In 2015 the European Bank for Reconstruction and Development (EBRD) provided a senior loan of up to USD 60 million to support the development and operation of 'Ayla village'. This marks an initial step in the regeneration of the Ayla Oasis in Jordan, a tourism destination on the Jordanian coast of the Red Sea, across the border from Eilat in Israel and near the city of Aqaba and world heritage sites of Petra and Wadi Rum.

Formerly the site of heavily polluted land featuring hundreds of mines on the Israel-Jordan border, the project sits within a wider context of regeneration in the Aqaba region. It aims to develop a mix of commercial and residential infrastructure that serves tourists as well as the local population. The overall goal of the investment is to support the development of Aqaba into a major tourist destination in the region, while offering support and training for career development in the hospitality sector for local youth, particularly women.

A key feature was the development of a 750,000m² man-made lagoon, creating 17km of new coastline on what was previously a 235m strip of seafront on Aqaba Bay, a part of the Red Sea. From the outset, sustainability considerations were incorporated into the development of Ayla village, and an upfront environmental impact assessment (EIA) concluded the project featured no negative impacts on biodiversity. The development of an environmental management system ensured the project was able to introduce measures to mitigate potential environmental impacts over the long term.

As a result, the project includes a number of site-specific sustainability measures including the installation of solar panels, grey water recycling and energy efficiency measures. Combined, these sustainability measures for energy and resource efficiency accounted for USD 24 million of the EBRD's financing.

The solar plant—the first installed in Aqaba—powers the pumping of seawater from the Red Sea into the site's lagoons. This provides both recreation opportunities for guests and a nursery for key coral species and commercially important fish featured in Aqaba Bay, creating important environmental and social co-benefits to the project. This latter activity is done in collaboration with UNDP and the Aqaba Special Economic Zone Authority (ASEZA), which manages the regional marine biodiversity conservation and coastal management activities in Aqaba Bay. In addition to the site-specific measures, the project also benefits from improvements made in Aqaba, including the installation of municipal wastewater treatment facilities.

Marine renewable energy

Renewable energy sets out to reduce significantly the greenhouse gas emissions associated with the production of energy. Its climate footprint is, on average, significantly lower than non-renewable energy as a result (Pehl et al, 2017). Wind energy in particular carries the lowest impact in terms of carbon emissions. Thus, renewables have a clear and vital role to play in the energy transition and powering a decarbonised economy. However, despite benefits for reduced carbon emissions, there are a number of key pressures exerted on society and the environment that are important to consider in developing guidance for marine renewable energy development.

Marine renewables include a broad range of possible sub-sectors, including offshore wind, wave, tidal, floating solar, ocean thermal energy conversion (OTEC) and other more conceptual technologies. In light of this, it was important to poll investors on which sub-sector within renewable energy they focused on. Given its relative commercial maturity, it was unsurprising that the result indicated most activity in offshore wind (both fixed and floating, Figure 22).

Which sub-sectors of marine renewable energy do you work with?

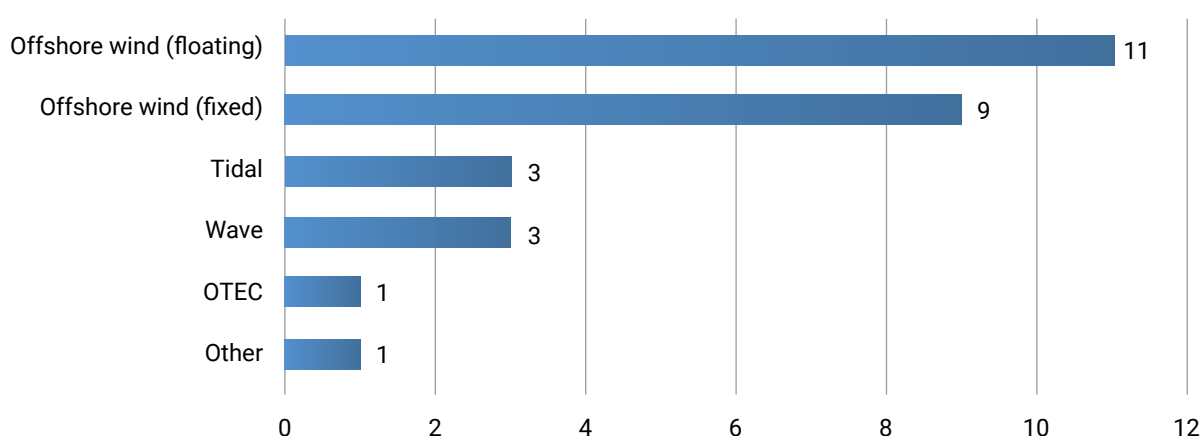


Figure 22: Which sub-sectors of marine renewable energy do you work with?

Perhaps unsurprisingly, respondents overwhelmingly perceived offshore renewable energy as a growth sector, with 76% indicating they believed it would be a larger aspect of the blue economy in 10 years' time than it is today (Figure 23).

