THE OCEAN IMPACT NAVIGATOR

A NEW IMPACT MEASUREMENT FRAMEWORK FOR THE OCEAN INNOVATION ECOSYSTEM

1000 OCEAN STARTUPS

report prepared by

SYSTEMIQ

IN SUPPORT OF THIS INITIATIVE

"The 1000 Ocean Startups is now taking the Ocean Panel's action agenda one important step forward. As the Panel's co-chair, I am truly excited about the collective efforts behind the development of the Navigator as a tool for tracking impact. This is a brilliant example of how collaboration can accelerate positive action for ocean health and mobilise capital towards the ocean space. The health of the ocean is at stake and we have to take impactful actions now."

Jonas Gahr Støre
Prime Minister of Norway and Co-Chair of the High-level Panel for a Sustainable Ocean Economy

"Good science is fundamental to ensuring we sustain the healthy ocean we all want, and reliable measurement is essential for good science. Measurement of many of the ocean's indicators demonstrate its health is in decline, leading us to plan the measures we need to reverse that decline.

To invest in these measures, the public and private sector need to know that their interventions are beneficial for the sustainable ocean economy. It is therefore heartening to learn that ocean start-ups and ocean-positive investors will now have that guidance through the Ocean Impact Navigator."

Peter Thomson
United Nations Secretary General's Special Envoy for the Ocean

"Accelerating investment in the ocean is critical for people and planet. As Co-Chair of the Advisory Network of the High Level Panel for a Sustainable Ocean Economy, I am delighted to see collaboration between science, finance and entrepreneurship to unlock capital and innovation for the blue economy. I welcome the Ocean Impact Navigator as a new tool to help track and report the impact of ocean investment."

Maria Damanaki
Co-chair of the advisory network of the High-Level Panel for Oceans and Former EU Commissioner for Maritime Affairs and Fisheries

"Ocean health is critical to planetary health, and by extension to the ability of every one of us to live and thrive. But we need solid data, insights and collaboration at every level to ensure we are managing and investing in the ocean in the most impactful and sustainable way possible. The Ocean Impact Navigator is a critical tool to help us do just that – and especially to support all those across the exciting ocean innovation scene to invest or build businesses in a way that brings lasting positive impact for our blue planet."

Kristian Teleki
Director of Friends of Ocean Action

"As the Ocean Decade continues to gain momentum, there is a growing awareness of the importance of ocean science, data and knowledge in building a sustainable ocean economy. There is also increasing recognition that initiatives to bridge the gap between ocean science and the private sector are needed to mobilise capital and accelerate positive action for ocean health. I therefore welcome this collaborative effort to develop the Ocean Impact Navigator, which can be a crucial resource to support innovators and investors in making informed and data-driven decisions to help deliver the ocean we need for the future we want."

Julian Barbière
Head of Marine Policy and Regional Coordination Section, Intergovernmental Oceanographic Commission of UNESCO

ACKNOWLEDGEMENTS

This report was developed by 1000 Ocean Startups and prepared by SYSTEMIQ, with the generous support of Builders Vision, SWEN Capital Partners and the GEOS UN Decade Program.

About 1000 Ocean Startups

1000 Ocean Startups is a coalition to accelerate Ocean Impact Innovation. Launched in 2021, the coalition brings together the global ecosystem of incubators, accelerators, competitions, matching platforms and VCs supporting start-ups for ocean impact. Its objective is to scale at least 1000 transformative start-ups by the end of the Ocean Decade to restore ocean health and achieve SDG14. As the coalition works to achieve its mission, it responds to the transformations recommended by the Ocean Panel. The coalition is a founding member and Implementation Partner of the GEOS UN Decade Program.

About Builders Vision

Builders Vision (BV) is an impact platform that supports people and organizations dedicated to building a more humane and healthy planet. Promoting sustainably managed and healthy ocean ecosystems is a central area of focus in addition to food and agriculture and climate and energy. BV provides a diverse set of tools including grants and impact investments to drive impact and ensure our oceans are resilient and balanced, contribute to climate resilience and emissions reductions, and support food and nutritional security.

About SWEN Capital Partners and Blue Ocean

SWEN Capital Partners is a leading European asset manager dedicated to sustainable investment in private markets, with about EUR 6.7bn of AUM. Blue Ocean is SWEN's venture capital fund investing in innovations that help regenerate ocean health. The team backs startups that deliver both systemic impact and competitive market returns. Priorities include solutions to overfishing, ocean pollution and climate change. Blue Ocean has a scientific partnership with Ifremer. In addition, SWEN Blue Ocean aims to contribute to the development of the ocean impact innovation ecosystem, including initiatives such as the Ocean Impact Navigator.

About GEOS

The Ocean Impact Navigator is a contribution to the United Nations Ocean Decade Global Ecosystem for Ocean Solutions (GEOS) Programme and the GEOS Project "*Measuring the Impact of Ocean Innovations*". By bringing together a multi-sector community of researchers, innovators and investors, the GEOS Programme aims at developing and deploying a series of equitable, durable and scalable ocean-based solutions for addressing the climate change and Ocean Decade's challenges.

About SYSTEMIQ

SYSTEMIQ was set up in 2016 to drive and accelerate the implementation of the Paris Agreement and the UN Sustainable Development Goals (SDGs) by transforming markets and business models in four key economic systems: (1) energy and infrastructure, (2) food and land use, (3) resources and material solutions, and (4) sustainable finance. It does this by advising industry leaders, influencing policy through research and deep stakeholder engagement, incubating disruptive business opportunities, and helping to mobilise large scale capital across these systems to drive transformational change.

Developing this report

This report was authored by Adrien Vincent, Jennifer Ring and Katherine Stodulka (SYSTEMIQ); and Jacques Juenet (Meta Partners). It was developed with the guidance of the 1000 Ocean Startups Impact Working Group: Builders Vision, S2G, Conservation International Ventures, GEOS, Katapult Ocean, Ocean Hub Africa, Sea Ahead, and SWEN Capital Partners.

We would also like to gratefully acknowledge the contributions provided by individuals from: Althelia Sustainable Ocean Fund, BlueInvest, Monaco Ocean Protection Challenge, Ocean Innovation Challenge (UNDP), Schmidt Marine Technology Partners, Sustainable Ocean Alliance, Ocean Impact Organization, and UpLink. Nevertheless, the views provided represent the personal views of the individuals consulted, not those of the institutions listed above.

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FOREWORD

In February 1990, the Voyager 1 space probe took a photograph of Earth from approximately 6 billion kilometres away. Now famous, the photograph, Pale Blue Dot, shows the planet we collectively call home as little more than a speck in a vast universe. This image eloquently conveys a fundamental, if at times neglected, truth: that the Earth is indeed a blue planet. Encompassing more than two-thirds of the Earth's surface, the ocean creates the conditions on which life - both above and below the waves - depends. It plays an indispensable role in human health and wellbeing, providing oxygen, a liveable climate, food, and livelihoods, sustaining cultures, and supporting the global and local economies.

As ocean investors, philanthropies, incubators, accelerators, competitions and matching platforms, we are keenly aware of the ocean's critical contribution to sustaining human and planetary vitality. We are also, however, witnesses to the continued degradation of the ocean's heath and the acute threats to the vital ecosystem services it provides. For this reason, each of us is working to mobilise capital and dedicate resources to develop and scale a new generation of mission-driven innovators, who are creating technology solutions and business models to drive positive impact for our ocean. It is also why we have come together as the 1000 Ocean Startups coalition – as we believe that the systemic threats to the ocean can be addressed only through meaningful collaboration.

In the course of our work together, we have identified key enablers that will allow us to unlock the positive ocean impact that is at the heart of each of our respective missions. Central to these enablers is the need for a clear and shared methodology for impact measurement and management, one that will allow all investors in ocean innovations to monitor, coordinate, communicate and ultimately enhance impact – both individually and together. Such a methodology offers immense promise. It can help illuminate and accelerate investors' impact, provide crucial inputs to strategic decision-making, and simultaneously streamline monitoring and measurement requirements for start-ups. This report has been written, in partnership with SYSTEMIQ, to advance a framework that is part of the solution for realising this promise.

The publication of this report is just the first step. It outlines a proposed framework, and details the theory behind the approach. In the coming months, with your input, we will move from theory to practice, working to refine and mainstream the framework. Ultimately, we intend to develop an open-source impact measurement tool available to anyone engaged in ocean innovation and impact. As a living resource, we intend for this tool to evolve, reflecting learnings from both science and implementation. We hope you will join us on this journey.

The1000 Ocean Startups Impact Working Group: Builders Vision, S2G, Conservation International Ventures, GEOS, Katapult Ocean, Ocean Hub Africa, Sea Ahead, and SWEN Capital Partners.

EXECUTIVE SUMMARY

Creating positive impact for the ocean has never been more urgent. Measuring this impact, however, remains a critical challenge. To support innovators, their investors, and backers in charting these turbulent waters, this report presents the Ocean Impact Navigator, a new KPI impact framework for the Ocean Innovation Ecosystem.

Ocean health is in peril. Multiple compounding stressors, including habitat destruction, overfishing, invasive species, pollution, and climate change, pose an existential threat to marine ecosystems and the crucial services they provide. These stressors and their cascading systemic impacts, combined with historic underinvestment in regenerative and nature-positive ocean sectors, are ushering in grave consequences for the 3 billion people worldwide who consume nutritious blue food, for coastal communities at risk of flooding, and for all those whose livelihoods and well-being relies on the ocean.

Despite this bleak outlook, hope remains. The ocean holds astonishing potential for regeneration and, crucially, offers solutions that can address not only the threats it faces, but also the world's broader climatic, biodiversity and social challenges. Capitalising on this potential, new start-ups and innovators are emerging, offering solutions to regenerate ocean health and catalyse the transition to a Sustainable Ocean Economy that unites effective ocean protection, sustainable production, and equitable prosperity. These innovations span a range of interrelated sectors – across food production, energy, biotech, data, transport, tourism, and solutions to pollution – that can drive systemic transformation in the blue economy. In parallel, new private and public capital is being mobilised for investment in the ocean, and incubators, accelerators, competitions, and matching platforms provide innovators with crucial backing and support. Together, these players make up the Ocean Impact Innovation (OII) ecosystem, largely encompassed by the 1000 Ocean Startups coalition.

The crucial work undertaken by the OII ecosystem offers a beacon of hope, not only for regenerating ocean health but also for addressing climate change and driving positive socio-economic outcomes for communities in coastal areas and beyond. Measuring this positive impact, however, remains a crucial challenge. Interviews with diverse players in the space reveal that approaches to impact measurement are fragmented and at varying degrees of maturity. Analysis of the existing universe of impact frameworks and approaches also shows that leading initiatives are rarely suited to evaluating the impact of smaller and innovative ocean impact players, or do not offer clear direction for adopting specific impact key performance indicators (KPIs). As such, today, there is no off-the-shelf solution that innovators or investors can adopt to measure ocean impact. This challenge is material: to track, demonstrate and mobilise capital for a sustainable ocean economy, and inform individual and collective strategies, it is vital to have a consistent and effective impact KPI framework that can be used by innovators, their investors, and backers.

The Ocean Impact Navigator has been developed to address this urgent need. Consisting of 30 prioritised KPIs, grouped in six main impact areas, the Navigator captures the impacts that innovators are driving across ocean health, climate change, and human wellbeing and equity. In providing a generalisable framework to support players in the OII ecosystem to consistently and effectively measure their impact, the Navigator makes three main contributions. First, it can help investors identify the most impactful interventions for the ocean – providing a crucial strategic resource, given the blue economy remains under-invested and capital scarce. Second, through supporting harmonised measurement across users, it will enable the aggregation of impact data, creating visibility, synergies, and supporting effective decision-making, transparency and communication on shared progress towards a sustainable ocean economy. Third, it can streamline and simplify impact measurement requirements for start-ups.

To that end, the Navigator is designed as a highly practical tool, and is accompanied in this report by case studies based on its application to real start-ups. In the future, the Impact Navigator will be developed as an online tool in which users can record their results in a shared platform. The tool will be complemented by a detailed technical annex outlining methodologies, references, and examples for each of the proposed KPIs, and an overarching governance structure to support continued use, improvement, and evolution of the framework into the future.

CHAPTER 1

OCEAN HEALTH: A CALL TO ACTION

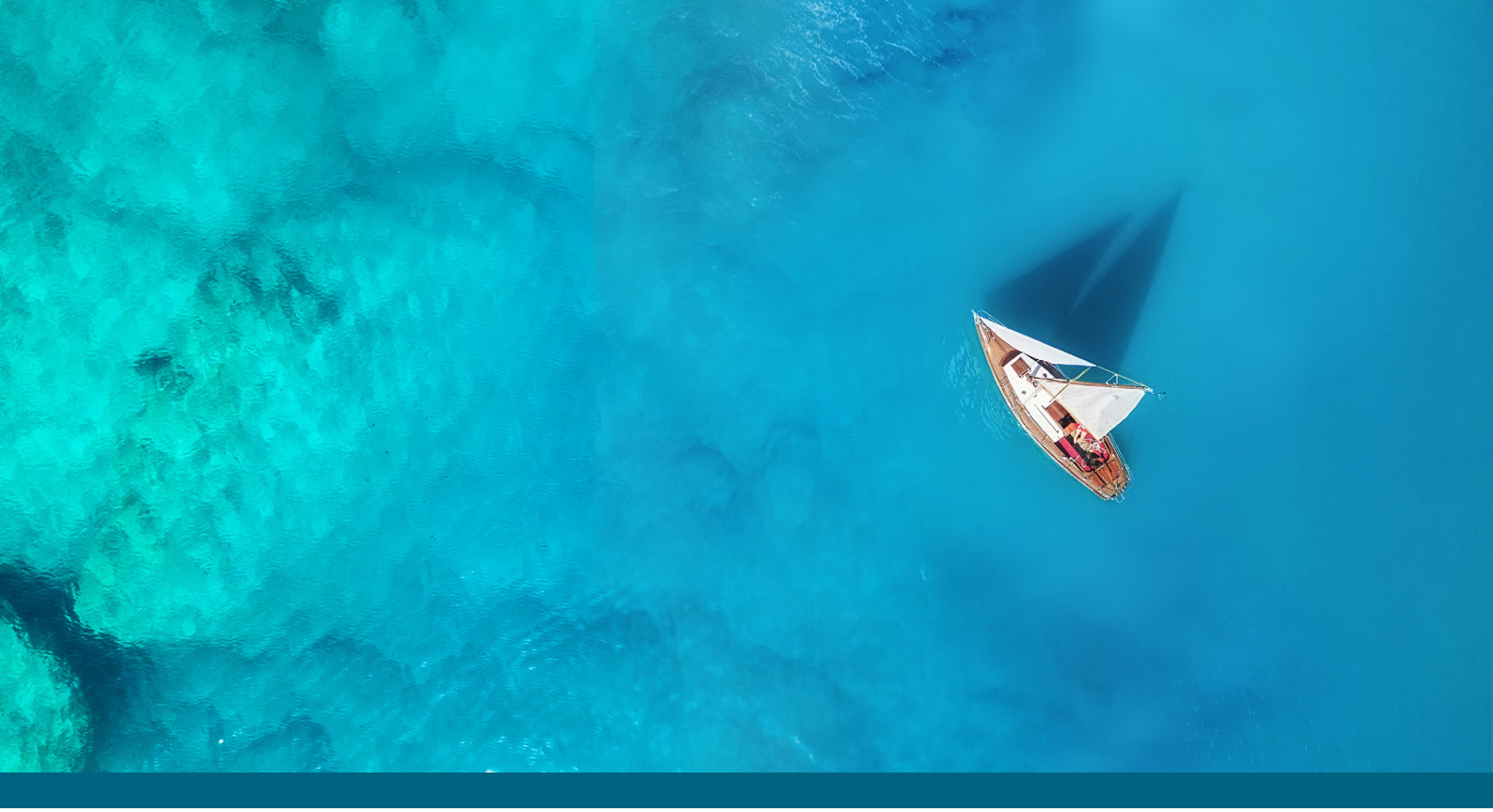
Encompassing more than 70% of the world's surface, the ocean is vital to the well-being of our planet and its people. Today, however, it is under threat, risking devastating consequences for both the human and more-than-human world.

1.1 OCEAN HEALTH IS HUMAN HEALTH

In our warming, globalised, and rapidly changing world, Covid-19 has crystallised the precarity of our collective health and well-being in an unprecedented way. The pandemic powerfully demonstrated a phenomenon of which scientists had previously warned: that the encroachment of humans into wild places, and the ensuing loss of biodiversity, directly increases the risks of outbreaks of novel diseases (Tollefson, 2020). It also, however, illustrated the speed and conviction with which governments and businesses can act when confronted with an urgent and global crisis in human health.

