

# RIDING THE BLUE WAVE

Applying the Blue Economy  
Approach to World Bank Operations



PROBLUE

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# TABLE OF CONTENTS

<b>Acronyms</b> .....	<b>5</b>
<b>Executive Summary</b> .....	<b>7</b>
<b>Introduction and Purpose</b> .....	<b>8</b>
What is the Blue Economy?.....	8
The Blue Economy and The World Bank’s Goals .....	10
A Blue Economy Approach in World Bank Operations.....	10
Why Now is the Time to Implement a Blue Economy Approach.....	13
The Blue Economy in Response to Major “Shocks”: Building Back Better, Building Back Bluer .....	14
<b>Oceans in Crisis</b> .....	<b>16</b>
The Importance of the Ocean Economy.....	16
Threats and Challenges .....	16
<b>Applying the Blue Economy Approach</b> .....	<b>18</b>
Goals.....	18
Blue Economy Work Streams .....	18
PROBLUE.....	24
<b>Conclusion</b> .....	<b>26</b>
<b>Annex–The Blue Economy in International Processes</b> .....	<b>28</b>
<b>Endnotes</b> .....	<b>31</b>

# ACRONYMS

<b>BEDF</b>	Blue Economy Development Framework
<b>BETF</b>	Bank-executed Trust Fund
<b>COAST</b>	Caribbean Oceans and Aquaculture Sustainability Facility
<b>EEZ</b>	Exclusive Economic Zone
<b>EIA</b>	Environmental Impact Assessment
<b>GDP</b>	Gross Domestic Product
<b>GEF</b>	Global Environment Facility
<b>GHG</b>	Greenhouse Gas
<b>GRID</b>	Green, Resilient and Inclusive Development
<b>IDA</b>	International Development Association
<b>IFC</b>	International Finance Corporation
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>M&amp;E</b>	Monitoring & Evaluation
<b>MFD</b>	Mobilizing Finance for Development
<b>MSP</b>	Marine Spatial Planning
<b>NbS</b>	Nature-based Solutions
<b>NDC</b>	Nationally Determined Contribution
<b>PES</b>	Payment for Ecosystem Services
<b>R&amp;D</b>	Research and Development”
<b>RETF</b>	Recipient-executed Trust Fund
<b>SDG</b>	Sustainable Development Goal
<b>SIDS</b>	Small Island Developing State
<b>UN</b>	United Nations
<b>UNFCCC</b>	UN Framework Convention on Climate Change
<b>USD</b>	United States Dollar



# EXECUTIVE SUMMARY

In close collaboration with international institutions, development partners, and client countries, the World Bank is leading the effort to develop and operationalize the concept of the Blue Economy by focusing on the integration and sustainability of different oceanic sectors. The aim is to limit their impacts on ocean health, taking into account the additional risks posed by climate change. The Blue Economy approach to ocean development therefore aligns well with the World Bank's twin goals of reducing extreme poverty and enhancing shared prosperity.

The main objective of this document is to provide guidance on how to apply a “Blue Economy lens” to Bank operations. To this end, it aims to:

1. Ensure that the World Bank's operations around oceanic activities are developed with a view to improving the necessary integration between different economic sectors, both on land and at sea, and avoiding unnecessary impacts on ocean health.
2. Identify means to scale up Blue Economy activities, including through new sources of innovative blue finance.

To achieve these goals, two related streams of work are identified: one focused on promoting an integrated approach to the sustainable development of oceanic sectors, and the other focused on increasing blue financing.

## **STREAM ONE**

### **Promotion of an integrated approach to the sustainable development of oceanic sectors—a “spend better” approach to investment**

The first stream focuses on activities, applying a blue lens to traditional World Bank operations, and helping to guide strategic investments. It identifies ways to facilitate the integration and sustainability of the World Bank's ocean-related operations and to support the upstream knowledge work needed. This can be facilitated through analytics, capacity building, and/or technical assistance to support innovative projects centered around integration, sustainability, and the protection of ocean health.

## **STREAM TWO**

### **Increased blue financing—a “finance more” approach to investment**

The second stream explores ways to increase financing that supports Blue Economy activities, while better targeting funding to minimize externalities and allow innovation through financing mechanisms such as payments for ecosystem services. It also considers whether blue financing for the development of oceanic sectors could possibly be used to “crowd in” private capital. This is complemented by the strategic deployment of PROBLUE resources to maximize their leveraging effect on the rest of the portfolio, and by the integration of blue-related risks in financing decisions. (PROBLUE is a multi-donor trust fund administered by, and housed at, the World Bank that supports the sustainable, integrated development of marine and coastal resources in healthy oceans.)