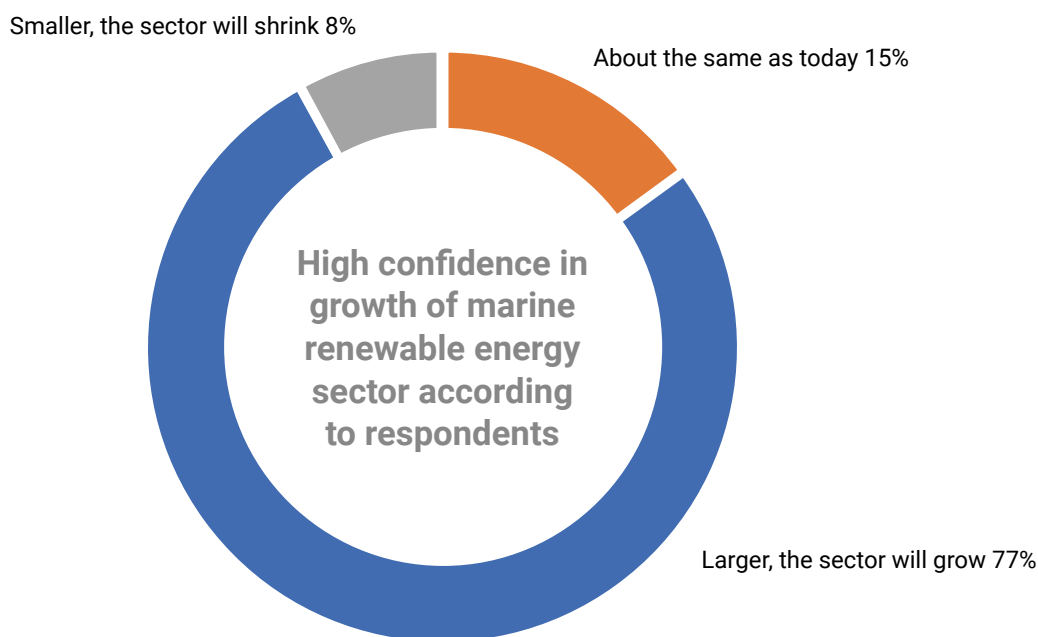


Figure 23: Where do you see the marine renewable energy sector 10 years from now?

Number of respondents: 13

Different renewables technologies are at different stages in their growth cycle. While offshore wind is a mature technology, wave and tidal energy remain closer to the proof-of-concept stage. In light of this, the key trends for the next 10 years focused on where greatest effort was likely to lie. Most respondents (62%) considered the roll-out of commercially proven technology as the most significant trend, followed by identification of new technologies (54%) and more favourable regulation for the development of the sector (54%) (Figure 24). Commercialisation and mainstreaming of further proof-of-concept technologies is also perceived as a likely development in the next 10 years.

Rolling out of proven technologies biggest trend for renewables to 2030; favourable regulation predicted to continue

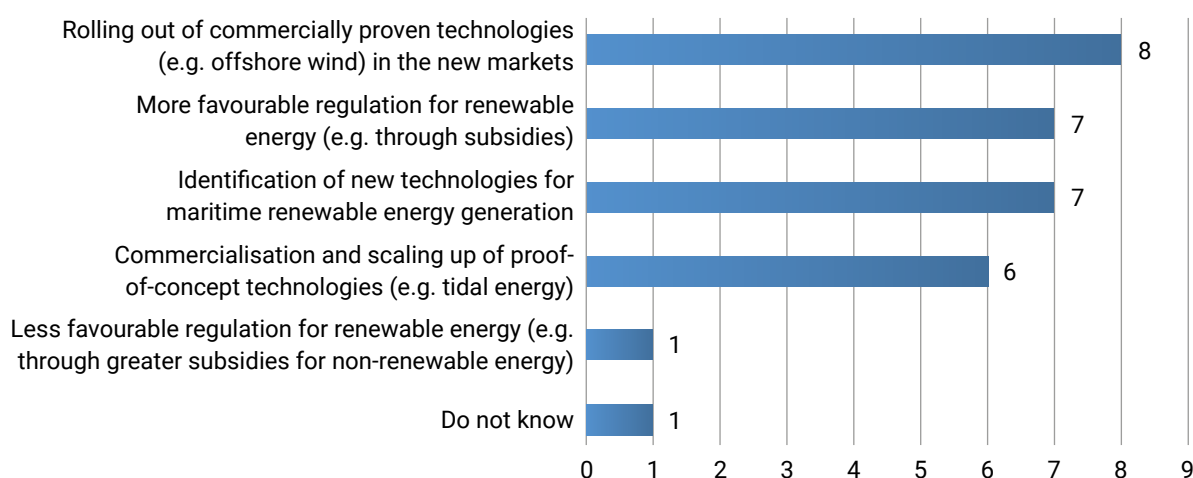


Figure 24: Predicted key trends in marine renewable energy 2020–2030.

Needs and opportunities

Favourable regulation continues to be a key factor in the contribution of marine renewables to the energy mix. In northern Europe offshore wind is increasingly competitive with non-renewable energy, but in other markets worldwide there is a continued reliance on favourable regulation to enable investment and overcome the high costs of capital associated with development of marine renewables. This creates a clear role for public institutions in providing favourable conditions for renewables to thrive—notably in the context of subsidies for renewable energy generation.

As marine renewables grow in prominence, there is also a clear need for greater clarity on their impacts on society and the environment as well as how they interact with other users of the marine environment. Increasing the level of knowledge and understanding of the environmental impact of e.g. installation of new wind turbines on the seabed, is vital to ensuring that best practice can be developed. Further, utilising integrated planning processes, notably Marine Spatial Planning (MSP), to create a clear framework for dividing up marine spaces among multiple users is another beneficial step to take in scaling up marine renewables.

Here, governments as well as civil society and academia have a clear role to play in creating a sustainable approach to development of marine renewables, to be complemented by institutions looking to finance new and existing developments. To date, given the advanced state of offshore wind development, the European Union has led the way in producing such guidance, for example publishing recommendations for the interplay between offshore wind and marine spatial planning best practice (Jacques et al, 2011).

Opportunities in marine renewables are abundant, particularly in the context of offshore wind. As the technology becomes more mainstream and prices drop, notably for floating offshore wind which is applicable in deeper water,¹⁴ opportunities for the development of offshore wind in new markets emerge.

While Europe will continue to be a hotspot for offshore wind development, of additional note as particularly promising geographies for floating offshore wind installations are China, South-East Asia, the Gulf States, India, Canada, the Caribbean and off the coast of East Africa (IEA, 2019) where wind speeds are reliably high. Although less commercially attractive and at an earlier stage, opportunities for to develop newer technologies persist—notably tidal energy and floating solar, which appear closest to commercial viability, alongside less advanced developments in wave energy and ocean thermal energy conversion (OTEC).