The ocean health crisis is, amongst other things, a crisis of human health. Wherever we call home, be it near or far from the shore, we are all inextricably bound up with the ocean and its fate. It sustains the fundamental conditions on which our lives depend: the oxygen we breathe, the climatic conditions that allow us to survive and thrive, the food we eat, the cultures and spirituality that shape and sustain our psychological well-being, and the economy on which we rely. All too often, these crucial benefits are overlooked, but what is now required of policymakers, the public sector, and the private sector is a corresponding level of commitment, urgency and financing to sustain and regenerate ocean health. There can be no healthy planet without a healthy ocean.

The ocean plays a critical role in creating the basic atmospheric and climatic conditions that support life on earth. While terrestrial forests have often been conceived of as the Earth's lungs, the ocean plays an even more significant role in



producing oxygen. Over half of it is generated by the ocean, predominantly by phytoplankton close to the surface (National Oceanic and Atmospheric Administration, n.d.). A thriving and resilient ocean is also key to regulating our climate and crucially tempers the effects of climate change. The ocean has absorbed 30% of anthropogenic CO_2 emissions and 93% of the excess heat from anthropogenic warming (IPCC, 2013). Moreover, marine ecosystems represent a larger and far more effective carbon sink than their terrestrial counterparts. Mangrove forests, for instance, sequester 3-4 times as much carbon as terrestrial forests, and a single mature whale can sequester more carbon over its lifetime than 30,000 trees (Drew *et al.*, 2020; Sala *et al.*, 2021). All efforts to keep climate change below 1.5°C, and to maintain the planetary conditions on which our health depends, must ensure ocean health, or else fail.

The ocean also offers diverse ecosystem services that contribute directly to human health and wellbeing. Chief among these are the ocean's provisioning services, which have a central role in resolving the challenge of sustainably feeding the world's population. Today, the ocean provides more than 3 billion people with nutritious food, approximately 1 billion of whom rely on fish as their primary source of animal protein (Stuchtey *et al.*, 2020). Crucially, food from our ocean typically requires a much smaller environmental footprint than land-based food production, including deforestation, freshwater consumption and greenhouse gas emissions (Stuchtey *et al.*, 2020). As the world's population grows towards a projected 10 billion people by 2050, the importance of the ocean's role in sustainably feeding the planet will only increase.

Healthy marine habitats not only help feed coastal communities – they defend them. Intact coral reefs, kelp forests and mangroves reduce wave energy, protecting hundreds of millions of people and their property from erosion, storm damage and flooding – the frequency and intensity of which continue to increase due to climate change. Coral reefs alone protect an estimated 150,000km of shoreline in more than 100 countries and territories, reducing annual expected damages from storms by over $4 billion (Beck *et al.*, 2018).

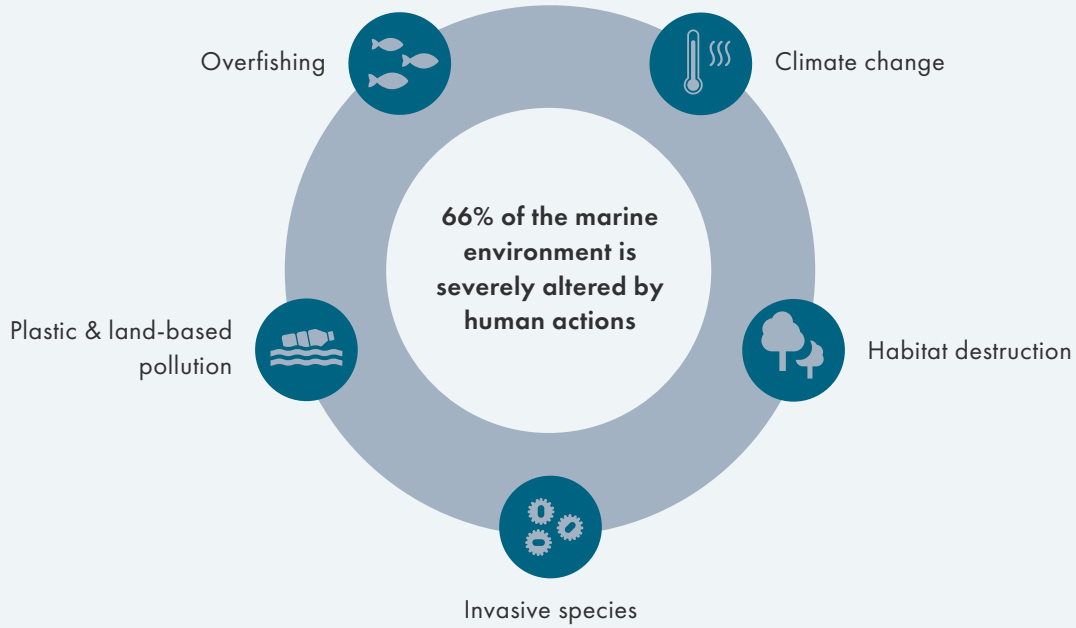
Not all the ocean's contribution to human health and wellbeing can be quantified, but it is nevertheless of immense value. The ocean is at the heart of culture and spirituality for many coastal dwellers, and its astonishing beauty a source of inspiration for millions of others who encounter it. Moreover, much of what the ocean holds is still unknown but offers enormous potential. Among the astonishing biodiversity of the ocean, medical cures likely exist as yet undiscovered. Coral reefs, for instance, have been identified as sources for new medicines to treat a variety of illnesses, including cancer, arthritis, Alzheimer's and heart disease, with discoveries continuing to emerge (Drew *et al.*, 2020). Less is known about the deep sea than about space, yet its largely unexplored depths may contain more biodiversity than the entire terrestrial world combined – with applications not yet imagined.

Finally, the ocean plays an indispensable role in the economy at both the global and local scales. Globally, the blue economy is worth more than $1.5 trillion (USD) and supports hundreds of millions of jobs in sectors including fishing, mariculture, shipping, tourism and energy (Stuchtey *et al.*, 2020). Crucially, the overwhelming majority of people whose livelihoods depend on the ocean are in developing countries; the ocean helps to sustain some of the world's most vulnerable people and communities. Many women, in particular, rely on the ocean economy for their livelihoods: 60% of vendors and mongers, 85% of fisheries processors, and 70% of employees in the aquaculture processing sector are women (WWF, 2019).

Multiple stressors are threatening ocean health

The centrality of the ocean in sustaining the vitality of our planet cannot be overstated. However, today, the ocean is under threat from multiple interacting stressors (Figure 1).

Figure 1: Five main threats to ocean health from human activities



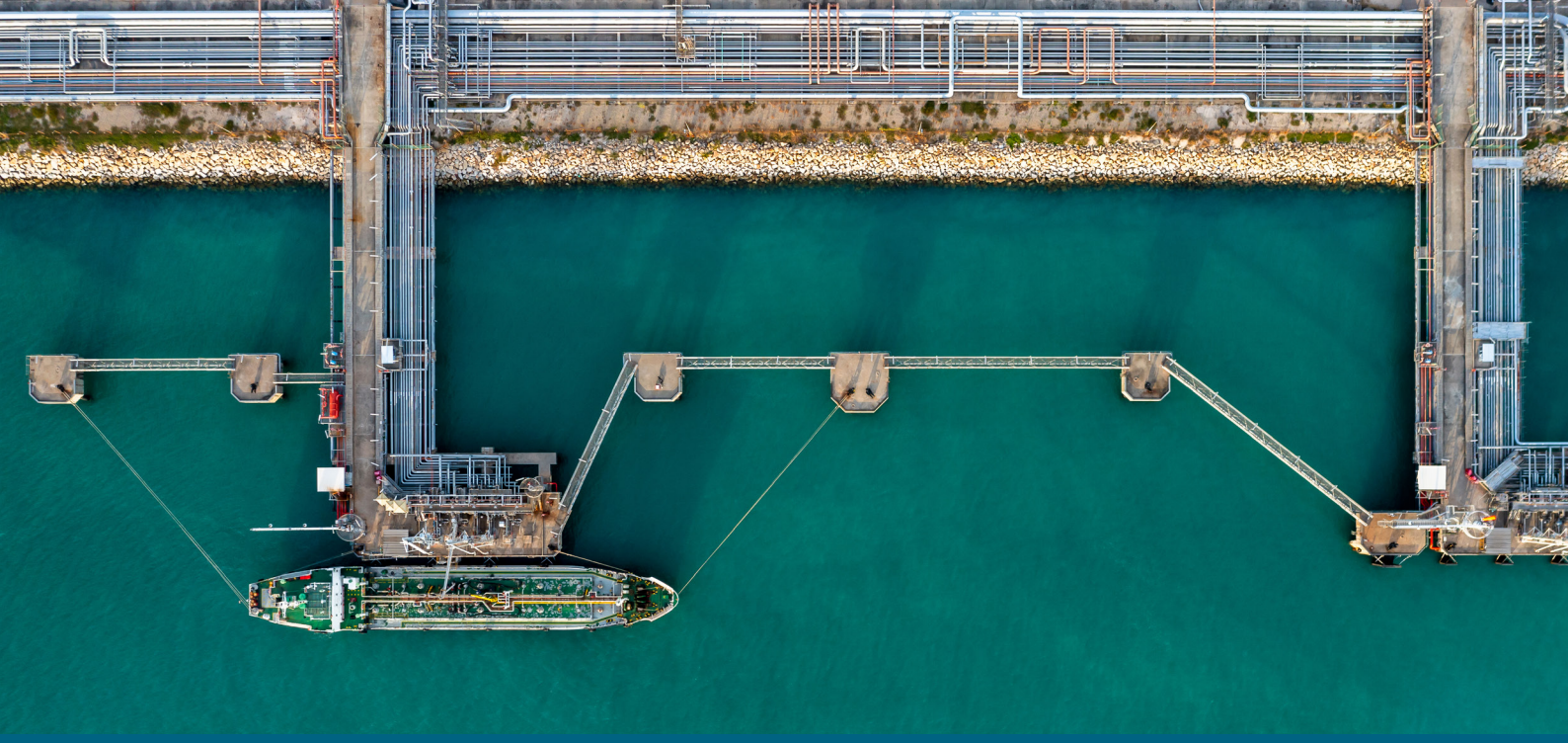
Source: IPBES, 2019

- **Climate Change:** Accelerating climate change is driving multiple changes in the ocean's biophysical state, threatening radical degradation in ocean health on a global scale. As the world has warmed, sea surface temperatures have increased, rising by 0.7°C since 1900. This trend is accelerating: since 1993, the rate of ocean warming has more than doubled. A warmer ocean threatens all marine ecosystems, but the threat is most pronounced for sensitive biomes like coral reefs, 99% of which will be lost at 2°C of warming, imperilling the 25% of marine life that depends upon them. Absorption of CO_2 from the atmosphere is driving ocean acidification – with a 26% rise in acidity since the Industrial Revolution (UNESCO, 2018). In parallel, deoxygenation of the ocean and a rise in global mean sea level have already been observed and are projected to accelerate (IPCC, 2019).

Beyond the global threat posed by climate change, localised pressures are also driving degradation of marine ecosystems.

- **Overfishing:** Unsustainable subsidies for industrial fishing, and destructive fishing techniques including trawling, blast and dynamite fishing, bycatch, and illegal, unreported and unregulated fishing (IUU), are pushing fish stocks to perilously low levels. In 2020, 34.2% of global fisheries were overfished, with severe repercussions for the health of marine ecosystems, their productivity, and the ocean's overall ability to carry out its crucial role in climate regulation (FAO, 2020).

- **Pollution:** Plastic is among the most widely known and concerning pollutants contaminating our ocean. An estimated 9 - 14 million tonnes leaks into the ocean each year, with severe impacts for marine species including from ingestion, suffocation and entanglement (IUCN). Microplastics are also vectors for toxins and disease that threaten marine ecosystems (Viršek *et al.*, 2017; Amelia *et al.*, 2021). While 80% of ocean plastic waste originates on land, between 500,000 and 1 million tonnes of plastic fishing nets are lost or abandoned every year, costing the lives of hundreds of thousands of marine animals, including whales, dolphins, seals and turtles (WWF, 2020). However, while plastic is perhaps the most visible source of ocean pollution, it is far from the only one. The ocean is under threat from a range of other contaminants unleashed by human activities. These include nutrient pollution from agricultural runoff and sewer, septic, and untreated wastewater. From wastewater alone, an estimated 6.2 million tonnes of nitrogen is discharged into the ocean every year, contributing to eutrophication and its attendant risks of algal blooms and de-oxygenation (Tuholske *et al.*, 2021). Other pollutants include antibiotics, heavy metals and industrial chemicals.



- **Invasive species:** The introduction of invasive species is an insidious but grave threat to ocean health. Through predation and out-competition for space and resources, alien species can precipitate the extinction of native plants and animals, dramatically altering and degrading marine ecosystems. The introduction of invasive species risks repercussions for biodiversity, the productivity of fisheries and mariculture sectors and even threatens human health. Today, the global shipping industry represents the most significant vector for the introduction of invasive species, both through biofouling of ship hulls and ballast water – 10 billion tonnes of which are conveyed around the world every year (GEF-UNDP-IMO, 2017).

- **Habitat destruction:** Marine habitats, particularly those close to population centres, are acutely threatened by human activities. With coastal development, cities, ports, harbours, tourism and industry are increasingly encroaching on marine habitats. In parallel, land conversion for mariculture and agriculture, grey infrastructure for coastal protection, and land reclamation are also directly damaging habitats. Moreover, destabilisation of marine ecosystems by human activities is also driving biological habitat degradation. For instance, where natural urchin predators are forced into decline, urchin barrens can result, due to destructive overgrazing of the urchins on kelp forests. Coastal ecosystems like mangroves, salt marsh and seagrass meadows have been particularly impacted by these diverse impacts, with degradation and loss each year estimated at 0.2%, 1–2% and 7% respectively (Environmental Justice Foundation, 2021).

Alone, any one of these pressures represents a profound threat to the ocean; together, they can prove even more deadly. Multiple stressors compound vulnerabilities in marine habitats and amplify the overall threat, in some cases precipitating dramatic declines and phase shifts in marine ecosystems. The fate of many coral reefs in the Caribbean in the latter half of the 20th century is a case in point. The combination of a sea urchin die-off caused by a novel pathogen, decades of overfishing, pollution from coastal development and deforestation, and warming sea temperatures proved a deadly blow for hard coral cover in the reefs – which declined from 50% in the 1970s to just 10% by the early 2000s, leading to massive algal overgrowth (Lessios, 2016).

1.2 CRITICAL SOCIAL CHALLENGES ARISING FROM THREATS TO OCEAN HEALTH

The threats to ocean health are urgent, and their impact is not confined to life below water. In undermining marine biodiversity and the resilience of ecosystems, these threats jeopardise the ocean's capacity to provide the very ecosystem services on which life above water also depends, with grave social implications.

- **Tackling food insecurity:** By 2050, the world's population is expected to climb to 9 billion. With this growing population comes growing demands on already struggling global food systems. To tackle food insecurity and end hunger, sustainable blue foods will be urgently needed. The ocean has significant potential: it might provide as much as two-thirds of the of the world's future protein needs – projected at 500 million tonnes each year in 2050 (Costello et al., 2020). However, the degradation of marine ecosystems, diminishing species diversity and abundance, and overfishing threaten the ocean's ability to live up to this potential – endangering a crucial component of the solution to the world's growing food insecurity.
- **Intensifying impacts from climate disasters:** As well as entrenching existing fragilities, the growing threat from climate change and its effect on the ocean is driving new vulnerabilities at both the local and global scale. As sea levels rise, so too will the frequency and severity of coastal flooding. By 2100, as many as 630 million people could be at risk of coastal flooding caused by climate change, compared with 250 million today, with land currently home to 190 million people falling permanently below the high tide line – an increase of 80 million people from today (Kulp and Strauss, 2019).

  Not only will coastal flooding threaten more people, it will also occur more often. For Europe, in a low emissions scenario, coastal flooding that previously had a 1% chance of occurring each year is projected to occur at least annually along the Mediterranean and Black Sea coasts, and once a decade on the rest of Europe's coasts. In a high emissions scenario, these 1-in-100-year coastal floods can be expected to occur at least once a year throughout Europe (EEA, 2021).

- **Entrenching existing inequalities:** While declining ocean health will affect all humankind, disadvantaged and underserved communities will shoulder a disproportionate share of the burden. The poor in vulnerable coastal communities, especially those in developing countries, will be most impacted by the loss of livelihoods associated with the degradation of ocean health. Already, in many parts of the world, small-scale artisanal and subsistence fishers are suffering from declining fish stocks, even as industrial fishing fleets continue to operate, profit from, and encroach on coastal fisheries. This has direct knock-on effects for fishing communities – both in terms of the local economy, and growing food insecurity.