# INTRODUCTION AND PURPOSE

## What is the Blue Economy?

There is no globally accepted definition of the term “blue economy,” although there is relative consistency among the varying definitions. For the purposes of this document, the Blue Economy approach is defined as the sustainable use of ocean resources for economic growth, improved livelihoods, and job creation while preserving the health of ocean ecosystems. Specifically, the Blue Economy is understood here to require that the development of individual oceanic sectors be pursued in an integrated fashion, and with a view to managing their impacts on ocean health. This challenge is made even greater by the fact that, contrary to land-based activities, oceanic sectors operate mostly in a public goods setting, where user rights and property rights are not clearly defined, which leads to many instances of the Tragedy of the Commons.

In this context, the Blue Economy invites the World Bank to move beyond business as usual and align economic development opportunities with ocean health to foster low-carbon, resource-efficient growth that creates jobs and reduces poverty. Because it is a platform for economic diversification, the Blue Economy not only includes low-impact growth of traditional ocean industries but also new and emerging sectors, with innovation and climate as core elements, and a system-wide view of development to maximize the benefits and minimize the negative impacts of development (Table 1).

### BOX 1. Blue Economy vs. Ocean Economy

According to the OECD, the ocean economy—defined as **the sum of the economic activities of ocean-based industries, together with the assets, goods and services of marine ecosystems**—was estimated at \$1.5 trillion in 2010. Though impressive, this estimate is conservative because it does not account for a variety of economic activities—for example, marine business and finance, ocean surveillance, and marine biotechnology—that cannot be captured accurately because of a lack of data. Every small island developing state (SIDS) and every coastal state has an ocean economy, though the degree to which this economy is managed varies widely by country.

The Blue Economy, in contrast, refers specifically to how an ocean economy is managed. It is built around a series of fundamental principles:

- The recognition that oceans are a key engine for development yet are also under growing threat from climate change, destructive practices, and overexploitation;
- That individual sectors must be better and more sustainably managed—for example, the sustainable management of fisheries, decarbonization of shipping and clean ports, better management of agriculture run-off, and improved solid waste management;
- That the management of these individual sectors must be integrated, for example, to account for the impact that one has on another and the cumulative impact of these sectors.



TABLE 1. Overview of Oceanic Sectors

TYPE OF ACTIVITY	ACTIVITY SUBCATEGORIES	RELATED INDUSTRIES / SECTORS	DRIVERS OF GROWTH
Harvesting and trade of marine living resources	Seafood harvesting	Fisheries (primary fish production) Secondary fisheries-related activities, for example, processing, net and gear making, ice production and supply, boat construction, and maintenance Trade of seafood products Trade of nonedible seafood products Aquaculture	Demand for food and nutrition, especially protein Demand for food and nutrition, especially protein Demand for food and nutrition, especially protein Demand for pharmaceutical, cosmetic and, pet products Demand for food and nutrition, especially protein
	Use of marine living resources for pharmaceuticals and chemicals	Marine biotechnology and bioprospecting	R&D and usage for healthcare, cosmetic, enzyme, nutraceutical and other industries
	Extraction and use of marine nonliving resources (nonrenewable)	Seabed mining Oil and gas Desalination	Demand for minerals Demand for (alternative) energy sources Demand for fresh water
	Use of renewable, non-exhaustible natural forces	Renewables Generation of offshore renewable energy	Demand for (alternative) energy sources
Commerce and trade in and around the oceans	Transport and trade	Shipping and shipbuilding Maritime transport Ports and related services	Growth in seaborne trade; transport demand; international regulations; and maritime transport industries (shipbuilding, scrapping, registration, seafaring, port operations, and so on)
	Coastal development	National planning ministries and departments, private sector	Coastal urbanization, national regulations
	Tourism and recreation	National tourism authorities, private sector	Global growth of tourism
	Carbon sequestration	Blue carbon	Climate mitigation
Indirect contribution to economic activities and environments	Coastal protection	Habitat protection, restoration	Resilient growth
	Waste disposal for land-based industry	Assimilation of nutrients, solid waste	Wastewater management

Source: *The Potential of the Blue Economy: Increasing Long-term Benefits of the Sustainable Use of Marine Resources for Small Island Developing States and Coastal Least Developed Countries (World Bank and United Nations Department of Economic and Social Affairs, 2017)*

## The Blue Economy and The World Bank's Goals

Oceans and marine resources provide irreplaceable benefits and services that align with the World Bank's twin goals of eliminating extreme poverty and boosting shared prosperity. It is estimated that 37 percent of the world's population live in coastal areas, many of whom are directly dependent on oceans for their health and nutrition, sustainable livelihoods and decent jobs. Oceans are also drivers of sustainable, long-term, economic growth and environmental stability on the coast and inland, a testament to the need to protect oceans and marine and coastal resources for the benefit of all.