14 Up to 200m, as opposed to fixed offshore wind which is viable up to ~50m.

Case study: Bank of China Blue Bond

In 2020, the Bank of China issued a blue-labelled bond, totalling USD 942.5 million equivalent (split across a USD 500 million three-year tranche and a two-year CNH [offshore Chinese yuan] 3 billion tranche). The net proceeds will be allocated to two major blue economy project areas: sustainable water and wastewater management, and renewable energy generation. Within this, the renewable energy component includes producing and transmitting renewable energy and manufacturing renewable energy appliances and products—a key blue economy component here is the planned development of offshore wind energy (Green Bond Principles, 2020).

While the specific use of proceeds remains to be determined at the time of writing, the issuance is noteworthy for a number of reasons:

- it is the world's first Asian blue bond;
- it is the first blue-labelled bond issued by a commercial bank;
- Bank of China was advised by Credit Agricole on green financing during the deal structuring stage (Credit Agricole is a signatory to the Equator Principles and a co-founder of the Green Bond Principles); and
- it has been assessed against the International Capital Market Association (ICMA)'s Green Bond Principles 2018 for pre-issuance, and intends to remain in compliance with these Principles for use of proceeds, project evaluation and selection, management of proceeds and reporting.

Issued by Bank of China's Sustainability Series Bonds Management Statement, proceeds of the bond will be used to increase financing for blue economy infrastructure projects both within China as well as internationally (Credit Agricole, 2020).

The issuance, alongside the recent announcement of Ørsted's new offshore wind bond issuance in Taiwan, Province of China (Ørsted, 2018), underscores a trend towards a new period of larger-scale renewable energy investment in Asia, a growing market beyond the relative maturity of Europe, which dominates current renewables investment.



Recommendations for guidance development

Based on the findings from this report's survey and an assessment of the needs and opportunities for future development of the sustainable blue economy, a number of recommendations for the development of sector-specific guidance, which build on the Sustainable Blue Economy Finance Principles, have emerged.¹⁵

- 1. Wherever possible, leverage existing guidance, standards and best practice for sustainability at the sectoral level.** For several of the sectors covered in this report, substantial efforts have been made to codify best practice for sustainability with considerable uptake by industry. For example, the Global Sustainable Tourism Council (GSTC) standards and Poseidon Principles for maritime transportation have parameterised sustainability on a number of key topics already. While the guidance to be developed for the sustainable blue economy will be targeted towards financial institutions rather than sector-specific businesses, there nevertheless exist legitimate benchmarks for best practice which, wherever possible, guidance should refer back to or take into account.
- 2. Complement and expand, rather than duplicate, existing and planned guidance directed towards financial institutions.** In addition to sector-specific sustainability guidance, this report illustrates that there are a number of existing and planned initiatives for sustainability guidance directed towards financial institutions, though generally not specifically focused on the blue economy. Nevertheless, guidance should aim to complement these existing resources, in particular the Taskforce on Climate-related Financial Disclosures (TCFD)'s work on climate-related risks, and wherever possible endeavour to ensure compatibility with forthcoming key resources such as the EU Taxonomy and Taskforce on Nature-related Financial Disclosures (TNFD).
- 3. Guidance should be applicable across financial instruments as well as to a wide range of financial institutions.** As evidenced by the survey results, financing for the sustainable blue economy operates through a variety of instruments. Guidance to direct financing towards the SBE should therefore be flexible enough to accommodate this variety of financial instruments as well as the range of capital providers.
- 4. Guidance should be applicable across a broad range of regional circumstances.** The conditions and contexts that the development of different sectors face will vary significantly by the market within which they operate—some of these will be particularly advanced in comparison to others, both in the maturity of the sector itself as well as the maturity of applicable sustainability regulations and benchmarks. The created guidance should be universal in its application, yet able to earmark where geographic/market-specific distinctions in approach and best practice are relevant for financial institutions to consider.
- 5. Include financial institutions and other stakeholders in the development and refinement of the guidance.** It is clear from the insights gained through the survey that financial institutions can offer valuable perspectives and data into the state of the sustainable blue economy market and their understanding of its risks and trends. In order to ensure broad buy-in and adoption of the SBE guidance by financial institutions, it will be crucial to include their perspectives and review of the guidance from the outset to create a resource that is helpful and practical.

¹⁵ Note that these recommendations are based on the insights gained from the results of the survey, which does not in itself present a complete picture of the considerations to be taken into account in designing sector-specific guidance.