  Moreover, the degradation and loss of coastal habitats is increasing vulnerability to climate change for the communities which are already most at risk. As human activities undermine the health and coverage of marine habitats, the natural coastal protection that those habitats provide is in decline, even as the threat from rising seas and extreme weather events grows. Women and girls will suffer most; they are at greatest risk of displacement from climate disasters and are disproportionately impacted by the loss of livelihoods and food insecurity.

- **Increasing cost of inaction:** The overall potential cost to the global economy of declining ocean health is estimated at USD $400 billion a year by 2050 and $2 trillion a year by 2100 (High Level Panel for a Sustainable Ocean Economy, n.d.). Moreover, recent world events - from COVID-19 to the war in Ukraine – have emphasised the vulnerability of all economies, including the world's most prosperous, to local disruption from supply chain shocks, with impacts felt in food shortages, transport disruption and rising energy prices, amongst other effects. A robust and sustainable local blue economy can help mitigate these fragilities – by strengthening local food and clean energy production. Conversely, failure to build resilient blue industries or sustain the healthy ocean they depend on will further entrench the inherent risks to our increasingly globalised and ever more precarious economies.

CHAPTER 2

A RISING TIDE OF CHANGE-MAKERS: THE OCEAN IMPACT INNOVATION (OII) ECOSYSTEM

The outlook for ocean health is critical. There is, however, hope.

The ocean is capable of astonishing regeneration, provided we act now to address the threats it faces. Furthermore, the ocean itself offers solutions to many of our wider social, economic, and environmental challenges. Meeting this crisis in the spirit of opportunity calls for a new paradigm: a sustainable ocean economy.

A sustainable ocean economy is one that combines rigorous and efficient ocean regeneration and protection, sustainable production, and equitable prosperity to serve people and the planet, both now and in the future. More and more, businesses and governments are waking up to the role they can and must play in building a sustainable ocean economy that can realise the ocean's potential while simultaneously protecting it. Emblematic of this shifting landscape is the High Level Panel for a Sustainable Ocean Economy ("the Ocean Panel"). Launched in 2018, the Ocean Panel brings together 16 world leaders to catalyse the necessary transformation of the ocean economy.

At this crucial moment, it is not only governments making the first necessary steps to re-shape the ocean economy. Innovators are stepping up, bringing pioneering new technologies and business models to the fight for ocean health. These innovators are financed and supported by a growing number of impact investors, competitions, incubators, accelerators and matching platforms. Together, these players make up the Ocean Impact Innovation (OII) ecosystem.

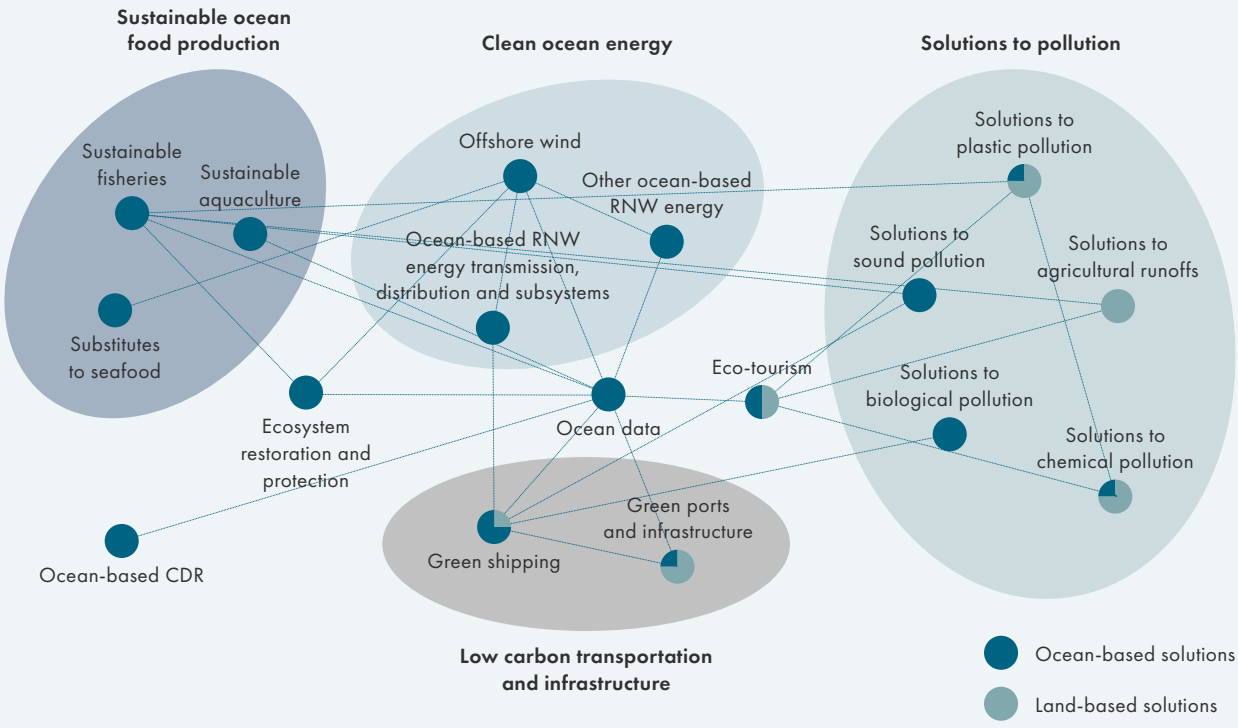
2.1 OCEAN INNOVATORS ARE ON THE RISE

The landscape of ocean innovators spans a range of sectors and offers diverse pathways to impact. Importantly, ocean innovations are often highly synergistic, both enabling and even benefiting from more integrated and efficient use of marine space and ocean resources. For instance, there is potential for sustainable mariculture farms (e.g., seaweed, mussels, finfish) to be co-located with offshore wind farms. Both, in turn, can benefit from ocean data innovations – for instance, those which provide real-time information on conditions or predict maintenance needs. The foundations of wind turbines can, under the right conditions, help protect and restore ecosystems by acting as artificial reefs, for example, by providing habitat for algae and mussels and attracting fish. As such, any given ocean innovation should always be contextualised as part of a larger complex system of interdependencies.

Furthermore, relevant sectors in the OII ecosystem are not confined to the ocean. Land-based innovations can play a crucial role in addressing direct land-based ocean stressors or positively contribute to regenerating ocean health: take, for example, circular economy and new material innovations that reduce leakage of pollutants like plastics and dyes, or sustainable land management interventions that reduce nutrient run-off.

While many of today's innovators in the OII are small or medium-sized start-ups, and their solutions are nascent, this ecosystem has the potential to transform each element in the complex web of relationships that make up the sustainable ocean economy and, in the process, catalyse truly systemic change.

Figure 2: Innovations in the sustainable blue economy span 17 main sectors, constituting a complex system of interdependencies



Source: SYSTEMIQ

The scope of sectors associated with a sustainable ocean economy is not well defined. However, most impact-oriented ocean start-ups fall under one of 17 sectors (Figure 2).

- **Sustainable blue food**
  1. **Sustainable fisheries**
     (e.g., smart fishing-gear monitoring technologies, waste reduction solutions, supply chain tracking, low-emission fishing vessels, fisheries management and stock assessments)
  2. **Sustainable aquaculture**
     (e.g., seaweed farming and applications, smart farm location, sustainable feed, aquaculture pollution solutions, low-trophic and integrated multi-trophic aquaculture, biosecurity and disease solutions, species adaptation and selective breeding, engineering solutions)
  3. **Substitutes to seafood**
     (e.g., cell-based substitute to seafood, plant-based substitute to seafood)
- **Clean ocean energy**
  4. **Offshore wind**
     (fixed and floating)
  5. **Other ocean-based renewable energy**
     (e.g., tidal energy, wave energy, floating solar)
  6. **Energy transmission, distribution, subsystems and enablers**
     (e.g., undersea cabling, voltage conversion infrastructure, system dynamics, control systems, surveying technologies, moorings, etc.)
- **Solutions to ocean pollution**
  7. **Combatting plastic pollution**
     e.g., reuse and new delivery business models, alternative sustainable materials, recycling technologies, waste data and tracking, waste capture in waterways)
  8. **Combatting agricultural runoffs**
     (e.g., precision farming, organic fertilisers, bio-stimulants, regenerative soil management)
  9. **Combatting chemical pollution**
     (e.g., green chemistry and engineering, wastewater treatment systems)
  10. **Combatting biological pollution**
      (e.g., ballast water treatment technologies, ballast-free ship design)
  11. **Measures against sound pollution**
      (e.g., propeller noise reduction, flow noise reduction, machinery noise reduction)

- **Low-carbon transportation and ports**

  12. Green shipping
  (e.g., low and zero-emission vessels, renewable energy add-ons, GHG mitigation add-ons, automation, digitalisation)

  13. Port operations efficiency
  (e.g., decarbonisation, automation, digitalisation)

  14. Ocean data
  (e.g., IoT and big data technologies, satellite technologies, drones, smart weighing systems)

  15. Eco-tourism
  (e.g., sustainable diving solutions, eco-activities, eco-hospitality)

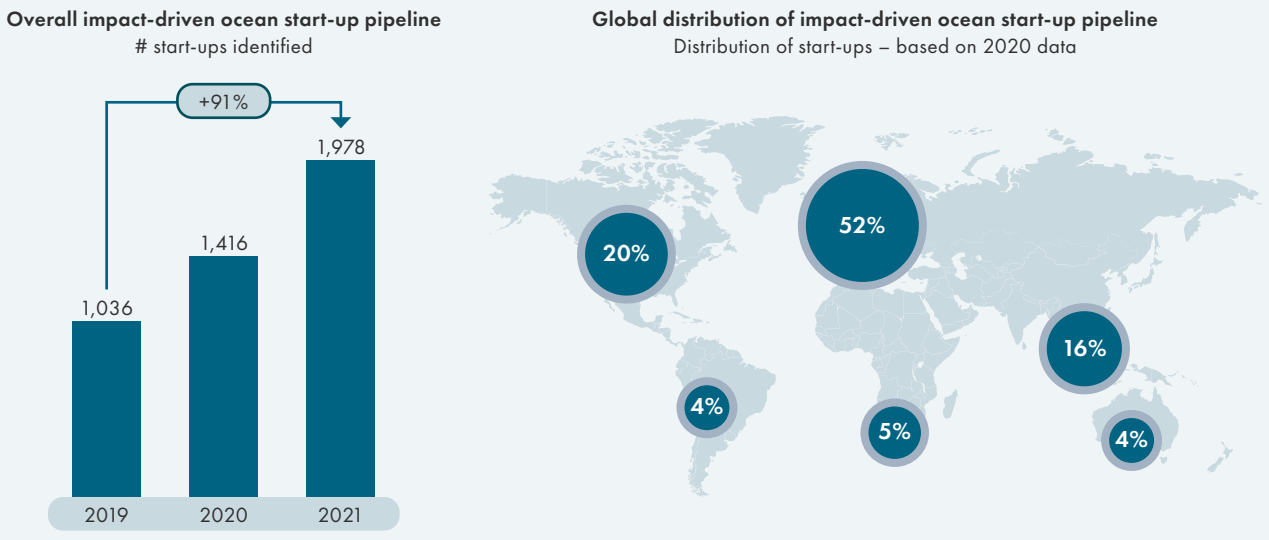
  16. Ecosystem restoration and protection
  (e.g., Marine Protected Areas (MPA), nature-based restoration programmes, restoration technologies, technologies to monitor and enforce MPAs)

  17. Ocean-based Carbon Dioxide Removal
  (CDR) (Biotic and abiotic pumps)

It should be noted that the interdependencies that characterise the sustainable ocean economy are not limited to relations between sectors. While the connections may be oblique or unclear, innovators working for ocean impact are also inevitably in relation with broader themes, including the climate, Covid recovery, and nature writ large. Acknowledging this complexity and interrelationship again underscores the importance of considering the systemic impact of innovations and their holistic contribution to people and planet.

Over recent years, across this array of sectors, the breadth and impact of ocean innovations has grown, spearheaded by ambitious start-ups. In 2021, Katapult Ocean identified an unprecedented 1,978 ocean start-ups globally, a 90% increase from just two years ago – reflecting a continuing trend that has seen year-on-year increases in the number of start-ups launched (Blue World Perspective, Katapult Ocean, 2020, 2021, 2022). While all regions are active in the OII ecosystem, Europe leads the way, accounting for more than half the start-ups observed by Katapult Ocean and driving the growth in new start-ups in 2021 (Figure 3).

Figure 3: The pipeline of ocean-driven start-ups is growing and global, driven by Europe



Source: Katapult Ocean, 2020, 2021, 2022

The solutions advanced by these innovators span a range of sectors and technologies. Katapult Ocean (2022)) reported that the harvesting sector led the way in 2021, with more start-ups proposing solutions to help the world replenish and scale sustainable fisheries and aquaculture than any other sector. Harvesting innovators will have a critical role in future endeavours to feed the world sustainably, and start-ups are pioneering these efforts through a range of solutions, including scaling nascent ocean food and nutrient sectors, such as seaweed, for feeding both people and animals, and developing technologies to positively transform fisheries to enhance sustainability. Behind harvesting, transport emerged as the second most-represented sector among start-ups last year. The key themes for impactful innovation centred on solutions to address greenhouse gas emissions from shipping, biofouling, and noise pollution. Closely tied in start-up numbers was the ocean data sector, where innovations included systems for sharing and managing data, technologies for data collection to facilitate ocean exploration and sustainable management – for instance, robotics and autonomous vehicles – and advanced data analytics. In shorter supply, although still with a meaningful presence, were start-ups in the ocean conservation and energy sectors.

2.2 CAPITAL IS MOBILISING TO ACCELERATE THE TRANSITION TO A SUSTAINABLE OCEAN ECONOMY

Despite being the lynchpin of a healthy and productive ocean, the sustainable ocean economy has been severely under-invested. Yet both public and private investment must play a critical role if a healthy ocean is to be within our reach. Companies require capital to build and scale innovative technologies, business models, and sectors. At the same time, governments and NGOs must finance conservation and restoration and build an enabling environment that can unlock further private sector investment. Despite the urgency, Johansen and Vestvik (2020) estimate that the funding gap for a sustainable ocean is a staggering USD 150 billion each year. Private financing has historically been negligible, and the indications are that public actors have also neglected investment in a sustainable ocean; SDG 14, "life below water", has received the least public financing of any of the Sustainable Development Goals (SDG Financing Lab 2017). Less than 1% of climate finance is invested in marine and coastal nature-based solutions (ORRAA).

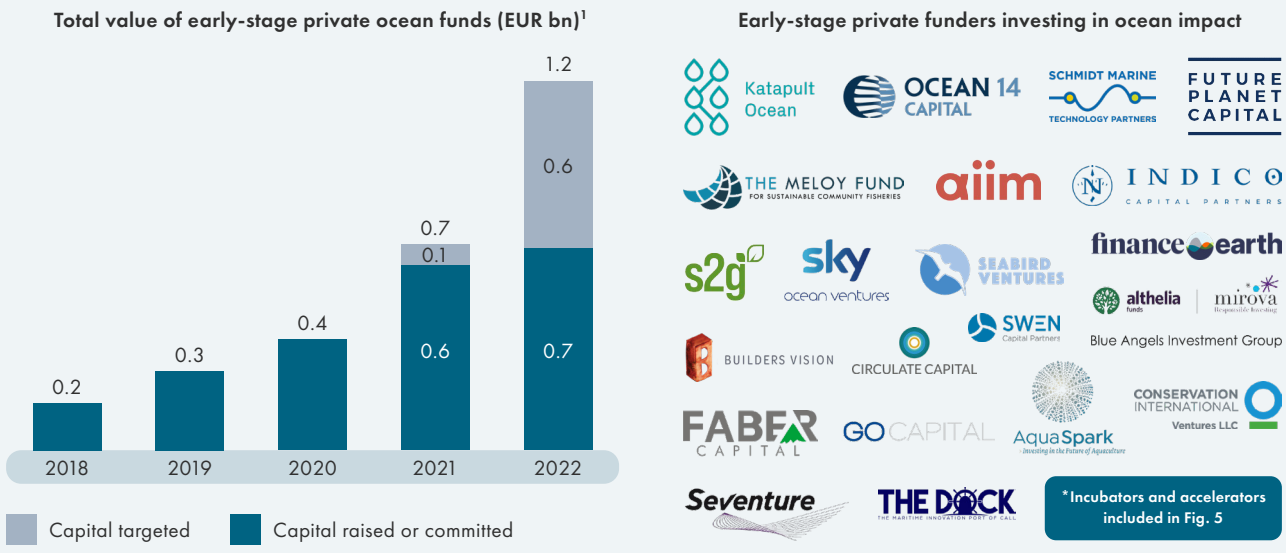
By contrast, financing continues to flow to unsustainable parts of our current ocean economy. Johansen and Vestvik estimate that, in total, annual ocean conservation finance is just USD 25 billion – far less than the USD 35 billion spent by governments each year on fisheries subsidies that are actively perpetuating degradation of our ocean.