### BOX 2. Gender in the Blue Economy

As an institution, the World Bank is committed to supporting client countries in addressing the vast challenges related to gender equality and empowerment of women and girls as a key pathway toward poverty reduction and boosting shared prosperity. The Bank Gender Strategy emphasizes the commitment to the 2030 Sustainable Development Agenda and SDG 5 on gender equality and empowerment of all women and girls. The Blue

Economy approach bases its gender engagement on the *"Gender Follow Up Note (FY19-FY21): Towards Implementing the Bank Gender Strategy,"* to support client countries in their effort to overcome the barriers to gender equality and to make women and girls key players in promoting and benefitting from environmental sustainability, as well as sustainable natural resource management.

## A Blue Economy Approach in World Bank Operations

The purpose of the approach laid out in this document is to help guide current and future World Bank operations that draw on and impact ocean health, and thus effect a transition toward a Blue Economy approach and, ultimately, a global Blue Economy.

Initial work by the World Bank<sup>1</sup> has identified that developing the ocean economy is an aspiration of many countries that seek blue-growth strategies but may not always have a clear vision of what a sustainable Blue Economy approach might actually entail, under what conditions it is most likely to develop, and the best way to achieve it.<sup>2</sup> Enabling a transition from business as usual—where activities are often undertaken with little regard for serious negative environmental, economic and social impacts that threaten long-term development—toward a more sustainable and resilient Blue Economy thus requires significant upfront investments to understand current trends and emerging threats, and to formulate the appropriate governance, fiscal, and financial policies and investment solutions.

The scope and variety of challenges facing oceans require making hard, strategic choices about where the most impact can be made most efficiently. The approach laid out here is thus aligned with the comparative advantage of the World Bank, with a view to applying that approach throughout the World Bank's program cycle.

Advisory services and analytics provide client countries and the international community at large with cutting-edge solutions and insights. As evidenced in the scale and scope of the issues addressed here, cutting-edge, innovative solutions are necessary to achieve change on the scale required. The World Bank has already undertaken important analytical work on ocean-related issues, from seminal studies such as the *Sunken Billions* reports,<sup>3</sup> and analytical work on the costs and benefits of the decarbonization of shipping,<sup>4</sup> to work currently under way on the pathways out of plastic

pollution. Taken together, these analytical studies can and have moved the needle on the global ocean agenda, both within and outside the World Bank.

This approach can benefit World Bank country engagement and generate co-benefits—including in the climate change, biodiversity, and gender areas—thus helping draw attention to the critical issues that must be addressed to maximize the benefits from oceanic sectors and reverse the trajectory of declining ocean health.

This approach also draws on the World Bank’s ability to provide its client countries with cost-effective financing in combination with the technical expertise required to best direct investment and support the successful implementation of activities. In helping finance the sustainable development of oceanic sectors, the Bank must therefore first focus on facilitating the adjudication needed between competing demands on ocean resources. This will require, among other things, prioritization at the country level of the optimal areas for development focus, through the country engagement process.

These efforts are fully aligned with key World Bank priorities, including gender, climate change, and the Bank’s focus on the most vulnerable people living in fragile and conflict-affected situations. As a result, the guidance provided here will strengthen not only ocean health but also the wellbeing of those most in need, thus aligning with the Bank’s broader goals.

**FIGURE 1. Deploying the Blue Economy Approach in World Bank Operations**

**DATA, ANALYSIS, AND DISSEMINATION**

**Challenge:** Data and research capacity hampers smart decision-making for optimal growth.



Design cost-effective data-gathering & analysis to inform policy to support integrated planning of maritime sectors



Design and support development of blue natural capital accounting



Identify capacity for integrated planning using the latest technology

**POLICY, INSTITUTIONAL AND FISCAL REFORMS**

**Challenge:** Poor policies, inefficient use of public resources and lack of stakeholder engagement leads to unsustainable growth, damage to natural systems and costly cross-sector conflicts.



Analyze key government institutions and offer recommendations for policy, administrative and fiscal reforms



Help countries apply integrated and inclusive planning decision-support tools for blue growth



Help identify public investments in blue and grey infrastructure

**FOSTERING INVESTMENT**

**Challenge:** Lack of knowledge and poor governance create uncertainty and deter private investment in ocean sectors.



Identify opportunities for innovative financing of blue growth (blue bonds, insurance, etc.)