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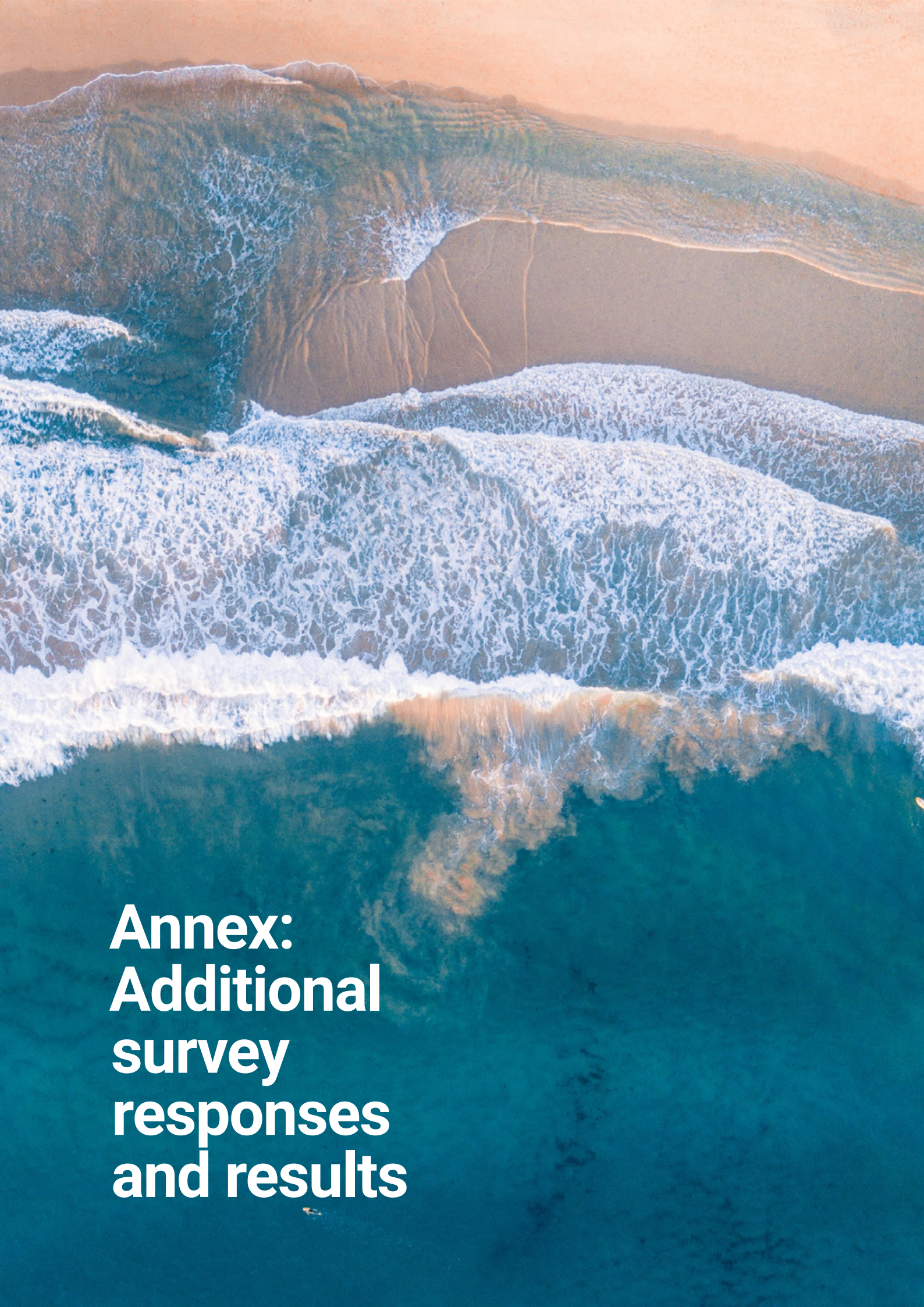
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An aerial photograph of a coastline. In the foreground, dark blue water meets a white, foamy wave line. Behind the wave, a rugged, rocky shoreline is visible, with waves crashing against it. The background shows a calm sea meeting a hazy, orange-tinted sky. The overall scene is dramatic and captures the power of the ocean.

Annex: Additional survey responses and results

Across the institutional respondents to the survey, the roles occupied by individuals varied considerably (Figure 25). While environmental, social and governance (ESG) teams and roles were well represented, a broad range of actors engaged with and responded to the survey – suggesting the level of interest in the blue economy expands beyond traditional ESG or thematic roles, featuring in risk and portfolio management, analysis and client relations. Other responses included C-suite and managing director level roles, as well as marketing and research executives.

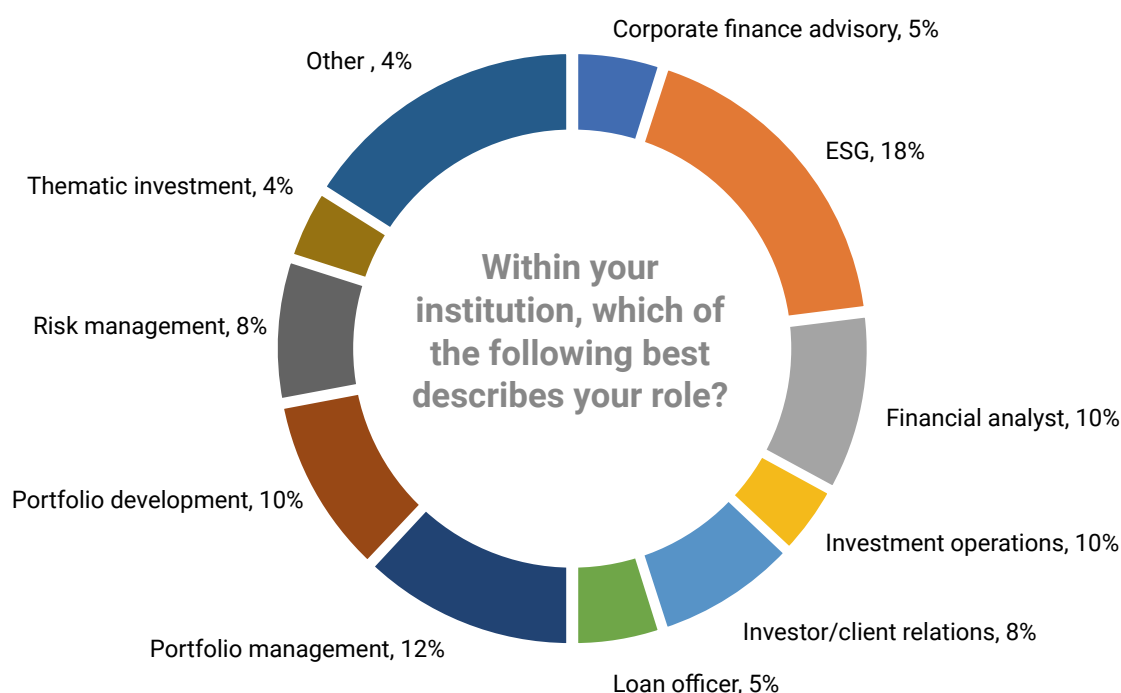


Figure 25: Within your institution, which of the following best describes your role?