While a sustainable ocean economy has been chronically underfunded, there are positive signs of change. In particular, private investors – whose financing has historically flowed to polluting and highly extractive sectors in the traditional ocean economy, such as energy, shipping, tourism and industrial fishing – appear to be waking up to the urgent need for investment in ocean regeneration, as well as the opportunity it presents. However, the indications are that investor interest in ocean health-related investments is now high and private investors look set to play a vital role in this UN Decade of Ocean Science for Sustainable Development. Indeed, one survey undertaken by a major bank found that 75% of respondents (predominantly institutional investors) consider the sustainable ocean economy as "investible"(Drew *et al.*, 2020).

Among the investment opportunities in the sustainable ocean economy, innovative businesses and start-ups have emerged at the forefront. Indeed, most new sustainable ocean economy funds are today focused on the early-stage equity investment space – in a departure from investors' historical focus on larger, more mature opportunities. These innovative businesses offer investors market returns while creating the potential for systemic change that can positively impact the ocean, society, and the planet.

Here, the trend is positive: every year, new funds investing in ocean innovators are being launched, and the capital targeted for investment continues to grow. As of the first half of 2022, a cumulative total of USD 1.7bn in private investment had been raised or targeted since 2018 for deployment in oceans (see Figure 4).

Figure 4: The amount of early-stage private capital mobilised for deployment in ocean impact innovation is growing every year



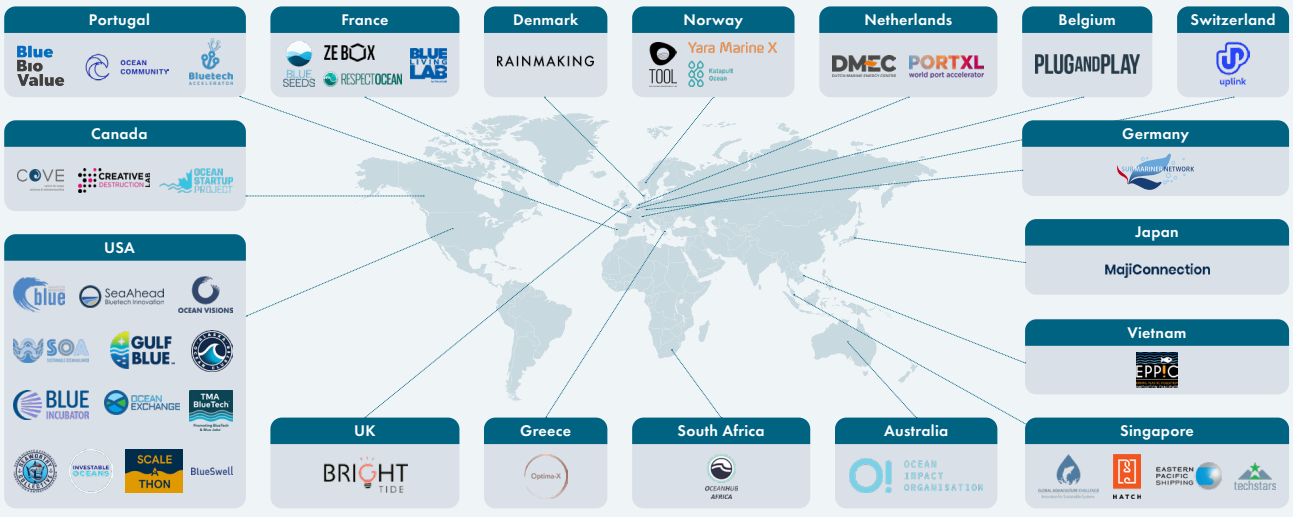
1. As of May 2022. Sources: Company websites, press releases

Private investors are not alone in turning their attention to the sustainable ocean economy: public finance is too. In 2020, the European Commission and the European Investment Fund (EIF) partnered to launch the EUR 75m BlueInvest platform, a pilot equity investment fund targeting the EU's blue economy sector (EIF, 2021). Now, in 2022, following the success of this first initiative, the Commission and the EIF have announced a continuation and expansion of the platform, scaling their ambition to target mobilisation of a further EUR 500m for investment in the blue economy (European Commission, 2022). Blended finance vehicles are also being established in the ocean space. The Global Fund for Coral Reefs (GFCR), for instance, is leveraging public and philanthropic capital to catalyse private investment to help save the world's coral reefs. To that end, the GFCR's Equity Fund has raised a junior tranche commitment of up to USD 125m from the Green Climate Fund, while the Grant Fund has secured financing from philanthropy as well as from the French, Canadian, British and German governments, among others (GFCR, 2022).

2.3 THE CRUCIAL ROLE OF INTERMEDIARY AND ENABLING PLAYERS IN FACILITATING INNOVATION AND ACCESS TO CAPITAL

There are strong indications that ocean start-ups and private investment are on the rise – but the story does not end there. A further critical dimension of the burgeoning OII ecosystem is the intermediary and enabling players, who are pivotal in connecting start-ups with capital in order to match the growth in solutions with the scale and pace of ocean challenges, and ultimately achieve the necessary systemic change required to meet the SDG targets by 2030. This landscape of intermediaries has also grown in recent years and now encompasses a dynamic network of ocean-oriented accelerators, incubators, matching platforms and start-up competitions (Figure 5).

Figure 5: There is an impressive and growing global ecosystem of ocean incubators, accelerators, competitions & matching platforms



Source: 1000 Ocean Startups

The critical role played by intermediary players in the fight to regenerate ocean health and sustain equitable ocean wealth has also been recognised by policymakers and political leaders, as epitomised by the launch of the 1000 Ocean Startups coalition in response to the call to ocean action by the High Level Panel for a Sustainable Ocean Economy.

Designed to meet the UN Decade of Ocean Science objectives, the 1000 Ocean Startups is a coalition established in 2021 that brings together incubators, accelerators, competitions, matching platforms, and VCs supporting start-ups for ocean impact. The coalition's members are collaborating to systematically structure and support the growth of the ocean innovation ecosystem by providing start-ups with critical mentorship, networks, visibility and funding (Figure 6).

The coalition also recognises that supporting new start-ups in the sustainable ocean economy has an important corollary: regenerating ocean health and effectively addressing the threat of climate change requires pathways to facilitate the integration and scaling of ocean solutions at the system and global scales. To that end, 1000 Ocean Startups is a main contributor to the UN Ocean Decade GEOS programs. GEOS connects innovators and investors with scientists and researchers to co-design solution roadmaps that articulate the path for developing an ecosystem of ocean-based solutions that together can address the global-scale challenges of climate change.

Figure 6: 1000 Ocean Startups website homepage – visit **www.1000oceanstartups.org**

CHAPTER 3

WE CAN'T MANAGE WHAT WE CAN'T MEASURE

In coming together, the members of 1000 Ocean Startups have generated new insights into the opportunities and challenges of scaling and structuring the OII ecosystem.

A central and ubiquitous challenge the coalition has identified is the difficulty arising from efforts to measure and evaluate ocean start-ups' and investees' impact. That measuring ocean impact is an obstacle is perhaps unsurprising; the ocean is a complex adaptive system, made up of astonishingly diverse and as yet not-fully-understood ecosystems. Moreover, the ocean is intricately bound up with other complex systems: the climate, the (blue) economy, and social systems on multiple scales - from the community to the national and even the global level. This creates complexity and uncertainty for businesses and their investors seeking to understand and report on the impact they are generating for the ocean and the coastal communities that rely upon it.

3.1 CURRENT IMPACT REPORTING FOR OCEAN INVESTMENT FACES LIMITATIONS

To explore this challenge further, interviews were conducted with 14 organisations, hailing both from the 1000 Ocean Startups coalition, and from the wider ocean investment ecosystem. Interviewees were asked about their overall approach to impact measurement, including the impact key performance indicators (KPIs) they used and how these were structured. They were also asked to elaborate on the 'pain points' that they faced, as well as their aspirations for impact measurement.

Five central conclusions emerged:

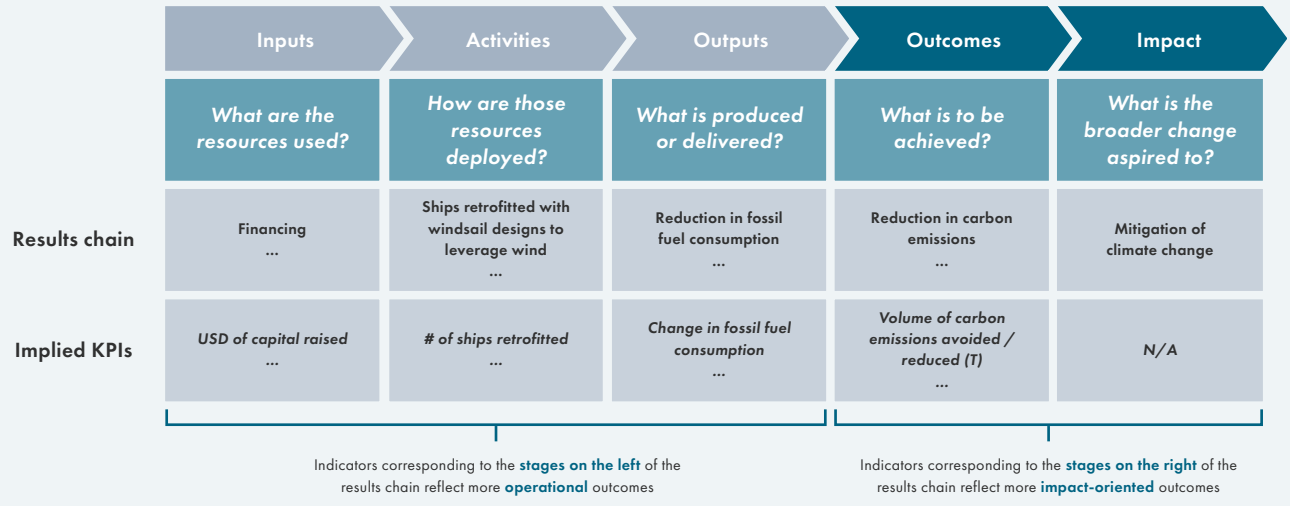
1. **Today, players do not share a unified impact measurement framework.** Instead, interviewees had developed their own approach, across which there was significant diversity in terms of the number and type of KPIs. Interviewees reported that the lack of consistency in the impact data collected by the ocean impact ecosystem is hampering the possibility of aggregating data across organisations. As such, the community has limited visibility on their collective impact.
2. **Across interviewees' approaches to impact measurement, three main paradigms were identified.** These different approaches reflect differing levels of maturity:
    - **Bottom-up approach:** Under this approach, interviewees reported that they had a very limited central impact KPI framework (or no framework at all) but instead specified KPIs for each start-up or investee on a case-by-case basis. While such an approach does promote alignment with an individual start-up's theory of change, it limits aggregability and comparison of data and can be resource intensive.
    - **Archetype approach:** Interviewees pursuing this approach had developed impact frameworks that bucketed KPIs into sectors or impact areas, requiring start-ups to then report on those KPIs associated with the 'bucket' or archetype with which they were deemed most aligned. Interviewees reported that this approach did promote harmonisation and alignment of KPIs within the portfolio structure. However, many innovations do not neatly fit one archetype, meaning some aspects of a start-up's impact were inadequately captured in their impact reporting.
    - **Multi-dimensional impact approach:** Frameworks under this approach typically specify a central pool of KPIs aligned with different dimensions of impact, with select KPIs then linked to individual start-ups on a case-by-case basis. Notably, this approach accounted for the complexity inherent to ocean impact and enabled users to harmonise KPIs across their portfolio.

3. Many interviewees reflected that ensuring KPIs are truly impact-oriented is a pain point. Typically, operational KPIs (i.e., the input, activity and output stages of a results chain, as outlined in Figure 7 below) are far easier to measure. However, these operational KPIs, while necessary, provide a qualitatively different type of data and are not necessarily a meaningful proxy for more impact-oriented KPIs (i.e., those derived from the outcome and impact stages of a results chain). As such, for those interviewees that struggled to complement operational metrics with truly impact-oriented KPIs, visibility around impact remained limited. For instance, the number of fishers attending training or education programmes on sustainable fishing does not necessarily proxy any actual reduction in overfishing or destructive fishing techniques, as many other factors may also shape the eventual uptake and adoption of sustainable practices by fishers.

This example highlights that the distinction between operational and impact-oriented KPIs is material, although not necessarily intuitive – and indeed the distinction can be a source of misunderstanding or misrepresentation in the field of impact reporting. In particular, the difference between outputs (namely the products, goods, and services which result from an intervention), outcomes (the short or medium-term effects or change in conditions arising from those outputs), and impacts (the positive and negative long-term effects produced by an intervention either directly or indirectly) can be a source of confusion (Impact Management Project, no date).

Identifying indicators using Results Chains

Figure 7: Indicators correspond to different stages in a Results Chains



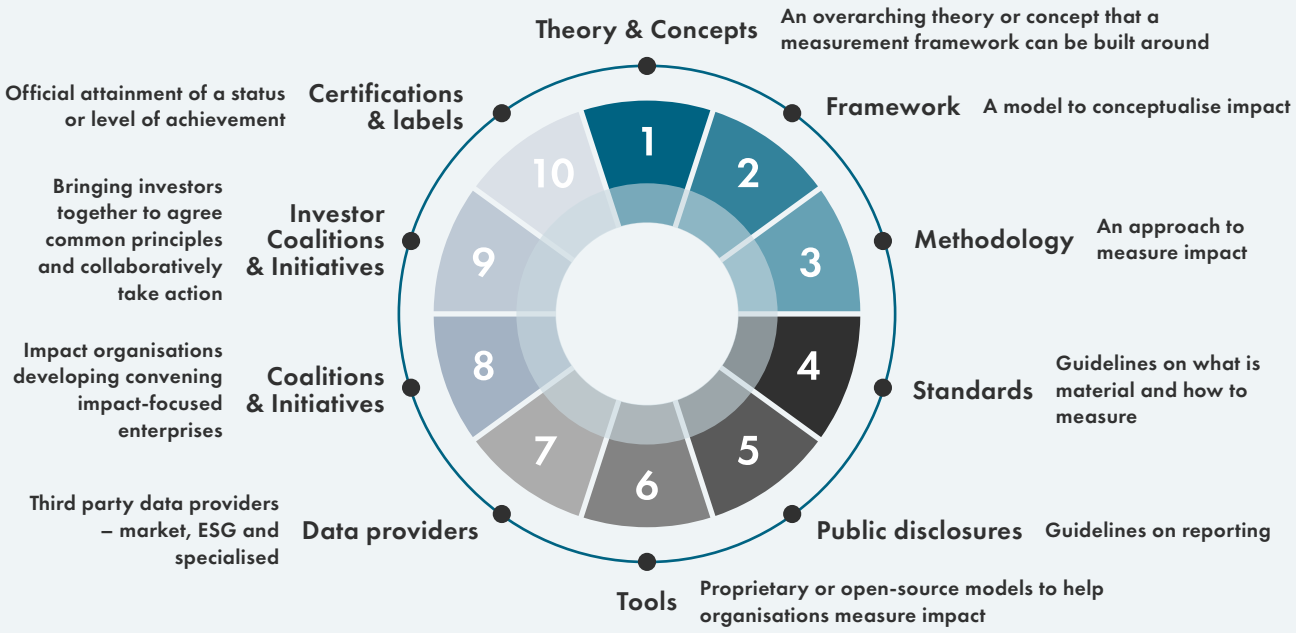
Results chains are theoretical models that articulate how impact is created through a series of logical steps. It may be necessary for an organisation to monitor and track KPIs across its own results chain to assess its performance and guide decision-making. This is true for all organisations, but is particularly relevant for early-stage start-ups or interventions that are not yet generating outcomes or impact, for whom measuring activities and outputs will be key to ascertain and guide their trajectory. However, for a generalisable framework, indicators on the left-hand side of a results chain – namely inputs, activities, and outputs – may be too numerous and specific. They are also a less effective proxy for impact than indicators linked to the right-hand side of a results chain, namely outcomes and impact.

4. **Interviewees reported that start-ups' ability and willingness to report on impact are mixed.** Interviewees noted that while start-ups typically viewed impact reporting as important for fundraising and acquiring customers, in some cases, start-ups lacked the capacity, funding or competencies to report on KPIs that were complex or where limited guidance was available. In other cases, weak compliance with agreed reporting procedures appeared due to a lack of clear incentives for start-ups or where reporting was seen as onerous, especially for early-stage and resource-constrained start-ups.
5. **Throughout discussions, a strong and consistent message emerging from the interviews was the appetite for a simple, flexible and harmonised impact framework for ocean innovation.** This appeared motivated both by the need for a solution to the pain points and challenges of impact measurement today, as well as by an appreciation of the diverse benefits such a framework could provide.