Offer financial sector technical assistance and standards to adopt blue investment principles



Design incentives to make maritime sector investments climate-resilient

### BOX 3. The Growing Threat of Climate Change to Ocean Health

The effects of climate change on oceans are becoming better understood as climate impacts continue to grow. Some of these effects are already acutely felt—coral bleaching being a particularly visible and well-documented example of the impact of increases in water temperatures around the world. But climate change is also causing, for instance, changes in fish migration patterns, mostly from tropical areas toward the poles, as well as changes in fish-stock biomass as a result of higher temperatures, acidification, and deoxygenation. These changes, in turn, have severe economic impacts of the often-impoorished communities that are among the most vulnerable.

Sea-level rise is already impacting coastal areas all over the world. The rural poor in low-elevation coastal zones are among the most vulnerable, with their livelihoods endangered both from the direct impact of coastal hazards, and indirectly through the impacts of climate change on coastal and near-shore ecosystems. The adversity low-income residents face is further exacerbated by seawater intrusion in ground water sources, reducing water quality and availability. These low-lying coastal zones are currently home to about 680 million people, a number that is projected to increase to more than one billion by 2050.

These challenges threaten the role oceans play as a bulwark against further climate change impacts. Coastal ecosystems are significant carbon sinks, sequestering

more carbon per unit area than forests. Mangroves and related ecosystems also protect coastal communities from natural disasters and moderate floods and storms in ways that are now being threatened by shifts induced by climate change. The same holds true for fish stocks: healthy and abundant fish populations are more resilient to climate impacts than those that have been overfished or depleted.

In short, protecting ocean health thus also has additional benefits in bolstering the role of oceans in combatting climate change and improving the resilience of those coastal communities most at risk.

According to the 2019 IPCC Special Report on the Ocean and the Cryosphere in a Changing Climate, communities in or in close proximity to coastal environments are particularly at risk, and coasts are home to approximately a third of the global population. This includes about 11 percent of the world's population who live on land less than 10 meters above sea level. Poor and marginalized people in these areas are especially vulnerable to the hazards of climate change, since their adaptation capacity is limited by a wide range of factors—from the social, economic, political, and cultural, to technological, institutional, geographical and demographic factors. This issue is vividly illustrated in the World Bank's report on the socioecological impacts of climate change on African fisheries (*Climate Change and Marine Fisheries in Africa*, 2019)

Growing demand from different users for the services and resources provided by oceans is driving a commensurate increase in the stresses placed on oceans, but different issues in different sectors call for different approaches, with different levels of priority. Three of the most vitally important approaches are:

1. Stopping overexploitation of marine living resources, including repurposing harmful subsidies, although this can arguably raise certain social protection issues;
2. Tackling pollution, which is largely a regulation issue but also calls for market approaches; and
3. Supporting the development of new industries, most notably renewable energy and mariculture—both of which present financing opportunities.

Furthermore, investments in oceanic growth must be sustainable and preserve ocean health across various oceanic sectors. Such investments cannot be considered in isolation but should instead be part of a dynamic, sustainable, and interconnected ocean economy. International engagement with the ocean agenda has emphasized the need for such an approach to promote development in ocean sectors. Nowhere is this clearer than in the 2030 *Sustainable Development Agenda* (in particular SDG 14 Life Below Water) and in other fora and agreements, in particular, the Paris Agreement and the Convention on Biological Diversity. The Blue Economy approach can also be

framed as a major component of the transformation of the “food system,” which is one of the transformations identified in the World Bank’s Climate Change Action Plan. This goal includes drawing on seafood to provide the proteins and other nutrients people need, without depending too heavily on non-sustainable sources, or using too much land in coastal areas.

The World Bank has been exploring ways to construct an overarching framework to guide its engagement with countries to develop the ocean economy, in much the same way it has created similar frameworks for climate change, forests, biodiversity or other issues. This report seeks to help guide investments that will contribute to the development of oceanic sectors in a sustainable and integrated fashion, maximizing co-benefits and minimizing externalities to secure the best outcomes for World Bank client countries.

### **Why Now is the Time to Implement a Blue Economy Approach**

In light of the challenges that have thus far prevented oceans from reaching their full potential as engines of global development, there is a pressing need to replace the business-as-usual model. Too often, oceanic sectors are managed separately—under the authority of different ministries or other government entities that do not share or coordinate their efforts. This silo-based approach results in two important consequences: First, externalities generated by one sector are typically borne by others and are therefore neither monitored, accurately measured, nor mitigated. The impact of polluting discharges from oil and gas drilling and from ships on fisheries and coastal tourism is a good illustration of this phenomenon. Second, and perhaps more importantly, a purely sectoral approach ultimately hampers the growth of the ocean economy because the development of one sector often prevents the full and optimal development of others.