Total number of respondents: 77

Overall, the roles played by different institutions are broadly the same across sectors – at least 70% of financing comes from asset managers, asset owners and commercial and/or investment banks, with the remainder from corporate finance, development banks and insurers at varying levels (Figure 26).

Roles played by different institutions broadly the same across sectors

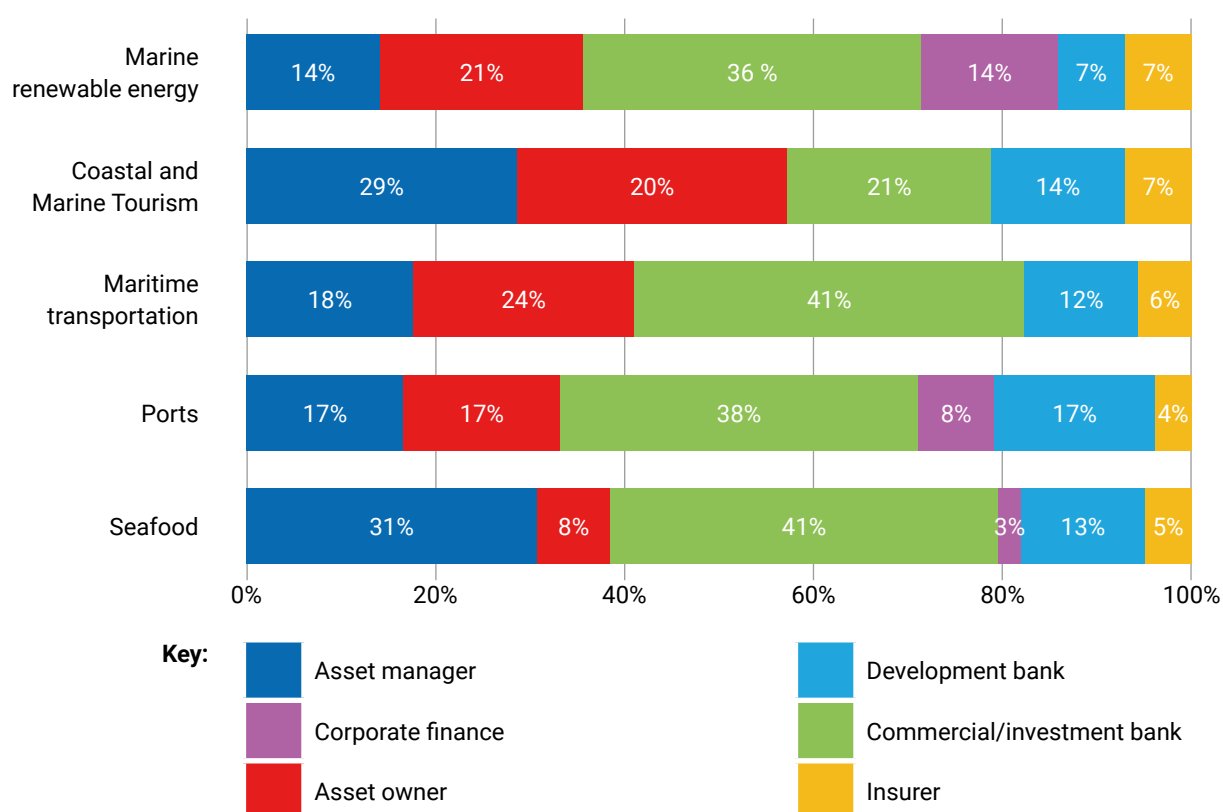


Figure 26: Different sectors are financed by different institutions.

It should be noted that due to the relatively small sample size of the survey (74 total respondents, tapering down in each subsequent sector), it is difficult to draw concrete conclusions on variations in the roles played at the institutional level between sectors. However, at the instrument level it is more readily apparent that marked differences exist in how sectors are financed, with respondents indicating the use of a broad range and variety of financing instruments across the five sectors covered (Figure 7, main report).

Seafood

Within seafood, most financing was provided as working capital loans, project bonds and corporate financing, with green- and blue-labelled bonds also featuring prominently despite being a less common instrument in blue economy financing overall (Figure 27).