3.2 THERE IS NO OFF-THE-SHELF SOLUTION THAT INNOVATORS OR INVESTORS CAN ADOPT TO MEASURE OCEAN IMPACT.

Interviews signalled an urgent need for a new impact KPI framework for the OII ecosystem. However, several initiatives exist that can help organisations navigate this challenging terrain – many of which interviewees indicated they were already leveraging to varying extents. Before developing a new framework, 11 leading approaches were therefore evaluated, and their contributions mapped in order to explore whether any off-the-shelf solution was suited to address the needs that had been identified (see Figure 8).

Figure 8: Diverse approaches to measuring ocean impact



Sources: SYSTEMIQ; Framework adapted from the WEF ESG Ecosystem Map

The initiatives evaluated are heterogeneous in the types of guidance and support that they offer, spanning a range of different approaches. One mode of conceptualising this diversity is to position the various approaches within an overall 'impact universe' to help differentiate between and segment various pathways to evaluating and investing for impact.

The analysis revealed that all 11 initiatives sought to provide some structure and standardisation to the question of how to innovate, invest and manage for ocean-positive impact. However, they were also marked by crucial distinctions, as detailed in Figure 9 below.

Figure 9: Each approach differs in its target users, specificity, and contribution to assessing impact

APPROACH & SCOPE			IMPACT ASSESSMENT USE CASES		
	Users	Ocean-specific?	Deal screening prior to investment	Deal-specific KPI tracking	Overall monitoring and reporting framework
DECLARATION OF THE SUSTAINABLE BLUE ECONOMY FINANCE PRINCIPLES	Financial Institutions	Yes	✓	X	~
SUSTAINABLE DEVELOPMENT GOALS	All	No	~	X	~
GRI	All	No	X	X	~
SDG Compass	Businesses	No	~	~	X
OCEAN HEALTH INDEX	All	Yes	X	~	~
EU TAXONOMY	Financial Institutions	No	✓	~	~
IRIS	Financial Institutions	No	X	~	~
IW LEARN / LME LEARN	Marine stakeholders	Yes	X	X	~
OCEAN APPROVED	Businesses	Yes	X	X	~
TCFD TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES	All	No	X	X	~
IMPACT MANAGEMENT PLATFORM	All	No	~	X	X

✓ High applicability ~ Medium applicability X Low applicability

Source: SYSTEMIQ analysis

One key area of differentiation was the target end-user of the framework – which in some cases catered to just one main stakeholder group (e.g., the Sustainable Blue Economy Finance Principles target predominantly financial institutions). Conversely, other approaches were intended to serve a more holistic user base (e.g., GRI). Additional heterogeneity amongst the approaches arose from their maturity and the degree of adoption, with some (e.g., SDGs, GRI, IRIS) already leveraged or adopted by thousands of users. In contrast, others are more nascent and currently the purview of a small number of users (e.g., Ocean Approved). The approaches also varied in their degree of ocean-specificity – with some frameworks targeting the marine space only (e.g., Ocean Health Index), in contrast with more holistic frameworks addressing a broader set of environmental, social or economic impacts (e.g., SDG Compass).

The different approaches embodied by the various initiatives also implied alternative use cases. As detailed in Figure 9, some approaches were most applicable to supporting screening of prospective investments (e.g., the Sustainable Blue Economy Finance Principles). The initiatives were also evaluated in terms of their contribution to providing deal-specific KPIs – namely, suggesting individual indicators that could support impact measurement for discrete business models or technologies at the start-up level – and in terms of their contribution to overall monitoring and reporting frameworks – namely through providing an overarching consolidated approach consisting of higher-level, aggregable KPIs that could be generalised across an overall fund or portfolio. Of the 11 initiatives evaluated, while some contributed to a degree to each of these use cases, no single approach emerged as a clear off-the-shelf solution. This analysis suggests two critical gaps in the current universe of approaches to ocean impact.

First, the majority of the initiatives assessed are not well suited to evaluating the impacts of smaller scale and innovative players seeking to create net-positive impact for the ocean. Instead, they are often geared towards helping larger incumbent companies evaluate and manage their (negative) impact on the ocean and are predominantly focused on the measurement of incremental improvements. As such, the frameworks fall short in contributing to the paradigm shift needed to move organisations beyond minimising harm, towards developing and scaling truly transformative and regenerative ocean solutions.

Second, in many cases, the initiatives do not offer clear direction to users on adopting specific impact KPIs to evaluate their own or their portfolio companies' impacts. Many initiatives do not provide KPIs at all, but instead offer guidance on how to invest or manage an asset for impact (e.g., Sustainable Blue Economy Finance Principles, EU taxonomy), or they describe principles for best practice impact measurement (e.g., Impact Management Platform). For those initiatives that do provide KPIs, this typically entails a library of KPIs, but without prioritising a key selection from this list (e.g., GRI, IRIS, SDG Compass, Ocean Approved), limiting their applicability as an overarching reporting framework.

3.3 A DEDICATED IMPACT KPI FRAMEWORK IS NEEDED FOR THE OCEAN IMPACT INNOVATION ECOSYSTEM

The interviews conducted, and the analysis of existing frameworks, both point to a common conclusion: there is no off-the-shelf KPI impact framework that allows ocean innovators, or their backers, to evaluate the impact they are creating for the ocean. By implication, the OII ecosystem lacks a key resource that is urgently needed to effectively track and communicate impact, ensure capital is deployed effectively, and make efficient use of start-ups' limited resources.

There are also more far-reaching effects. Without effective impact measurement, critical solutions designed to optimally harness the power of the financial sector to help regenerate our ocean – including through the design of innovative financial instruments linking investments and returns to outcomes and impact – will remain out of reach.

It is also important to note that the OII ecosystem is not alone in this challenge. Analysis by BlueMark (2022), centred on performance measurement trends in the impact investing sector, found that, from among their investor sample, just a third of published impact reports shared data for all portfolio investments, while the remaining two-thirds provided information selectively – indicating that 'cherry picking' of results is a prevalent issue. This lack of transparency and consistency limits the potential for a true, holistic picture of impact; the same analysis found that just 25% of impact reports referred to underperformance in impact, and not a single report quantified negative impacts. BlueMark's research also suggests that fragmented approaches to impact measurement are a challenge for investors beyond the ocean space. Just 44% of the impact reports surveyed employed standardised indicators or cited the sources for their chosen metrics, foreclosing the possibility of consistently comparing or benchmarking results.

CHAPTER 4

PROPOSING THE OCEAN IMPACT NAVIGATOR - A HARMONISED IMPACT MEASUREMENT FRAMEWORK FOR THE OII ECOSYSTEM

Tackling the threats to the ocean and the life it sustains requires a paradigm shift. A "do no harm" mentality alone does not go far enough to resolve the ocean's health crisis or the damage it has already suffered. A shift to a regenerative mindset and a fundamental reconfiguration of humans' relationship with the ocean and the ocean economy is also needed.

Blue innovators and the investors that support them are increasingly conscious of this urgency and are seeking practical guidance and tools to support their endeavours. However, an integrated and harmonised KPI impact framework has been a missing piece in the puzzle for organizations looking to consistently and credibly evaluate their contribution and progress towards the shared ambition for a regenerative and sustainable ocean economy.

The 1000 Ocean Startups coalition aims to address this gap – through this first report – by advancing the Ocean Impact Navigator, a harmonised impact measurement framework for ocean innovators and their supporters.

In developing the Ocean Impact Navigator, 10 main questions were considered:

- What is the contribution of the Ocean Impact Navigator?
- What is the overall process for developing the Navigator?
- How is the Navigator structured?
- What are the KPIs prioritised within the Navigator?
- How should users report quantitatively and/or qualitatively on KPIs?
- What is the role of a baseline in enabling effective reporting on the indicators?
- How does the Navigator relate to the wider landscape of impact strategies, reporting frameworks and initiatives?
- How can enabling solutions report against the Navigator?
- How should biodiversity impact be addressed within the Navigator?
- What are examples of the Navigator in practice?

Answers to these questions informed the Navigator, its use cases and applications, and are elaborated in this chapter.

4.1 WHAT IS THE CONTRIBUTION OF THE OCEAN IMPACT NAVIGATOR?

The potential benefits it offers are myriad, but at its heart, the Impact Navigator, which prioritises 30 indicators, seeks to make three key contributions:

Figure 10: A harmonised impact framework offers three main contributions

Identifying interventions with real impact

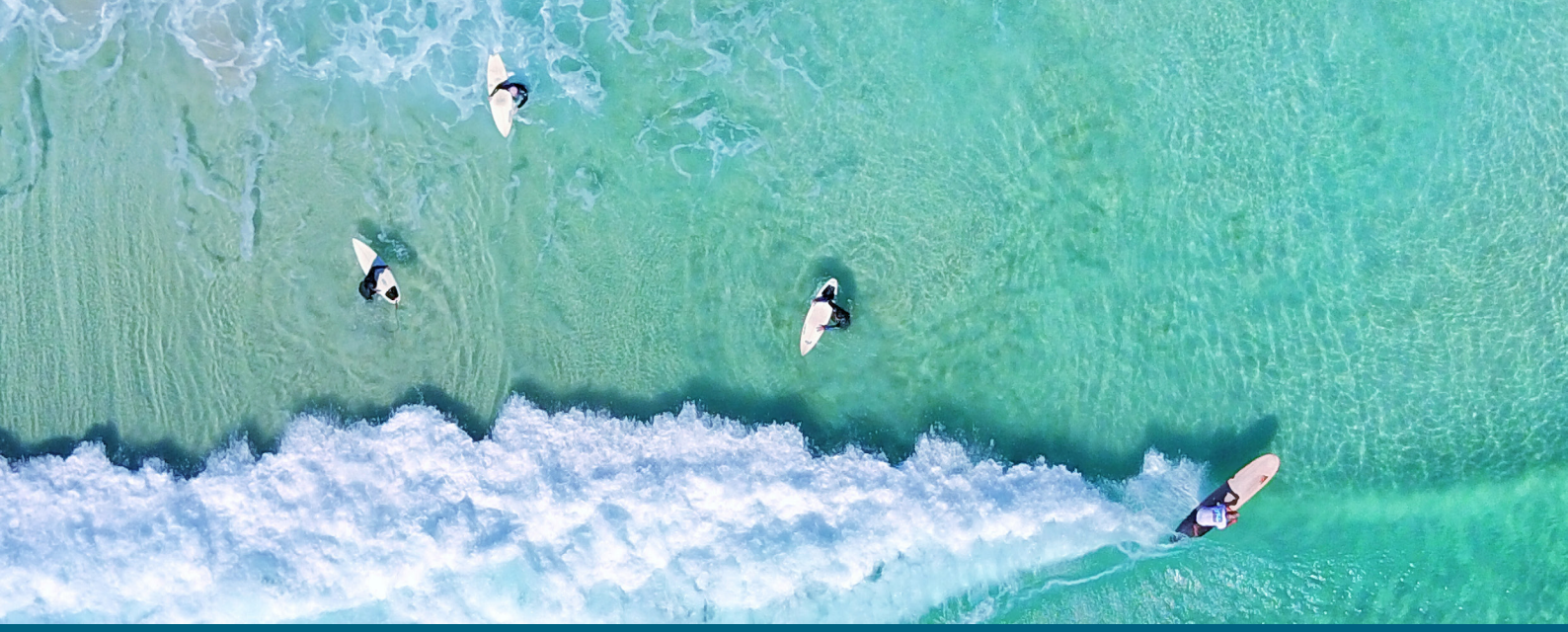
Aggregating and communicating on progress towards a Sustainable Ocean Economy

Simplifying impact measurement for start-ups

A. Helping investors and intermediaries identify interventions with real impact

There is a vast landscape of KPIs that touch the ocean. However, performing strongly against many of these indicators does not imply positive impact for the ocean. For instance, some KPIs can create perverse incentives (e.g., metrics for ocean food production that incentivise degrading fishing techniques), while others capture operational or business performance that is not directly tied to impact (e.g., metrics for participation in capacity building or training activities that are not linked to evaluations of resulting behavioural change). Moreover, some KPIs may be important - but only for a very narrow group of ocean players, while other KPIs don't speak to the key threats and determinants of ocean health.

The Ocean Impact Navigator prioritizes indicators that drive positive impact for the ocean and the communities that depend on it. It moves beyond simplifying assumptions about the impacts generated by innovators in a given sector or archetype and instead enables users to report on multiple dimensions of impact. In highlighting what is essential and illuminating the pathways to impact, the Navigator pulls focus to innovations that can genuinely move the needle on ocean health and the well-being of local communities. Investors can leverage the Navigator during due diligence, guiding key areas to evaluate, measure and report on, before and after investment. As a result, the Impact Navigator can help organizations investing in and supporting start-ups to focus their energies and resources on high-impact interventions.



B. Enabling measurement, communication, and strategies for shared progress towards a sustainable ocean economy

The Impact Navigator can undoubtedly be a vital tool to help start-ups and their backers to understand their impact at the organisational level. However, its value also lies in providing a harmonised approach to impact measurement ***across*** organisations. By contributing to increased consistency in indicators, the Navigator will better enable users in the OII ecosystem to aggregate their performance, and ultimately to track and communicate their collective impact. Combined with validation and verification to confirm the robustness of the data, a common impact measurement framework can therefore play a central role in efforts to build clear and evidence-based narratives of the crucial transformations that ocean innovators are driving for the sustainable ocean economy. Doing so will be key to helping unlock public and investor confidence in the space, and ultimately mobilising more capital for investment towards a sustainable ocean economy.

A common impact framework can also support coordination by members of the OII ecosystem. In enabling a holistic view of collective impact, the Navigator will illuminate strengths and gaps in the OII ecosystem's overall efforts to realise a sustainable ocean economy. This visibility can crucially help inform and guide responses to strategic questions at the overall OII ecosystem level – including on joint priorities, and on how to harmonise efforts while avoiding duplication.

C. Simplifying impact measurement requirements for start-ups

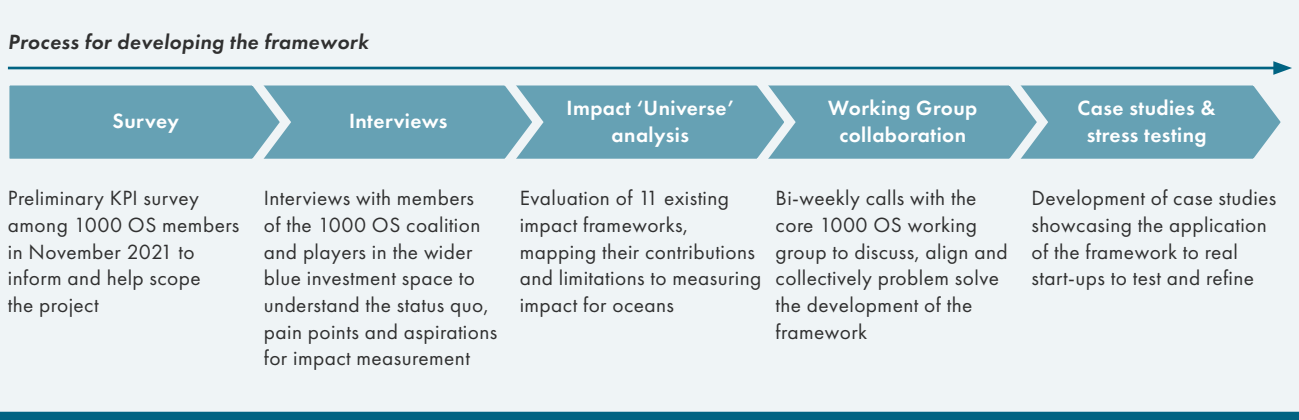
Measuring impact is critical for all players in the OII ecosystem, including start-ups. However, inevitably, there are associated costs – in money, time and effort. For start-ups, which are often resource-constrained, these costs are exacerbated by investors' fragmented approaches to impact measurement, which frequently result in start-ups being compelled to satisfy multiple reporting requirements. By promoting harmonisation, the Impact Navigator can consolidate the impact measurement requirements that start-ups face and allow them to focus on delivering their solutions rather than reporting.

The Impact Navigator can clearly contribute to streamlined and better impact measurement. However, as elaborated in this chapter, it cannot do so in isolation. To achieve its full potential, the Navigator must be situated within users' wider impact frameworks – encompassing impact strategy and governance – and integrated with wider measurement activities, including monitoring of organisation-specific or operational KPIs, as well as reporting for wider ESG or disclosure frameworks.

4.2 WHAT HAS BEEN THE OVERALL PROCESS FOR DEVELOPING THE NAVIGATOR?

Several different inputs were leveraged to develop the Navigator, bringing together knowledge, perspectives and existing best practices from across the ocean impact innovation and investment landscapes.