The new approach outlined here aims to transform the economic development of oceanic sectors in five fundamental ways:

1. Climate change must be fully incorporated in all future investment decisions around oceanic sectors
2. The exploitation of marine living resources must be sustainable
3. The impact on ocean health of all other activities that depend on oceans should be managed and limited to the greatest extent possible
4. The management of different oceanic sectors must be better integrated to account for the externalities of one sector on others
5. The impacts of land-based sources of marine pollution should, where appropriate and feasible, be integrated with oceanic sectors

With a global portfolio of more than \$9 billion in investments in oceanic and ocean-related sectors, the World Bank is in a unique position to address these challenges directly. Moreover, the wide range of these investments—from maritime transport to agriculture to sustainable energy generation—offers the World Bank the ability to take a new approach to influencing and guiding (where appropriate) future investment in oceans in ways that promote and create a holistic Blue Economy.

Building on continued collaboration between various groups within the World Bank and between the Bank and its international development partners, the approach

outlined in this report seeks to address the challenges facing oceans—from marine pollution, to climate change, gender inequality, and the overexploitation of marine living resources. Now more than ever, the challenges are clear: as incomes rise, especially in developing economies, the threat of persistent overexploitation of ocean resources is exacerbated by growing demand. Furthermore, the effects of climate change and marine pollution and litter from sea- and land-based sources combine to amplify the harmful impacts of such overexploitation on marine and coastal resources and ecosystems. Taken together, these challenges threaten to deplete fisheries and destroy the marine and coastal ecosystems and natural assets that drive growth in many coastal and island countries, undercutting the very foundation upon which these countries rely.

With these challenges and opportunities in mind, the international community has been considering with increasing urgency the type of interventions that could best prevent or mitigate these impacts. This focus on a wide range of stakeholders is both a necessary and a unique opportunity to drive lasting progress in the development of marine and coastal resources.

Of particular importance, and driving this transition to a Blue Economy, are global efforts to combat marine litter and plastic pollution. As awareness and demand for solutions in these areas increase, a growing consensus is building on a broad set of solutions. Marine litter and plastic pollution are urgent issues because many pollutants, such as microplastics, are irretrievable once they enter the oceans. The solutions required in this and other areas will in turn generate the development of new economic sectors or boost existing ones.

### **The Blue Economy in Response to Major “Shocks”: Building Back Better, Building Back Bluer**

The COVID-19 crisis, and other major shocks such as the 2004 Indian Ocean tsunami and ongoing climate change impacts, have demonstrated the vulnerabilities of large swathes of the global economy, with especially pronounced effects on the world’s poorest, including women and children. The impacts on vulnerable coastal and island communities are no less severe: COVID-19-related disruptions have been especially acute in global food-supply chains (including seafood supply chains) and the tourism industry, with small-and medium-size enterprises (SMEs) in these sectors especially vulnerable.

Globally, the impact of major shocks on the marine economy is significant and ongoing and will only increase with climate change. Countries reliant on marine industries such as fisheries, shipping or tourism, are facing significant challenges and seek to combine short-term relief with long-term solutions. Maritime shipping is estimated to have dropped by up to 30 percent in some regions<sup>5</sup> and fishing activity has decreased by as much as 80 percent in China and West Africa.<sup>6</sup> The World Travel & Tourism Council (WTTC) estimates that up to 75 million jobs in tourism and travel are at risk and more than \$2 trillion in GDP may have been lost because of the COVID-19 pandemic.<sup>7</sup>

To counter these economic and social impacts, many countries have initiated recovery packages, and are seeking ways to rebuild greener, or bluer. Fiscal stimulus packages amounting to \$10 trillion have been mobilized globally with a view to repairing and rebuilding the global economy.<sup>8</sup> According to UNCTAD, recovery from the pandemic offers the opportunity to shift resources allocated to building capacity in sectors such as fisheries or maritime transport toward policy instruments that

encourage ecosystem restoration or improve sustainability, traceability, and digitalization in the sector. A 2020 study<sup>9</sup> on blue recovery from COVID-19 by the High-Level Panel for a Sustainable Ocean Economy has identified five priority areas for investment stimulus:

1. Coastal and marine ecosystem restoration and protection
2. Sewage and wastewater infrastructure for coastal communities
3. Sustainable community-led non-fed marine aquaculture (mariculture)
4. Zero-emissions marine transport
5. Sustainable, ocean-based, renewable energy

A study by Oxford University<sup>10</sup> compared green stimulus with traditional stimulus after the 2008 global financial crisis. It found that green projects create more jobs, deliver higher short-term returns per dollar spent, and lead to increased long-term cost savings compared with investments in carbon-intensive infrastructure. The study identified five policies that have high potential as economic multipliers and climate impact metrics:

1. Constructing clean physical infrastructure, that is, offshore renewables
2. Building efficiency retrofits
3. Investing in education and training
4. Investing in natural capital
5. Funding clean research and development (R&D)

With this in mind, the World Bank can provide support to its client countries as they chart their course to rebuilding by assisting with prioritizing and mobilizing new investments along the lines laid out here. Particular emphasis could be placed on providing support to SMEs so they can avoid deleterious environmental impacts as they rebuild economies, on increasing support for the health and safety of frontline workers in coastal communities (including the mostly female workers in the tourism industry), and on supporting the required policy and institutional reforms. The nature of this support must recognize that some “shocks” will be one-off (for example, the 2004 Asian tsunami), temporally defined over a number of years (for example, COVID-19), or ongoing for the foreseeable future (for example, climate change).



Image: Shutterstock/EcoPrint

# OCEANS IN CRISIS

## The Importance of the Ocean Economy

The significance of oceans in the sustainable global development agenda stems from the wide range of economic activities they support. Oceans provide invaluable resources and ecosystem services that deliver incomes, health, and wellbeing to billions of people. Consequently, effective management of coastal and marine areas is necessary to alleviate poverty and raise median income, while ensuring sustainability and environmental responsibility.

Coastal ecosystems play a critical role in climate-change adaptation and resilience. In addition to protection services, coastal ecosystems also play a significant role in reducing social vulnerability. Beyond their economic importance, oceans fulfill critical ecological functions. Ensuring the effective management and sustainable growth of economic activities in oceans, while protecting and enhancing critical ecosystems, will provide global climate co-benefits as well as increased security to those who depend upon these activities.

Successful economic development in coastal and marine areas is overwhelmingly dependent on the ability to prevent marine pollution at the source, including litter and plastics, and mitigate its effects. This need is especially acute because improper waste management results in impacts to human health and to development that disproportionately affect the poor. To that end, it is also necessary to effect transformational change by promoting the transition to a circular economy, which is expected to produce many positive outcomes in countries—from reducing the use of virgin materials and a related reduction of GHG emissions, to creating new businesses and employment opportunities. Thus, addressing marine pollution, whether land- or marine-based, helps protect livelihoods, food security, and economic growth, with positive development outcomes in the poorest countries, while also protecting ocean health and contributing to improved public health.

## Threats and Challenges

Despite their widely acknowledged importance for global development and environmental health, oceans are under threat from mismanagement, the effects of climate change, the impacts of COVID-19 on global supply chains and industries, **and poorly understood interactions within and between oceanic sectors and terrestrial sectors**. Table 2 summarizes many of the current and future challenges oceans face

### BOX 5. Nature-based Solutions, Climate Change Mitigation, and Adaptation

Coral reefs absorb wave energy, and seagrasses and mangroves contribute to coastal protection through the accumulation of sediment in root systems, which reduces wave force. Mangroves reduce wind energy and the height and swell of waves passing through them, thereby reducing erosion and limiting damage to

coastal infrastructure. Mangrove ecosystem restoration is an example of a Blue Economy nature-based solution, providing comparative advantages and co-benefits of habitat enhancement and CO<sub>2</sub> sequestration, along with lower maintenance costs and fewer adverse impacts compared with hard-infrastructure defence measures.



**TABLE 2. Examples of Ocean Challenges**

<b>CLIMATE CHANGE</b>	The effects of climate change on oceans are becoming better understood as climate impacts continue to grow. Oceans play an essential role in cooling the Earth and in mitigating the impacts of climate change, including as a sink for anthropogenic carbon dioxide and heat. But sea-level rise is impacting coastal areas all over the world. Acidification of oceans is affecting the distribution and survival of marine species, putting fisheries and aquaculture sectors under significant pressure. The increased frequency and severity of weather events have become a problem for coastal communities around the world.
<b>GROWING DEMAND AND OVEREXPLOITATION</b>	Population growth and income growth, alongside climate change, are leading to increased pressure on ocean resources and further straining the ecosystem services provided by oceans. Globally, the increasing migration of populations from inland areas to the coasts is adding to the growing pressure on coastal ecosystems and resources.
<b>GENDER</b>	Women are particularly exposed across the many areas of the ocean economy. For example, all along the fisheries value chain, women comprise most of the workforce but have historically been excluded from support in programs that aim to reduce fishing capacity.
<b>SHORTCOMINGS IN OCEAN GOVERNANCE</b>	Ocean governance is a complex challenge because oceans are home to shared resources that reach far beyond the exclusive economic zones (EEZs) of coastal states—64 percent of oceans extend beyond EEZs—and into areas beyond national jurisdiction. The situation is even more complex for other issues such as the marine litter and pollution crisis, which requires a coordinated response from a wide array of actors, including international shippers, inland states, development organizations, and coastal communities.
<b>COMPETING USES AND USERS OF OCEAN RESOURCES</b>	Advances in technology have enabled new and much more efficient extraction methods for marine resources, which presents opportunities but also poses risks to ocean economies. As marine resources grow scarcer and the ocean space available for development becomes more limited, conflicts among users increase. However, these conflicts are rarely addressed systematically in ocean management, governance or marine spatial planning. As a result, policymakers lack the information for informed decision-making.
<b>POLLUTION FROM LAND-BASED AND MARINE ACTIVITIES</b>	The health and productivity of oceans are under severe threat from land- and marine-based sources of pollution. Even sources from far inland threaten the resources and services that oceans provide, including threats from sediment loss and nutrient runoff, exacerbated by climate change. Among the various sources of marine pollution, plastics have emerged as one of the most pressing issues. Dumping of plastics into rivers and oceans is made worse in part because of inadequate waste management practices and infrastructure, which result from market failures. The impact and costs that plastics have on ecosystems and the economy are also significant.