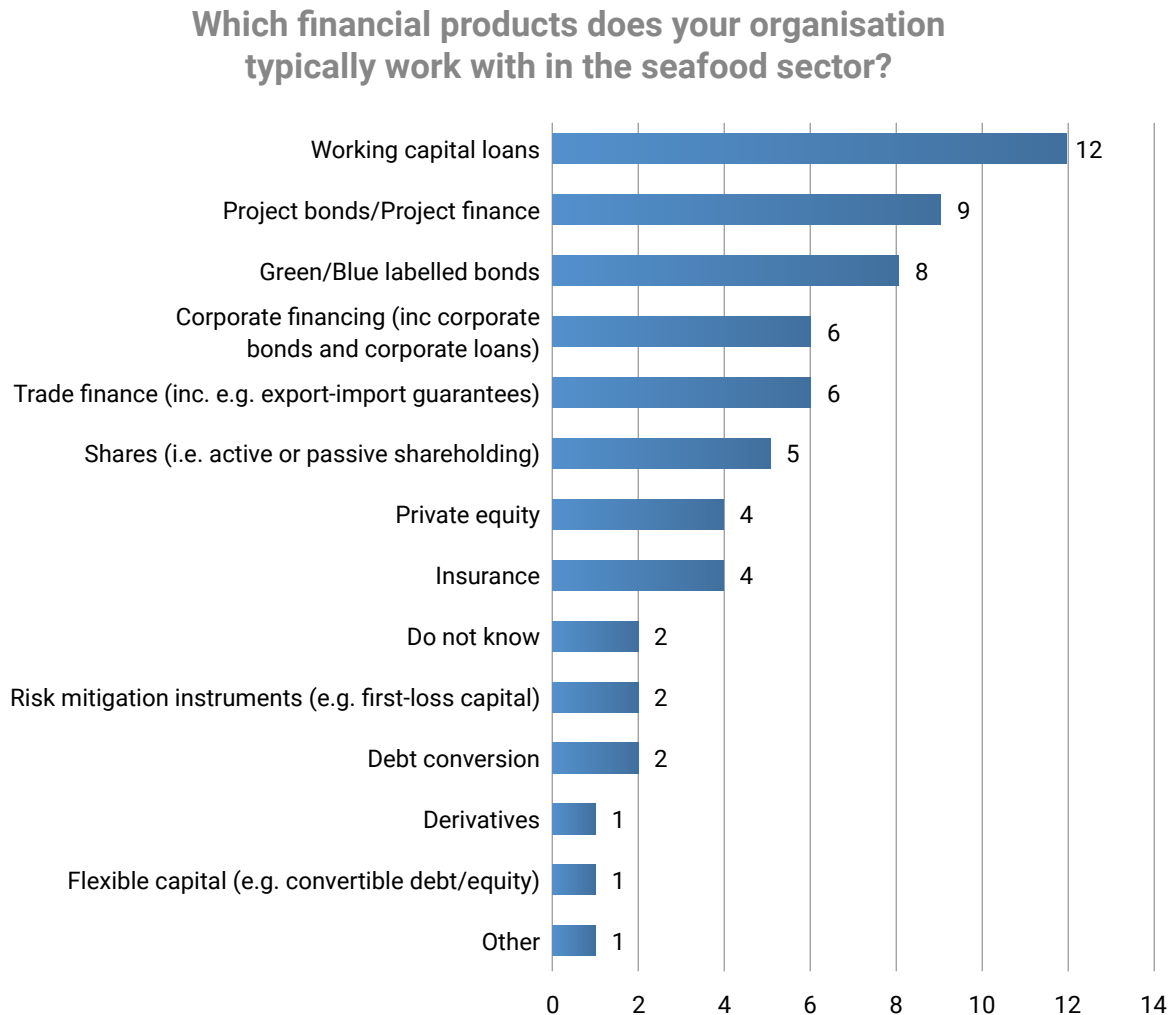


Figure 27: Which financial products does your organisation typically work within the seafood sector?

Ports

Perhaps unsurprisingly given their established roles in the global economy, ports are financed through traditional means – notably corporate financing, working capital loans, private equity and project bonds (Figure 28).

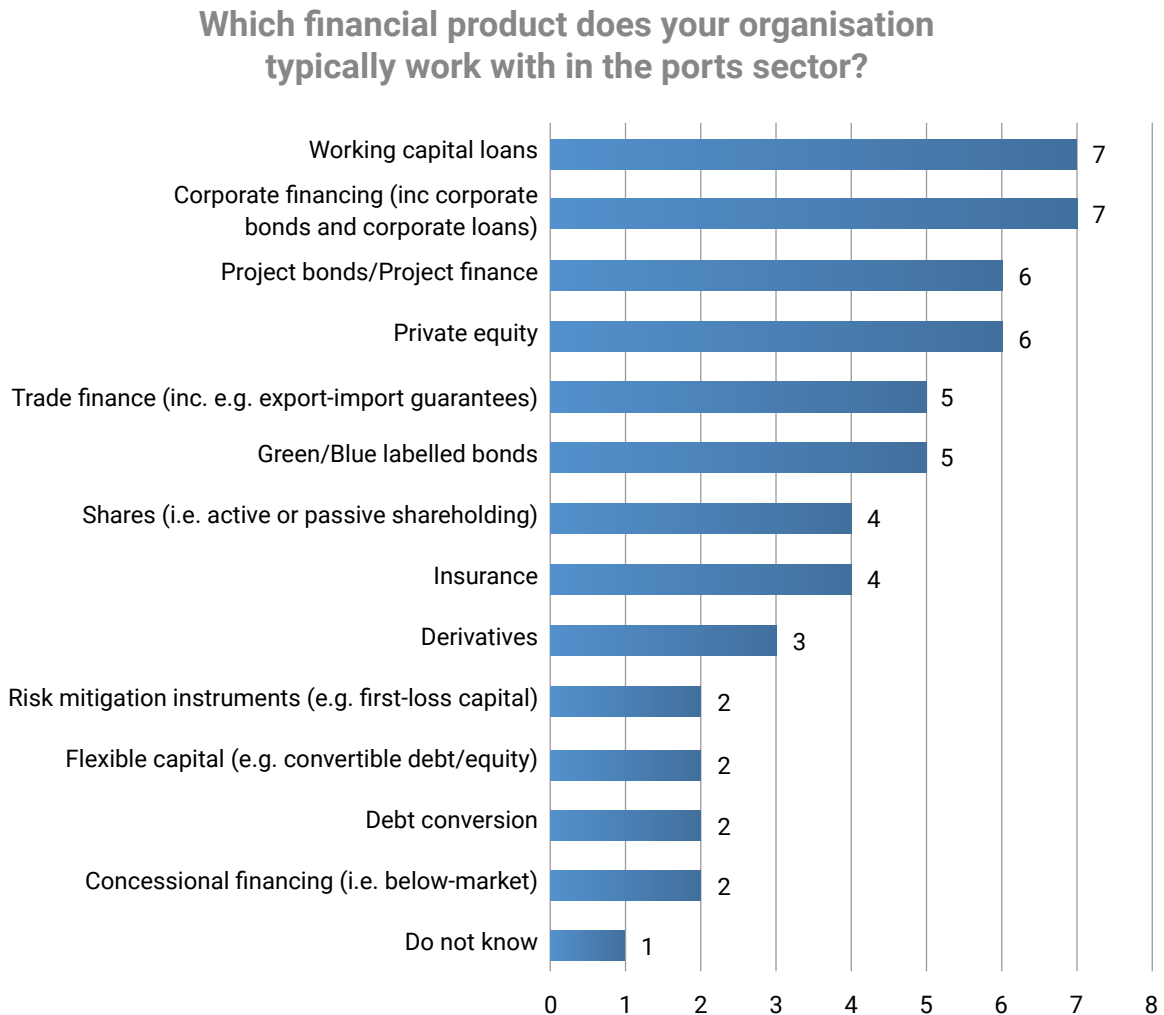


Figure 28: Which financial products does your organisation typically work with in the ports sector?