Figure 11: Development of the Ocean Impact Navigator has been a multi-stage and collaborative process

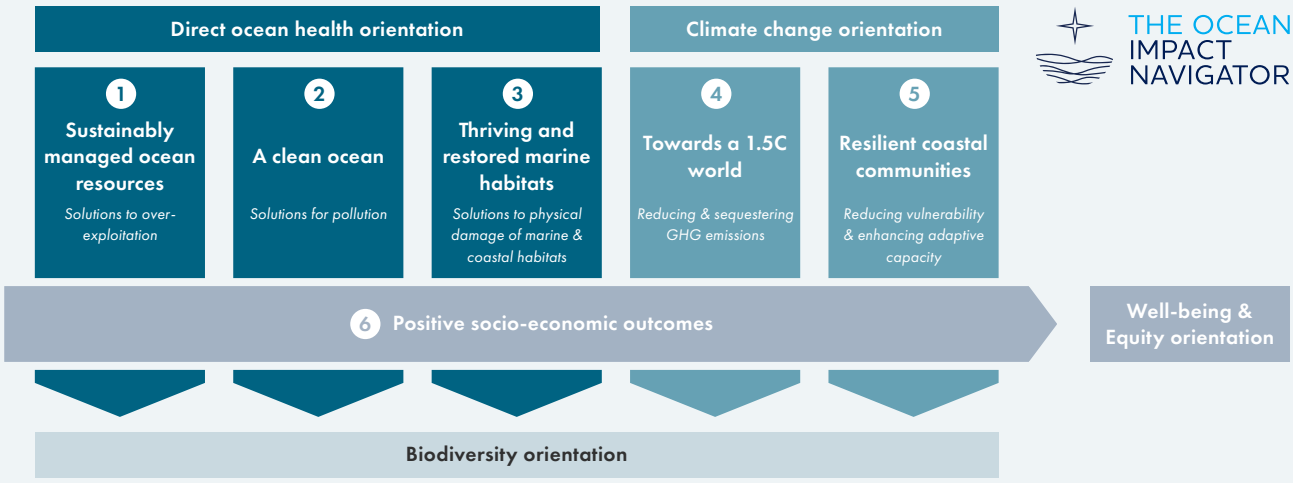


The objective of the Ocean Impact Navigator is to become an agile, open-source tool, used by the sustainable ocean economy investment community to track and report collective positive impact on ocean health and coastal communities. This report marks the first milestone in this journey. It is expected to trigger active and fruitful discussions and new collaboration opportunities, culminating in the deployment and adoption of shared impact measurement and reporting tools later this year, with the benefits to be felt and to grow throughout this Ocean Decade.

4.3 HOW IS THE NAVIGATOR STRUCTURED?

The Navigator consists of 30 KPIs in six main impact areas: Sustainably managed ocean resources; A clean ocean; Thriving and restored marine habitats; Towards a 1.5C world; Resilient coastal communities; Positive socio-economic outcomes. Together, the KPIs capture the ways in which ocean innovations impact ocean health, climate change and biodiversity, and reflect the potential cross-cutting contribution of interventions to well-being and equity.

Figure 12: The KPIs are organised within six main impact areas



Notably, the impact areas selected to organise the KPIs are phrased not in terms of threats or degradation but rather in terms of positive impact, clearly pointing towards the aspirational end-state for a sustainable ocean economy. This is not merely a question of semantics. The ocean is not simply a victim; it is a source of regeneration and solutions, holding the key not only to addressing threats to its health but also offering myriad benefits to people and planet. Thus, while the impact areas encompass and address all the critical threats to the ocean outlined in Chapter 1, they seek to go beyond this more limited and limiting perspective by signalling the key components of, and a roadmap for, a sustainable ocean economy.

4.4 WHAT ARE THE KPIS PRIORITISED WITHIN THE NAVIGATOR?

The Navigator identifies 30 priority KPIs (Figure 13). While most facilitate either quantitative or qualitative reporting, a minority are exclusively qualitative (although users reporting qualitatively on KPIs are encouraged to provide additional details and supporting quantitative data points where relevant). Details of the KPIs – including sources, examples, and guidance on units and methodologies – will be available in the Technical Annex, to accompany this report.

This set of 30 KPIs aims to provide a robust and workable common ground to support diverse players in the Ocean Impact Innovation ecosystem in tracking their impact. However, it should be noted that the Navigator is not intended to provide an exhaustive list of KPIs. Users will be expected and encouraged to enrich their reporting with additional KPIs (both impact-oriented and operational) that can provide further insights, or which relate to a specific technology, business model or geographic context. Moreover, the period of testing for the Navigator in 2022 and its future governance are being designed to ensure that additional KPIs or revised versions of those currently proposed can be added or updated as needed.

Figure 13: The framework consists of 30 KPIs spanning six impact areas

Impact Area	Indicator
A. Sustainably managed ocean resources	A1 Volume of biomass preserved or restored
	A2 Volume of seafood waste reduced
	A3 Welfare of marine life
	A4 Tonnes of ocean-based seaweed and bivalves produced
B. A clean ocean	B1 Volume of primary micro-plastics diverted from nature (or landfill)
	B2 Volume of macro-plastic diverted from nature (or landfill)
	B3 Nitrogen/Phosphorous pollution mitigated (i.e. reduced, avoided or bioremediated)
	B4 Volume of contaminated waste water from land-based sources diverted from waterways
	B5 Invasive species reduced or avoided
	B6 Reduction in [other] pollution (e.g. heavy metals, chemicals, sound etc.)
C. Thriving and restored marine habitats	C1 Area of coral reefs protected or restored
	C2 Area of mangroves protected or restored
	C3 Area of seagrasses protected or restored
	C4 Area of salt marshes protected or restored
	C5 Area of kelp forest protected or restored
	C6 Area of [other habitat] protected or restored
D. Towards 1.5C	D1 GHG emissions reduced or avoided
	D2 GHG emissions generated
	D3 Carbon sequestered
	D4 NOx emissions mitigated
	D5 SOx emissions mitigated
E. Climate-resilient coastal communities	E1 Length of coastline protected
	E2 Use of ocean information products/services in decision-making to support climate adaptation & resilience
	E3 Number of people supported to adapt to climate change
	E4 Enhanced food security
F. Positive socio-economic outcomes	F1 Number of jobs created
	F2 People completing education / training programmes
	F3 Share of employees that are women
	F4 Ratios of average entry level wage compared to local minimum wage at significant locations of operation
	F5 Particulate emissions mitigated

Prioritization of the KPIs was governed by four main principles, each prompting a number of sub-questions that steered the selection:

- **The framework should be relevant**
  - Does the KPI address the main threats to the ocean and/or solutions for a sustainable ocean economy?
  - Is the KPI oriented towards outcome and impact rather than operational or business indicators?
  - Could the KPI create perverse incentives or drive harmful outcomes?
- **The framework should be simple**
  - What is the smallest number of KPIs that could be selected while still meaningfully capturing most dimensions of impact and reflecting the diversity of sectors and solutions encompassed in a sustainable ocean economy?
- **The framework should leverage work that has gone before**
  - What KPIs have been prioritised or omitted by other approaches in the impact universe?
- **The framework should ensure technical feasibility**
  - What is the realistic potential for the KPI to be measured by early-stage start-ups with potential limitations on resources, capabilities and/or data availability?
  - Is there sound science to enable the measurement of the KPI?
  - How clearly and unambiguously can the key terms of the KPI be defined?

Central to the Navigator is the tenet that it should be flexible and applicable to various organisations and contexts. In this spirit, not all KPIs will be relevant or appropriate for all ocean start-ups. Rather, the 30 KPIs represent a shared library of metrics from which users may choose a selection, with no limitations on number or impact area, regardless of sector.

4.5 HOW SHOULD USERS REPORT QUANTITATIVELY AND QUALITATIVELY ON KPIS?

For the KPIs that users do select, there are two main dimensions of reporting:

Step 1: Users report either quantitatively or qualitatively on each chosen KPI

Step 2: In addition, for the selected KPIs, users are encouraged to provide additional comments and supporting evidence

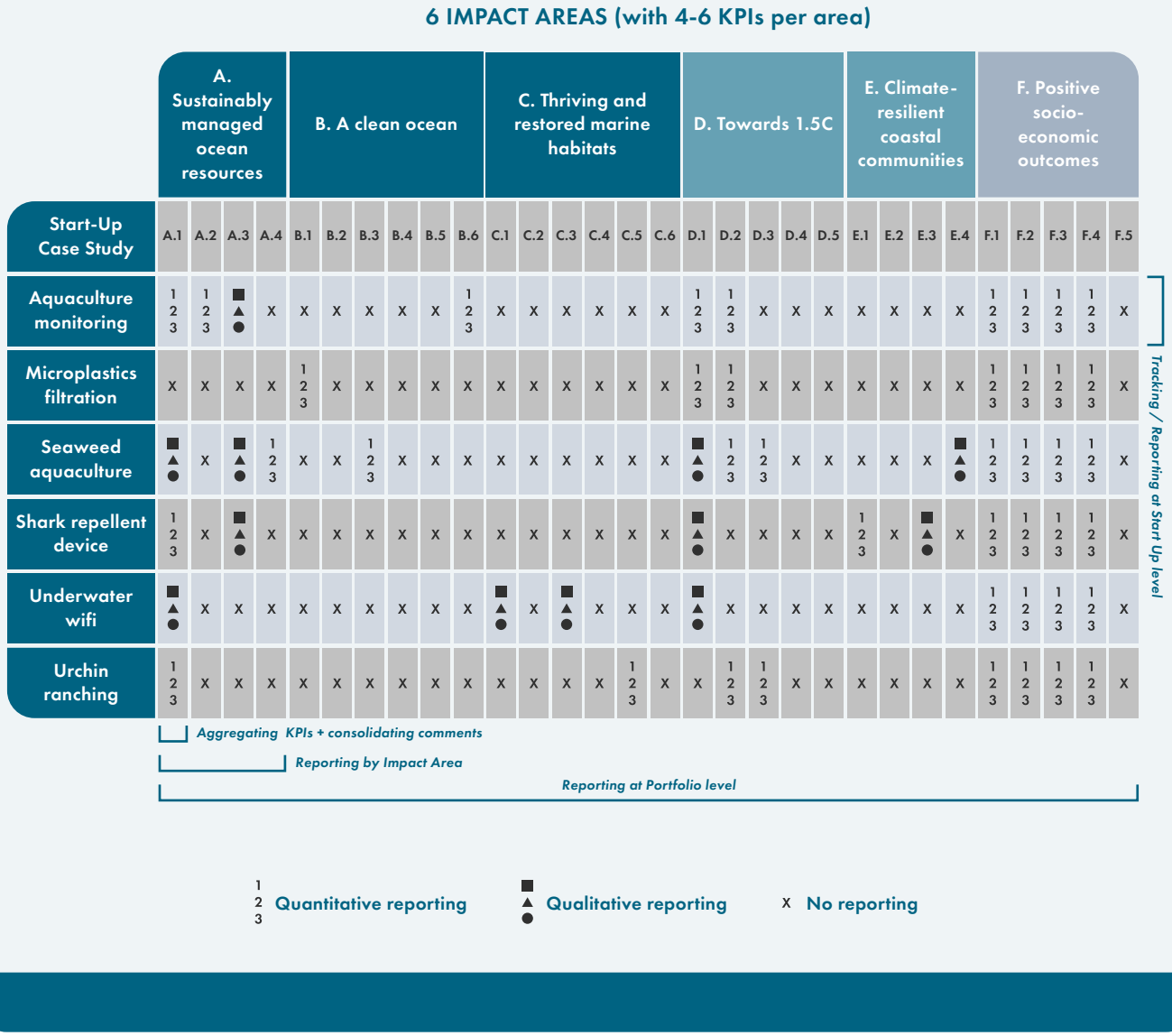
Regarding Step 1, the decision of whether to prioritise quantitative or qualitative reporting is likely to rest on several factors:

- The maturity of the organisation being evaluated:
  - When reporting on the impact of an early-stage organisation that lacks track record, or in a context where a start-up lacks the necessary data and/or capabilities, it may be preferable to report qualitatively on a number of indicators. A more mature organisation may have the requisite inputs to report on the same indicators quantitatively.
- Whether the organisation has direct or indirect impact:
  - Where the impact of an organisation is more indirect or second-order, it may be more feasible and appropriate to report predominantly through qualitative KPIs, providing additional quantitative data points where possible (see also the response to consideration 'F' regarding enablers below).

- The KPIs:
  - For the majority of KPIs, users can choose whether to report quantitatively or qualitatively. A small number of indicators, however, are purely qualitative (e.g., Welfare of marine life; Enhanced food security; Invasive species reduced or avoided). For these indicators, a range of data points was considered as potentially highly relevant to understanding impact. The explanation of how a start-up contributes to these indicators was also considered of central importance. Thus, as elaborated in Step 2 below, when reporting on these indicators, users should provide a qualitative justification of how and why impact is generated, supported by quantitative data points wherever possible and relevant. The indicators for which this distinction is applicable are elaborated in the Technical Annex.

Thus, for each start-up, the configuration of KPIs in scope and the means through which they are evaluated will be different (see Figure 14 below). Nevertheless, there will be consistency across organisations, and accordingly the potential to assess collective performance on KPIs in aggregate.

Figure 14: Illustration: Start-ups report quantitatively and qualitatively across multiple impact areas



Regarding Step 2, to substantiate their reporting, users are encouraged to provide supporting comments and data.

- Where a user is reporting qualitatively, this commentary could include a narrative justification of the expected impact, (e.g., if reporting on the reduction or avoidance of invasive species from a ballast water treatment technology, users should elaborate on the impact thesis – in terms of the ballast water as a known vector of invasive species, the effect of treatment on microbes / other organisms typically carried in ballast water, and on the implied reduction to the potential transference of invasive species from discharging treated ballast water vs. untreated). Where relevant, users should additionally provide (quantitative) data points that can substantiate the claimed impact (i.e., relevant operational KPIs that relate to the overall outcomes/impact being described).
- Where users report quantitatively, providing comments and evidence is also relevant. Users will be encouraged similarly to provide a justification of the impact thesis, and any additional relevant data (e.g., if reporting on the volume of biomass preserved or restored in tonnes, users could provide additional information to disaggregate this total volume by the species impacted, and highlight whether this is an endangered, threatened or protected species, whether it is a keystone species, etc.) In addition, users should offer details of any assumptions made, supported by data wherever possible. This is particularly crucial in cases where the anticipated impact is indirect or second-order (e.g., where a start-up is enabling the substitution of a harmful activity for one that is less damaging – requiring elaboration on the size of the substitution effect). The Navigator will also enable users to indicate the robustness of their quantitative evaluations through elaborating whether the impact quantified has been estimated, measured or verified.

Figure 15: Illustrative example of qualitative and quantitative reporting for a seaweed aquaculture start-up

	Step 1		Step 2
Indicator	**Quantitative reporting**	**Qualitative reporting**	**Comments, details and supporting evidence**
A3. Welfare of marine life	-	**Positive impact**	• Impact thesis: Ocean-based seaweed aquaculture provides habitat and nursery areas that support marine life • 6 hectares of offshore seaweed aquaculture providing habitat and nursery

A4. Volume of seaweed & bivalves produced	**200 tonnes**	-	• Tonnes calculated as dried weight harvested per year
			• Breakdown by species:
			  • Atlantic wakame (150 tonnes)
			  • Kombu kelp (50 tonnes)

B3. Vol. N/P pollution mitigated	**3.2 tonnes of N
	0.32 tonnes of P**
		-	• Assumes:
			  • 1:8 conversion ratio implies 1,600 tonnes fresh weight
			  • N content assumed 0.2% fresh weight
			  • P content assumed 0.02% fresh weight

Etc.			

4.6 WHAT IS THE ROLE OF A BASELINE IN ENABLING EFFECTIVE REPORTING ON THE INDICATORS?

For all users – regardless of the KPIs they select or how they choose to report – the construction of a baseline for each indicator is a crucial step in enabling robust and effective use of the Navigator. Understanding the underlying or original conditions for the KPI is key to effectively and accurately demonstrating a start-up's impact.

The precise configuration of this baseline will vary. For instance, the baseline may focus on capturing the conditions in the immediate area where a start-up operates prior to implementation, so that the ex-ante and ex-post conditions can be compared, and the start-up's impact ascertained. An alternative or complementary approach may centre on capturing the average conditions for competitors or the wider industry or ecosystem. As for the indicators, a baseline may be constructed either quantitatively or qualitatively. However, where a user intends to report quantitatively on an indicator, they are strongly encouraged to develop an analogous quantitative baseline. While almost certainly falling short of experimental or quasi-experimental approaches that are formally required to ***attribute*** impact or outcomes to specific interventions, by employing baselines and comparison groups – and substantiating these with relevant data and transparent assumptions – Navigator users can nevertheless robustly evaluate and articulate their ***contribution*** to impact (Leeuw *et al.*, 2009).