# APPLYING THE BLUE ECONOMY APPROACH

## Goals

This report charts a course on how to apply a Blue Economy lens to Bank operations, along two broad goals:

1. To ensure that the World Bank’s oceanic activities are developed with a view to improving the necessary integration between different economic sectors, both on land and at sea, and limiting avoidable impacts on ocean health.
2. To identify means to scale up Blue Economy activities throughout project cycles, including through new sources of innovative blue finance.

## Blue Economy Work Streams

Two related streams of work can help achieve these goals.

### STREAM ONE

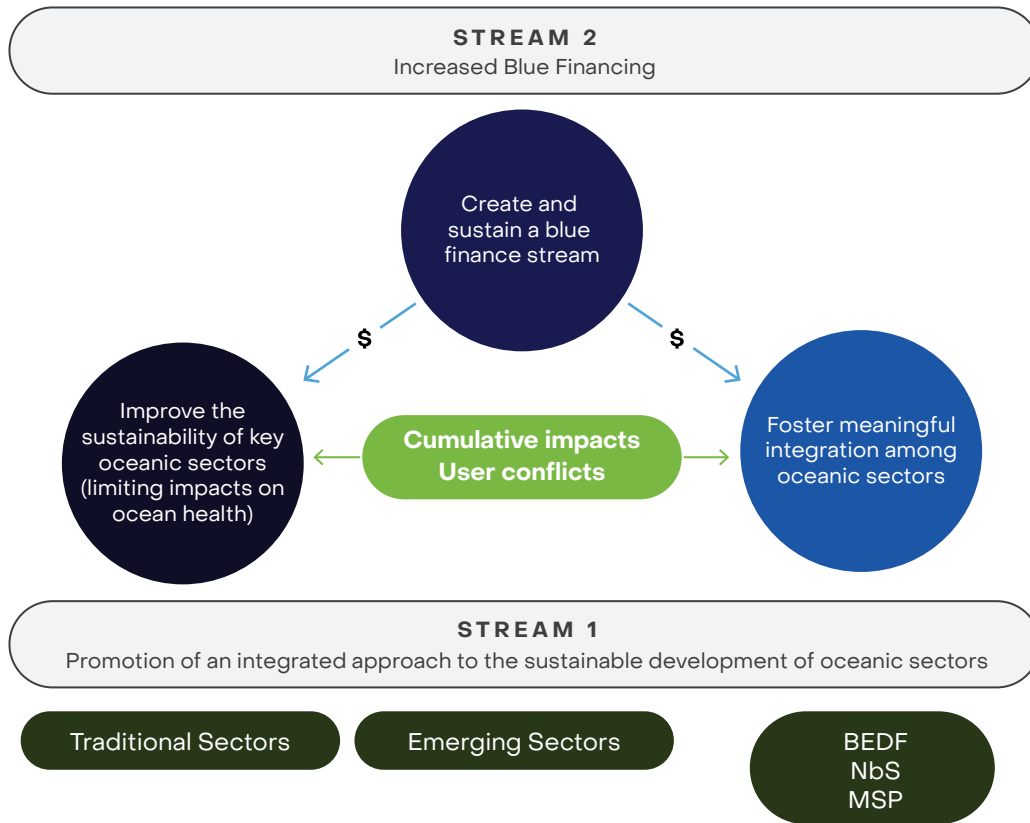
#### **Promotion of an integrated approach to the sustainable development of oceanic sectors—a “spend better” approach to investment**

This first stream focuses on strategic financing, designed to help apply a “blue lens” to Bank operations. It focuses on ways to facilitate integration and sustainability in operations, and to support the upstream analytical work needed, through capacity building, guidance and showcasing examples of Blue Economy operations under way throughout the World Bank. The intent is to help client countries mainstream a Blue Economy approach as they develop their ocean economies, and shift from separate, isolated investments in individual oceanic sectors to a more integrated, holistic, and systematic management of seascapes. This will require identifying the constraints, opportunities, and trade-offs between sectors at every phase of policy planning, investment project design, and implementation, with the ultimate goal of financing more strategically in order to achieve financial, social and environmental outcomes.