Maritime transportation

More than half of the respondents on financial instruments for maritime transportation reported using corporate financing (including corporate bonds) in this sector, though working capital loans and shares also feature prominently (Figure 29).

Most common financial instruments in maritime transportation sector

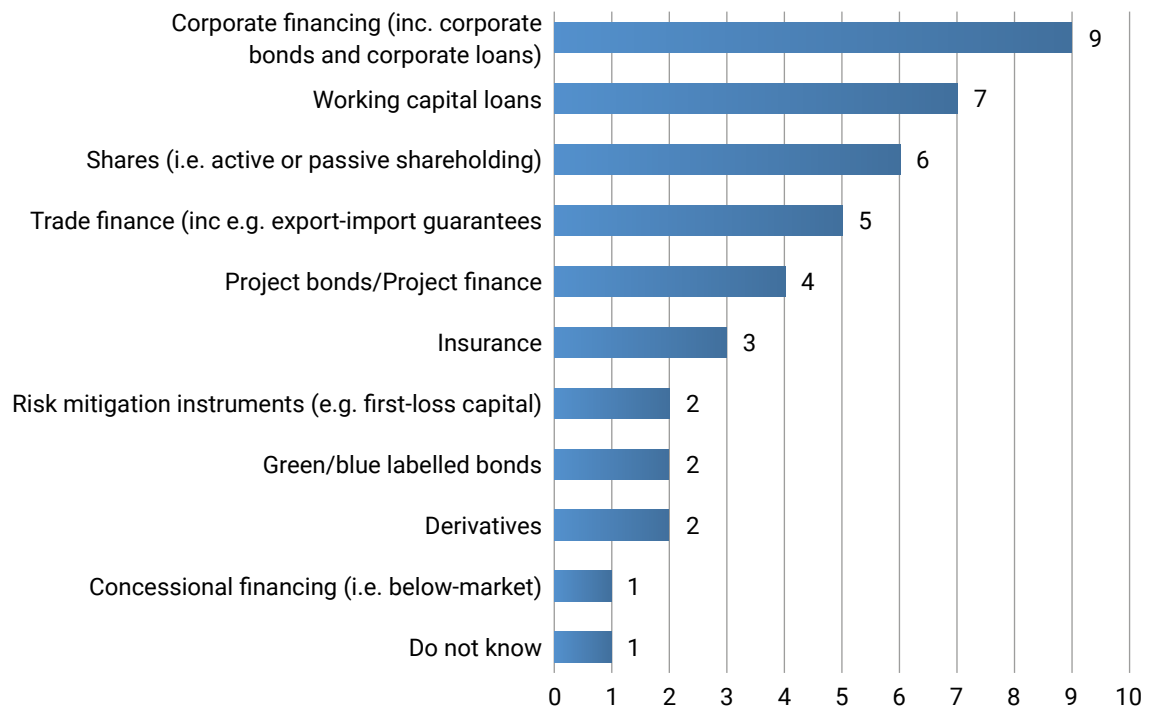


Figure 29: Which financial products does your organisation typically work with in the maritime transportation sector?

Coastal and marine tourism

Tourism, on the basis of survey results, appears to be primarily financed by shares, working capital loans and corporate financing (Figure 30), though the variance between the responses is very low as a result of a very limited sample size – it is therefore difficult to infer a conclusive trend about the nature of tourism financing.

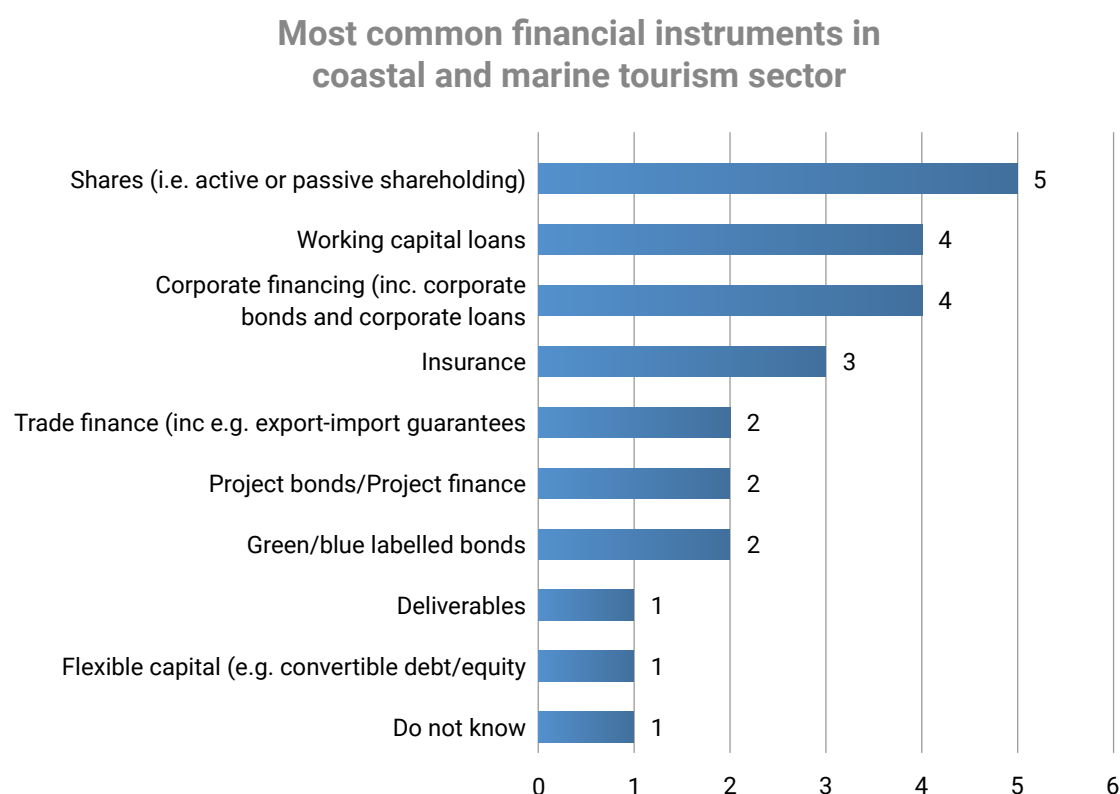


Figure 30: Most common financial instruments in coastal and marine tourism sector.