4.7 HOW DOES THE NAVIGATOR RELATE TO THE BROADER LANDSCAPE OF IMPACT STRATEGIES, LOCAL GEOGRAPHIC AND CULTURAL CONTEXTS, AND WIDER REPORTING FRAMEWORKS AND INITIATIVES?

The Navigator is intended as the core, shared framework for measuring start-ups' impact. That does not imply, however, that it is the only tool at the disposal of start-ups and their backers for evaluating and steering performance, nor that it should not be complemented or tailored to suit specific contexts.

- **Impact management and strategies:** The Navigator should be viewed as one component in an organisation's overarching impact management approach or framework. Impact management frameworks typically include but extend beyond impact ***measurement*** frameworks, and may encompass impact strategies, relevant resourcing and expertise, impact governance considerations (e.g. impact advisory committees), and impact-related carried interest requirements. The Navigator – with its focus on measurement of impact – should be viewed as an effective complement to an organisational theory of change or impact thesis that provides a qualitative and logical description of how an organisation intends to realise impact.
- **Other impact, operational and business performance reporting:** It is anticipated and encouraged that users additionally define and measure operational or business KPIs, as the insights afforded by these KPIs are also crucial to tracking performance and informing decision-making. Users may choose to define additional organisation- or sector-specific impact KPIs that are not included in the scope of the Navigator, but which are relevant and informative for specific start-ups.

- **Local geographic and cultural contexts:** As a global framework, the Navigator does not explicitly reflect the individual cultural, socio-economic or regulatory contexts of its users. However, the Navigator is intended as a flexible tool that users can leverage to tailor impact reporting to their local concerns. To facilitate this, users are encouraged to provide disaggregated data – for instance, for KPIs in the socio-economic and climate-resilient coastal communities impact areas – to help illuminate who is benefitting from or impacted by ocean innovation. In this way, users will, if desired, be able to capture data about the demographic composition of impacted populations (e.g., gender, age, ethnicity, etc.) within the framework, as deemed appropriate or insightful for their local context.

- **Wider reporting frameworks and initiatives:** The Navigator also offers synergies with wider global, national or sector-specific impact, reporting and disclosure standards. Each of the KPIs, for instance, contributes to one or more of the UN Sustainable Development Goals. This complementarity is by no means limited to SDG 14 Life Below Water; collectively, the KPIs touch almost all the SDGs. To illuminate this relationship and highlight the importance of ocean impact innovations in achieving sustainable development, within the Technical Annex each KPI is individually mapped against the SDGs to which it contributes.

Many of the indicators selected for inclusion in the Navigator are also represented in ESG frameworks such as GRI. In addition, the indicators associated with the 'Towards a 1.5C world' impact area can support climate disclosure requirements – for instance, by providing metrics to support reporting for the 'GHG Emissions' and 'Climate-Related Opportunities' categories specified by the Task Force on Climate-related Financial Disclosures (TCFD).

While not a direct complement, the impact KPI framework for ocean innovation has much in common with the new Sustainable Land Use Finance Impact Directory recently launched by the UN Environment Programme Climate Finance Unit and the UNEP-World Conservation Monitoring Centre. This directory offers a harmonised shortlist of KPIs to support financial institutions in evaluating their investments' environmental and social impacts on sustainable land use. In many ways, it strives to achieve for terrestrial ecosystems what the OII framework seeks to do for the ocean: to promote effective and transparent monitoring of the multi-dimensional impact of land use investments, to guide investment decisions for nature-positive assets, and to attract diverse forms of capital for investment in conservation, mitigation, adaptation and sustainable livelihoods.

4.8 HOW CAN ENABLING SOLUTIONS REPORT AGAINST THE NAVIGATOR?

To manage and sustain a healthy ocean, we must understand it. The enabling technologies that facilitate the generation, dissemination and use of data from the ocean therefore play a critical role in building a sustainable ocean economy. This significance has been underscored by the UN which, in articulating its ambitions for this Ocean Decade, explicitly describes an "accessible" ocean, characterised by "open and equitable access to data, information and technology and innovation"('The Ocean Decade - Vision, Mission & Outcomes', n.d.).

The landscape of enabling technologies for the ocean is dynamic and varied. Innovations range from Automated Sensors and autonomous platforms to high-frequency, low-cost measurement of ocean data, from technologies to collate diverse structured and unstructured data to allow the deployment of big data and artificial intelligence – and deliver greater insights and enhance modelling and prediction of ocean conditions, to technologies to support sharing and democratisation of ocean data (Buck *et al.*, 2019).

While the importance of enabling technologies to ocean health is not in doubt, their impact can be challenging to measure. For the majority of enablers, their impact on the ocean arises indirectly, occurring through other users and stakeholders who use their data. Importantly, deployment of an enabler or the information it generates is not automatically positive – the impact can also be harmful – depending on whether it is deployed for good or for ill (e.g., data to facilitate mapping of the ocean floor used to support implementation of marine habitat restoration projects vs. enabling deep-sea mining).

In light of these considerations, the Navigator has been designed to enable evaluation of the impact of enabling technologies. Specifically, two main features are proposed:

First, in the usual way, enabling technologies should report on the relevant KPIs within the Navigator to which they contribute. However, the expectation for enablers is that reporting will be qualitative in most cases (with potential to substantiate this qualitative reporting with quantitative, more specific data points). As such, for the selected KPIs, innovators of enabling technologies should provide a rationale for the impact they are claiming and, where possible, support impact-oriented data points (e.g., impacts calculated by the users of their technology).

Second, innovators that identify themselves as enablers will also be encouraged to report on adjacent operational or business indicators for which they can provide quantitative evaluations (e.g., number of installations; number of customers; gigabytes of data transferred, etc.). Within the online tool to be developed, this option for additional data entry will be activated by users 'tagging' themselves or their portfolio companies as enablers.

Through providing these two complementary modes of reporting, the Navigator simultaneously supports users in claiming credible and high-integrity impact while also reflecting the important role of enablers and the additional insights offered by quantitative and operational data.

4.9 HOW SHOULD BIODIVERSITY IMPACT BE ADDRESSED WITHIN THE NAVIGATOR?

Marine biodiversity is inextricably linked to ocean health and climate change. These relationships are characterised by a complex web of bi-directional and compounding interdependencies. Both separately and together, the pressures of ocean exploitation, pollution and warming temperatures threaten the survival of entire marine ecosystems, and are creating a crisis for biodiversity. By contributing positively to impact areas 1 – 5 within the Navigator, start-ups also positively impact biodiversity, albeit indirectly. On the other hand, the overall health of the ocean and the ecosystem services it provides – including its ability to absorb carbon and the heat from a warming atmosphere – are themselves fundamentally dependent on biodiversity.

Thus, creating positive impact for the ocean's health implies and relies on creating positive impact for biodiversity. However, biodiversity is hard to measure. Biodiversity itself resists definition, and a single metric cannot meaningfully capture it – possible indicators include species richness, biomass, the abundance of keystone species, and the presence of endangered, threatened and protected (ETP) species. These indicators are often costly and challenging to measure effectively with the available tools, particularly for start-ups and early-stage innovators. A further challenge lies in attribution and credibly linking individual interventions with impacts on biodiversity – this is compounded by the complexity that this impact frequently arises indirectly, through the reduction or avoidance of stressors that harm biodiversity.

Given these challenges, the impact framework does not, in its first iteration at least, propose any specific biodiversity metrics for inclusion. However, the Navigator's users are encouraged to include data or evaluation of their biodiversity impacts as part of the qualitative explanation or substantiation of other indicators, where this information is available (e.g., if reporting on the impact of a start-up on 'A1. Volume of biomass preserved or restored', users could additionally provide details of whether and to what extent the biomass in question includes ETP species). As science and monitoring and evaluation capabilities continue to evolve in the coming years, there may well be a case for including biodiversity KPIs in future versions of the Impact Navigator.

4.10 WHAT ARE EXAMPLES OF THE NAVIGATOR IN PRACTICE?

Case studies were developed as part of the process of testing and refining the Navigator. These case studies are also intended as a practical guide to support users in understanding and applying the Navigator to their own businesses. Each case study is based on a real start-up.

CASE STUDY Aquaculture monitoring

KEY | 1 2 3 Quantitative reporting ■▲● Qualitative reporting

START UP Start-up that has developed an autonomous sensing and monitoring platform tracking the weight, welfare and lice of farmed fish to support optimised feeding and treatment regimes.

THE NAVIGATOR

Enabler? N

Sustainably managed ocean resources

- **A1. Vol. of biomass preserved or restored** 1 2 3
- **A2. Vol. of seafood waste reduced** 1 2 3
- **A3. Welfare of marine life** ■▲●
- A4. Volume of seaweed & bivalves produced

A clean ocean

- B1. Vol. micro-plastics diverted
- B2. Vol. macro-plastics diverted
- **B3. Vol. N/P pollution mitigated** 1 2 3
- B4. Vol. contaminated waste water diverted
- B5. Invasive species reduced or avoided
- **B6. Vol. of [antibiotic] pollution mitigated** 1 2 3

Thriving and restored marine habitats

- C1. Area of coral reefs protected or restored
- C2. Area of mangroves protected or restored
- C3. Area of seagrasses protected or restored
- C4. Area of salt marshes protected or restored
- C5. Area of kelp forests protected or restored
- C6. Area of [relevant hab.] protected or restored

Towards a 1.5C world

- **D1. GHG emissions reduced or avoided** 1 2 3
- **D2. GHG emissions generated** 1 2 3
- D3. Carbon sequestered by marine ecosystems
- D4. NOx emissions mitigated
- D5. SOx emissions mitigated

Climate-resilient coastal communities

- E1. Length of coastline protected
- E2. Ocean data usage in decision-making
- E3. # People supported to adapt to climate change
- E4. Food security enhanced

Positive socio-economic outcomes

- **F1. # Jobs created** 1 2 3
- **F2. # People completing education / training** 1 2 3
- **F3. % of women employees (mgmt & non-mgmt)** 1 2 3
- **F4. % Entry level wage vs. local minimum wage** 1 2 3
- F5. Particulate emission mitigated

RATIONALE

A1. Volume of biomass preserved or restored: An optimised and more efficient feeding regime is expected to reduce fish meal consumption by users of the platform. Where possible, this reduction in fish consumption should be quantified, with details of the types of the assumptions (e.g. what feed composition is being reduced) provided as comments.

A2. Volume of seafood waste reduced: Early detection of disease allows for more responsive, targeted treatments that reduce fish mortality. The volume of seafood waste therefore avoided can be quantified (e.g. change in fish mortality x # of fish x average biomass of fish)

A3. Welfare of marine life: The positive impact of early detection and treatment of lice and other health problems of farmed fish enabled by use of the platform can be described in comments.

B3. Volume of N/P pollution mitigated: An optimised feeding regime should reduce excess feed and so reduce nitrogen pollution

B6. Volume of other [antibiotic] pollution mitigated: Use of the platform is expected to enable more targeted and therefore reduced use of antibiotics in fish farming. Where possible, the reduction in the volume of antibiotics administered vs. prior to the use of the platform should be quantified.

D1. GHG emissions reduced or avoided: Fish feed has a significant carbon footprint. The reduction in GHGs from a more efficient feeding regime can be quantitatively reported (e.g. change in feed volume x emissions per unit of feed)

D2. GHG emissions generated: To ensure the GHG emissions impact captures the net effect, any emissions associated with use of the platform should also be quantified.

F1. # Jobs created: Suggested to be measured as standard.

F2. # People completing education / training programme: For company employees, and potentially if there is training provided to users of the platform.

F3. % of women employees (management & non- management): Suggested to be measured as standard.

F4. % Entry level wage vs. local minimum wage: Suggested to be measured as standard.

CASE STUDY Microplastics filtration

KEY | 1 2 3 Quantitative reporting ■▲● Qualitative reporting

START UP **Start-up producing filtration technology that captures microplastics from domestic, business and industrial sources, with captured microfibres to be harvested and recycled.**

THE NAVIGATOR

Enabler? N

Sustainably managed ocean resources

A1. Vol. of biomass preserved or restored
A2. Vol. of seafood waste reduced
A3. Welfare of marine life
A4. Volume of seaweed & bivalves produced

A clean ocean

B1. Vol. micro-plastics diverted 1 2 3
B2. Vol. macro-plastics diverted
B3. Vol. N/P pollution mitigated
B4. Vol. contaminated waste water diverted
B5. Invasive species reduced or avoided
B6. Vol. of [other spec.] pollution mitigated

Thriving and restored marine habitats

C1. Area of coral reefs protected or restored
C2. Area of mangroves protected or restored
C3. Area of seagrasses protected or restored
C4. Area of salt marshes protected or restored
C5. Area of kelp forests protected or restored
C6. Area of [relevant hab.] protected or restored

Towards a 1.5C world

D1. GHG emissions reduced or avoided 1 2 3
D2. GHG emissions generated 1 2 3
D3. Carbon sequestered by marine ecosystems
D4. NOx emissions mitigated
D5. SOx emissions mitigated

Climate-resilient coastal communities

E1, Length of coastline protected
E2, Ocean data usage in decision-making
E3, # People supported to adapt to climate change
E4, Food security enhanced

Positive socio-economic outcomes

F1. # Jobs created 1 2 3
F2. # People completing education / training 1 2 3
F3. % of women employees (mgmt & non-mgmt) 1 2 3
F4. % Entry level wage vs. local minimum wage 1 2 3
F5. Particulate emission mitigated

RATIONALE

B1. Volume of microplastics reduced or avoided: The total volume of microplastics captured through application of the filters can be quantitatively reported.

D1. GHG emissions reduced or avoided: Recycling of microfibres is expected to avoid GHG emissions as compared with production of virgin plastic. Where possible, the change in emissions should be quantitatively reported.

D2. GHG emissions generated: To ensure the net effect on emissions is captured, any emissions associated with production / use of the filter should also be quantified.

F1. # Jobs created: Suggested to be measured as standard.

F2. # People completing education / training programme: Suggested to be measured as standard.

F3. % of women employees (management & non- management): Suggested to be measured as standard.

F4. % Entry level wage vs. local minimum wage: Suggested to be measured as standard.

CASE STUDY Seaweed aquaculture and processing

KEY | 1 2 3 Quantitative reporting ■▲● Qualitative reporting

START UP Seaweed farming and processing company that cultivates and harvests seaweed to produce feed, food, nutraceuticals and cosmetics.

THE NAVIGATOR

Enabler? N

Sustainably managed ocean resources

- **A1. Vol. of biomass preserved or restored** ■▲●
- A2. Vol. of seafood waste reduced
- **A3. Welfare of marine life** ■▲●
- **A4. Volume of seaweed & bivalves produced** 1 2 3

A clean ocean

- B1. Vol. micro-plastics diverted
- B2. Vol. macro-plastics diverted
- **B3. Vol. N/P pollution mitigated** 1 2 3
- B4. Vol. contaminated waste water diverted
- B5. Invasive species reduced or avoided
- B6. Vol. of [antibiotic] pollution mitigated

Thriving and restored marine habitats

- C1. Area of coral reefs protected or restored
- C2. Area of mangroves protected or restored
- C3. Area of seagrasses protected or restored
- C4. Area of salt marshes protected or restored
- C5. Area of kelp forests protected or restored
- C6. Area of [relevant hab.] protected or restored

Towards a 1.5C world

- **D1. GHG emissions reduced or avoided** ■▲●
- **D2. GHG emissions generated** 1 2 3
- **D3. Carbon sequestered by marine ecosystems** 1 2 3
- D4. NOx emissions mitigated
- D5. SOx emissions mitigated

Climate-resilient coastal communities

- E1. Length of coastline protected
- E2. Ocean data usage in decision-making
- E3. # People supported to adapt to climate change
- **E4. Food security enhanced** ■▲●

Positive socio-economic outcomes

- **F1. # Jobs created** 1 2 3
- **F2. # People completing education / training** 1 2 3
- **F3. % of women employees (mgmt & non-mgmt)** 1 2 3
- **F4. % Entry level wage vs. local minimum wage** 1 2 3
- F5. Particulate emission mitigated

RATIONALE

A1. Volume of biomass preserved or restored: If seaweed-based products substitute for fish consumption (e.g. for human food or animal feed), this will reduce the extraction of fish biomass. Given this is challenging to quantitatively report, this is suggested as a qualitative KPI, to be supported with an explanation of these mechanisms where possible with relevant quantitative data points (e.g. volume of food produced, estimated substitution effect for fish etc.)

A3. Welfare of marine life: Ocean-based seaweed aquaculture provides habitat and nursery areas that support marine life. In addition, seaweed-based feed additives can support the health of livestock. This indicator should be reported qualitatively and details of the benefits described in supporting evidence.

A4. Volume of seaweed and bivalves produced: Volumes of fresh seaweed farmed and harvested each year should be quantitatively reported.

B3. Volume of N/P pollution mitigated: From assimilation of nitrogen and phosphorous by seaweed as it grows

D1. GHG emissions reduced or avoided: If seaweed-based products substitute for other, higher-emission products (e.g. land-based food or feed), this will result in a reduction or avoidance of GHGs on a kcal basis. Given that this impact is difficult to quantify (e.g. given the substitute product cannot be definitively known), this should be reported on qualitatively, with relevant supporting data points provided where possible (e.g. comparison of CO2 per kcal produced for seaweed-based product vs. substitute land-based product).

D2. GHG emissions generated: To ensure the net effect on emissions is captured, any emissions associated with farming (e.g. from shipping to harvest the seaweed) and production of the seaweed-based products should be quantified.

D3. GHG emissions sequestered: Seaweed is a blue carbon sink. The carbon assimilated by the seaweed farm each year should be quantified where possible, with relevant scientific data and assumptions provided (given that quantification of sequestration by seaweed remains the subject of active scientific enquiry).

E.4 Food security enhanced: Animal feed applications enhance animal health, strengthening food supply & security. Nutraceutical products also offer a low-footprint way to enhance nutrition. These impacts should be qualitatively described, supported by relevant quantitative data points (e.g. volume of feed/nutraceutical products produced; volumes of relevant nutrients and minerals within these products etc.)

F1. # Jobs created: Suggested to be measured as standard.

F2. # People completing education / training programme: Suggested to be measured as standard.

F3. % of women employees (management & non- management): Suggested to be measured as standard.

F4. % Entry level wage vs. local minimum wage: Suggested to be measured as standard

CASE STUDY Shark repellent device

KEY | 1 2 3 Quantitative reporting ■▲● Qualitative reporting

START UP Start-up producing and deploying eco-friendly barriers to keep sharks and humans apart, protecting communities whilst avoiding culling and the use of nets.

THE NAVIGATOR

Enabler? N

Sustainably managed ocean resources

- **A1. Vol. of biomass preserved or restored** 1 2 3
- A2. Vol. of seafood waste reduced
- **A3. Welfare of marine life** ■▲●
- A4. Volume of seaweed & bivalves produced

A clean ocean

- B1. Vol. micro-plastics diverted
- B2. Vol. macro-plastics diverted
- B3. Vol. N/P pollution mitigated
- B4. Vol. contaminated waste water diverted
- B5. Invasive species reduced or avoided
- B6. Vol. of [antibiotic] pollution mitigated

Thriving and restored marine habitats

- C1. Area of coral reefs protected or restored
- C2. Area of mangroves protected or restored
- C3. Area of seagrasses protected or restored
- C4. Area of salt marshes protected or restored
- C5. Area of kelp forests protected or restored
- C6. Area of [relevant hab.] protected or restored

Towards a 1.5C world

- **D1. GHG emissions reduced or avoided** 1 2 3
- **D2. GHG emissions generated** 1 2 3
- D3. Carbon sequestered by marine ecosystems
- D4. NOx emissions mitigated
- D5. SOx emissions mitigated

Climate-resilient coastal communities

- **E1. Length of coastline protected** 1 2 3
- E2. Ocean data usage in decision-making
- E3. # People supported to adapt to climate change
- E4. Food security enhanced

Positive socio-economic outcomes

- **F1. # Jobs created** 1 2 3
- **F2. # People completing education / training** 1 2 3
- **F3. % of women employees (mgmt & non-mgmt)** 1 2 3
- **F4. % Entry level wage vs. local minimum wage** 1 2 3
- F5. Particulate emission mitigated

RATIONALE

A1. Volume of biomass preserved or restored: Reporting should quantify the impact from improved shark mortality and mortality of other species such as turtles, dolphins, seals, bony fishes, etc. from replacement of other strategies including nets (which cause entanglement) and culling.

A3. Welfare of marine life: As for volume of biomass preserved or restored, however, this KPI should focus on qualitatively describing the benefits to marine life

D1. GHG emissions reduced or avoided: Compared with traditional solutions to address the threat from sharks, this solution requires far less maintenance, reducing shipping operations and so fuel consumption. This reduction / avoidance in emissions should be quantified, with details of the assumptions made (e.g. the comparison solution and the emissions associated) described as comments and supporting evidence.

D2. GHG emissions generated: To ensure the net effect on emissions is captured, any emissions associated should be quantified.

E1. Length of coastline protected: The solution is a physical barrier which acts as an artificial reef, helping protect coastlines from storm surges and powerful waves. The length of coastline along which the barrier is installed should be quantified, with an explanation of the benefits described provided as commentary.

F1. # Jobs created: Suggested to be measured as standard.

F2. # People completing education / training programme: Suggested to be measured as standard.

F3. % of women employees (management & non- management): Suggested to be measured as standard.

F4. % Entry level wage vs. local minimum wage: Suggested to be measured as standard.

CASE STUDY Underwater wifi

KEY | 1 2 3 Quantitative reporting ■▲● Qualitative reporting

START UP Start-up offering underwater Wifi capabilities to users in diverse industries – in particular MPA enforcement and offshore wind operations

THE NAVIGATOR

Enabler? Y

Sustainably managed ocean resources

- **A1. Vol. of biomass preserved or restored** ■▲●
- A2. Vol. of seafood waste reduced
- A3. Welfare of marine life
- A4. Volume of seaweed & bivalves produced

A clean ocean

- B1. Vol. micro-plastics diverted
- B2. Vol. macro-plastics diverted
- B3. Vol. N/P pollution mitigated
- B4. Vol. contaminated waste water diverted
- B5. Invasive species reduced or avoided
- B6. Vol. of [antibiotic] pollution mitigated

Thriving and restored marine habitats

- **C1. Area of coral reefs protected or restored** ■▲●
- C2. Area of mangroves protected or restored
- **C3. Area of seagrasses protected or restored** ■▲●
- C4. Area of salt marshes protected or restored
- C5. Area of kelp forests protected or restored
- C6. Area of [relevant hab.] protected or restored

Towards a 1.5C world

- **D1. GHG emissions reduced or avoided** ■▲●
- D2. GHG emissions generated
- D3. Carbon sequestered by marine ecosystems
- D4. NOx emissions mitigated
- D5. SOx emissions mitigated

Climate-resilient coastal communities

- E1. Length of coastline protected
- **E2. Ocean data usage in decision-making** ■▲●
- E3. # People supported to adapt to climate change
- E4. Food security enhanced

Positive socio-economic outcomes

- **F1. # Jobs created** 1 2 3
- **F2. # People completing education / training** 1 2 3
- **F3. % of women employees (mgmt & non-mgmt)** 1 2 3
- **F4. % Entry level wage vs. local minimum wage** 1 2 3
- F5. Particulate emission mitigated

RATIONALE

A1. Vol. of biomass preserved or restored: Qualitatively report on this indicator, providing an explanation on the use of Wifi by customers to enforce Marine Protected Areas and so limit illegal fishing (suggested to be supported by data points from customers regarding the size of the MPA; illegal boats apprehended etc.)

C1. Area of coral reefs protected or restored: Qualitatively report and detail use of Wifi by customers to a) support reef restoration activities, and b) enforce Marine Protected Areas containing reefs (suggested to be supported by data points from customers regarding the area of reef restored / the size of the MPA where the Wifi is deployed)

C3. Area of seagrasses protected or restored: Qualitatively report and detail use of Wifi by customers to enforce Marine Protected Areas (suggested to be supported by data points from customers regarding the area the MPA where the wifi is deployed)

D1. GHG emissions reduced or avoided: Qualitatively report and detail use of Wifi by customers to support maintenance of offshore wind facilities (suggested to be supported by data points from customers on e.g. the number of turbines in the wind park; the amount of green energy produced etc.)

E2. Ocean data usage in decision making to support climate adaptation and resilience: Qualitatively report and explain use of Wifi to support transmission of ocean sensor data to support detailed ocean weather and flood forecasting that are inputs to e

F1. # Jobs created: Suggested to be measured as standard.

F2. # People completing education / training programme: Suggested to be measured as standard.

F3. % of women employees (management & non- management): Suggested to be measured as standard.

F4. % Entry level wage vs. local minimum wage: Suggested to be measured as standard.

SUGGESTED OPERATIONAL DATA POINTS AS AN ENABLING TECHNOLOGY

- **# of customers purchasing underwater Wifi services**
- **of routers installed**
- **Area of ocean covered by Wifi**
- **GB of data transferred**

CASE STUDY Urchin ranching

KEY | 1 2 3 Quantitative reporting ■▲● Qualitative reporting

START UP Start-up undertaking urchin ranching to support the restoration of kelp habitats degraded by urchins.

THE NAVIGATOR

Enabler? N

Sustainably managed ocean resources

A1. Vol. of biomass preserved or restored
A2. Vol. of seafood waste reduced
A3. Welfare of marine life
A4. Volume of seaweed & bivalves produced 1 2 3

A clean ocean

B1. Vol. micro-plastics diverted
B2. Vol. macro-plastics diverted
B3. Vol. N/P pollution mitigated 1 2 3
B4. Vol. contaminated waste water diverted
B5. Invasive species reduced or avoided
B6. Vol. of [antibiotic] pollution mitigated

Thriving and restored marine habitats

C1. Area of coral reefs protected or restored
C2. Area of mangroves protected or restored
C3. Area of seagrasses protected or restored
C4. Area of salt marshes protected or restored
C5. Area of kelp forests protected or restored 1 2 3
C6. Area of [relevant hab.] protected or restored

Towards a 1.5C world

D1. GHG emissions reduced or avoided
D2. GHG emissions generated 1 2 3
D3. Carbon sequestered by marine ecosystems 1 2 3
D4. NOx emissions mitigated
D5. SOx emissions mitigated

Climate-resilient coastal communities

E1. Length of coastline protected
E2. Ocean data usage in decision-making
E3. # People supported to adapt to climate change
E4. Food security enhanced

Positive socio-economic outcomes

F1. # Jobs created 1 2 3
F2. # People completing education / training 1 2 3
F3. % of women employees (mgmt & non-mgmt) 1 2 3
F4. % Entry level wage vs. local minimum wage 1 2 3
F5. Particulate emission mitigated

RATIONALE

A1. Vol. of seaweed and bivalves produced: Overgrazing urchin populations degrades kelp forests. Through ranching urchins, kelp forests can recover. The volume of kelp biomass benefitting from urchin restoration should be quantified, with assumptions taken described in comments and supporting evidence (e.g. area of kelp forest estimated as restored or preserved, biomass per unit area). The benefit to other ocean species (e.g. from kelp forest as habitat or nursery grounds) can also be described.

B3. Volume of N/P pollution mitigated: The volume of nutrients assimilated by the restored kelp forests should be quantitatively provided based on area of kelp forest restored from ranching (with this latter assumption to be clarified in comments).

C5. Area of kelp forests protected or restored: In addition to quantifying the coverage of kelp forests benefiting from urchin ranching, the additional benefits from habitat restoration could be qualitatively described, including the positive impact on mitigating acidification and turbidity, and protection of coastlines from strong waves, erosion and storm surges etc.

D2. GHG emissions generated: To ensure the net effect on emissions is captured, any emissions associated with ranching (e.g. fuel consumption from boats) should be quantified

D3. Carbon sequestered by marine ecosystems: Kelp is a blue carbon sink. The carbon assimilated by the restored kelp forest should be quantified where possible, with relevant scientific data and assumptions provided (given that quantification of sequestration by seaweed remains the subject of active scientific enquiry).

F1. # Jobs created: Suggested to be measured as standard.

F2. # People completing education / training programme: Suggested to be measured as standard.

F3. % of women employees (management & non- management): Suggested to be measured as standard.

F4. % Entry level wage vs. local minimum wage: Suggested to be measured as standard.

CHAPTER 5

OPERATIONALISING THE OCEAN IMPACT NAVIGATOR

The objective of the Ocean Impact Navigator is to become an agile, open-source tool used by sustainable ocean economy investors to track and report their collective positive impact on ocean health and coastal communities. Although the Navigator has its roots in the OII ecosystem, and was developed with these users in mind, it also has clear potential applications for a variety of other players in the ocean impact space - including NGOs, not-for-profits, impact investors, larger incumbents and governments.

The release of this report marks a first milestone – "the theory" – that paves the way for operationalisation and adoption of the Navigator as a reporting tool – "the practice".

Consequently, over the coming months, the 1000 Ocean Startups coalition will invest time and resources, as well as invite collaboration in order to:

1. **Refine the Navigator structure and list of KPIs by collecting additional feedback from the ocean, impact, and investment communities.**

   The 1000 Ocean Startups coalition is inviting ocean investors, scientists, civil society and start-ups to test, comment on and help fine-tune the KPIs included in the Navigator in the coming months. Any tool intending to encompass the entire sustainable ocean economy innovation space, without becoming an unwieldy and impractical maze, necessarily will involve some simplifications and trade-offs – as presented in the previous chapter. However, without a doubt, there is potential to amend and upgrade the Navigator if some important KPIs are missing or the framework is deemed otherwise incomplete by ocean practitioners.

2. **Build an online tool to allow actual reporting of the ocean start-ups' impact.**

   In the coming months, the 1000 Ocean Startups coalition intends to finalise the list of KPIs, as well as to develop detailed guidelines and case studies to support users in reporting against them – see Technical Appendix for a first version of it. Following adoption and refinement of the Navigator, the coalition ultimately aims to create an online tool to enable consolidated reporting of ocean start-ups' impact. This tool will take some inspiration from the recently launched Land Use Finance Hub, developed by the UN Environment Programme (UNEP) Climate Finance Unit and the UNEP-World Conservation Monitoring Centre (UNEP-WCMC) – see Figure 15.

However, the online tool for the Ocean Impact Navigator is expected to go beyond helping investors identify which impact KPIs to use; it will also aim to support the collection and reporting of impact performance by OII players against the KPIs, and provide supporting resources. By enabling centralised reporting, the tool is expected to generate a suite of benefits, including facilitating the aggregation of data at the portfolio or industry level, providing a source of best practice and inspiration for innovators and investors devising their impact protocols, and identification of collective impact gaps in the overall sustainable ocean economy.

Figure 16: An example of a recent online impact tool: The Land Use Finance Hub

3. **Define and set up governance and processes to ensure reporting is undertaken rigorously and homogeneously.**

   Making the Navigator not only an information hub but also a reporting tool will require adequate, transparent and rigorous governance and processes. Several questions will need to be addressed in the coming months, including:

   - What policies will be required to govern the use and communication of reported data?
   - Who will be allowed to report on the Navigator (e.g., all start-ups directly reporting or through their investors only)?
   - What processes should be established to enable the review, constructive challenge, and improvement of reporting undertaken by investors to guarantee the robustness and the homogeneity of the data and methodologies used?
   - Will the reporting be eventually "certified" by a third party?
   - What functionality should the tool seek to provide or integrate (e.g., open sourcing of KPI calculation methodologies; standard conversions so start-ups can report raw data)?
   - How can it be ensured that the tool remains a living resource, that continues to grow and evolve in line with advances in ocean science and maturity of the broader impact evaluation space?
   - What is the appropriate economic model to enable the long-term financial sustainability and scaling of the Navigator?

   The 1000 Ocean Startups coalition will lead discussions over the coming months to identify viable solutions to these questions, and invites the broader ocean and impact community to react.

4. **Establish regular and consolidated reporting, presenting a snapshot of the collective impact of the OII ecosystem.**

   Once the online tool is up and running, guided by transparent governance and processes, the Navigator will be used to generate regular (potentially yearly) consolidated reports based on data recorded in the tool. These reports will offer clear and accessible insights into the cumulative impact created by the OII ecosystem and into associated trends.

CONCLUSION

A transparent, science-based and harmonised impact-measurement framework is vitally needed to bring confidence to private and public ocean investors and ultimately to help mobilise resources for the transition towards a truly sustainable ocean economy.

The Ocean Impact Navigator, developed by the 1000 Ocean Startups coalition, is the first attempt to create such a tool for the entire Ocean Impact Innovation ecosystem. The Navigator is expected to guide investors during impact due diligence, streamline impact measurement and reporting costs for start-ups and investors, allow consolidated reporting and communication at the investor portfolio and industry levels, and support informed strategic decision-making at the level of the overall OII ecosystem.

The Navigator encompasses six main impact areas spanning the breadth of innovations, sectors and impact areas across the sustainable ocean economy, extending beyond SDG14. These impact areas are captured by 30 actionable KPIs, combining qualitative and quantitative reporting and leveraging existing and robust methodologies (e.g., GRI, IRIS).

The publication of this report is the first step towards a fully functioning, online, open-source reporting tool. It is also an invitation to the broader ocean and impact community to join the 1000 Ocean Startups Coalition in refining and mainstreaming this new framework. This report is expected to trigger active and fruitful discussions and new collaboration opportunities, culminating in the deployment and adoption of shared impact measurement and reporting tools later this year, with the benefits to be felt and expanded throughout this Ocean Decade.

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