Marine renewable energy

As this sector is relatively young in comparison to the other more established sectors of the blue economy featured in the survey and covers a breadth of technologies, it is unsurprising that there is a greater range of financing instruments deployed for renewable energy.

While corporate finance still features strongly alongside shares, offshore renewable energy, especially offshore wind, is particularly reliant on project finance, an indication of the large scale of investment required and the limited number of developers able to finance the high capital requirements of offshore wind farms on their own balance sheets through corporate finance (WindEurope, 2019).

Though limited by sample size, this trend is reflected in the survey results, with project finance among the most commonly reported instruments by respondents (Figure 31). Green- and blue-labelled bonds also feature more prominently here, reflecting the wider trend for green bond issuances for renewable energy investment. (In 2018, more than half of green bond proceeds were earmarked for energy projects [Climate Bonds Initiative, 2018]).

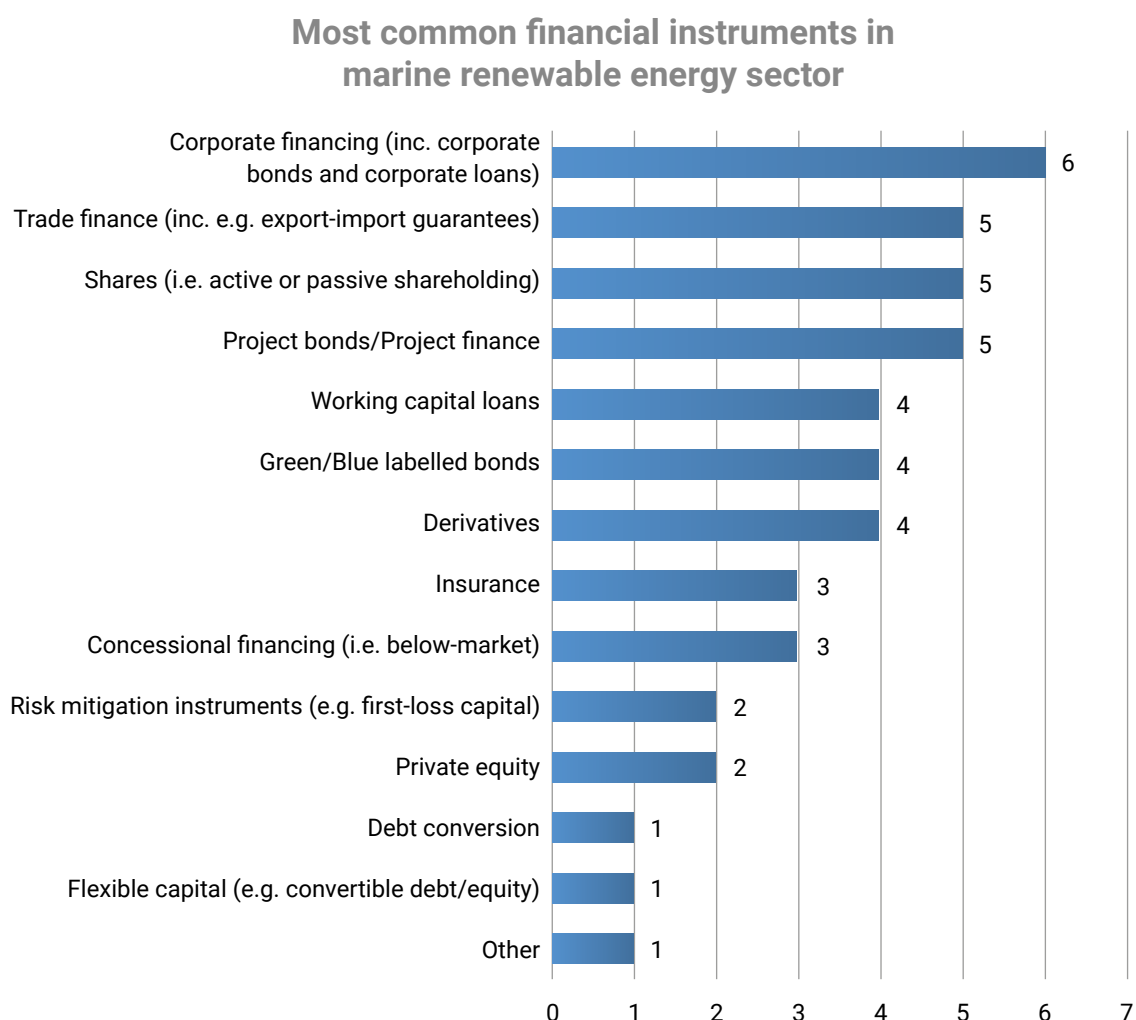


Figure 31: Which financial products does your organisation typically work with in the marine renewable energy sector?



Sustainable
Blue Economy

United Nations Environment Programme Finance Initiative (UNEP FI) is a partnership between UNEP and the global financial sector to mobilize private sector finance for sustainable development. UNEP FI works with more than 350 members—banks, insurers, and investors—and over 100 supporting institutions— to help create a financial sector that serves people and planet while delivering positive impacts. We aim to inspire, inform and enable financial institutions to improve people's quality of life without compromising that of future generations. By leveraging the UN's role, UNEP FI accelerates sustainable finance.

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