This shift requires moving beyond business as usual and focusing on new practices and approaches that can both enhance the sustainability of these sectors and limit, to the extent possible, the negative impacts they have on ocean health. It also requires the adoption of best practices and innovative approaches, including support for targeted regulatory and fiscal reforms. Beyond this, and where appropriate, the work carried out within this stream can guide and influence other financial institutions.

Many of these efforts are already under way and can be enhanced, under a shared common goal, with a common recognition of the importance of oceans and their vulnerability, and the complexity of public goods in the commons. This is particularly true in a number of “established” sectors of the ocean economy, such as fisheries, shipping, and waste management. In these sectors, the results of unplanned or unsustainable development has already become apparent and new approaches

**FIGURE 2. Components of the Blue Economy Approach**



have been identified—for example, limiting open access in the case of fisheries, decarbonization and clean ports in the case of shipping, or a circular economy approach in the case of plastic pollution. The difficulty in adopting these improved practices is that much of the investments made thus far have to be replaced—the old destroyed to make way for the new, as it were. A Blue Economy approach can help finance and facilitate this transition.

**TABLE 3. Established and Emerging Industries in the Ocean Economy**

ESTABLISHED	EMERGING
Capture fisheries	Marine aquaculture
Seafood processing	Deep- and ultra-deep water oil and gas
Shipping	Offshore wind energy
Ports	Ocean renewable energy
Shipbuilding and repair	Marine and seabed mining
Offshore oil and gas (shallow water)	Maritime safety and surveillance
Marine manufacturing and construction	Marine biotechnology
Maritime and coastal tourism	High-tech marine products and services
Marine business services	Others
Marine R&D and education	
Dredging	

Source: *The Ocean Economy in 2030 (OECD 2016)*

By contrast, in the case of emerging sectors, prior awareness and understanding of the likely impacts on ocean health can help ensure that future investments are better adapted to limiting these impacts. This is particularly applicable in sectors such as offshore wind energy, where some of the lessons learned around environmental issues that arose with offshore oil and gas platforms or terrestrial wind farms can be applied to these new offshore investments.<sup>11</sup> Likewise, the reluctance of most stakeholders when considering seabed mining stems from the lessons learned from terrestrial mining, particularly in view of the fact that there is very little understanding of the impacts of mining on marine ecosystems and species.<sup>12</sup>

Building on improvements at the sectoral level—for example, sustainable fisheries reform or decarbonization of shipping—better results can be achieved by ensuring that, through an enhanced integrated management approach, the interactions between the different sectors are taken into account. Designing and implementing an integrated management approach for seascapes at the World Bank is fundamental to achieving our goals. Because a Blue Economy approach requires, by definition, understanding and evaluating a wide spectrum of existing and potential economic activities, World Bank investments and analytics must focus on supporting our clients, including through improvements in land-use practices, better ocean use planning, and perhaps most importantly, marine spatial planning.

In part, this requires developing diagnostic and analytic tools to facilitate the identification and assessment of constraints on, and opportunities for, establishing a Blue Economy in client countries. With support from PROBLUE, the World Bank has developed a toolkit—the *Blue Economy Development Framework* (BEDF)—that is becoming a core component of the World Bank’s Blue Economy approach. It provides diagnostic information that can underpin the development of Blue Economy roadmaps for client countries that are coastal states, especially in the developing world. Tools within the framework include marine spatial planning, integrated coastal zone management, blue public expenditure reviews, value chain assessments, and natural capital accounting.

Nature-based Solutions (NbS), which require integrating the role of nature-based approaches to building infrastructure for protection from coastal erosion and flooding, are recognized as another vital component of the development and design of World Bank lending operations. Promoting blue (natural) and hybrid infrastructure is a key component of fostering inclusive and sustainable development in coastal economies by reducing dependence on destructive grey infrastructure and using natural capital to its fullest potential.

## **STREAM TWO**

### **Increased blue financing—a “finance more” approach to investment**

The second stream considers how to increase the financing available for Blue Economy activities including through the support of programs such as PROBLUE, while better targeting funding to minimize externalities and allow innovation through financing mechanisms such as payments for ecosystem services (PES), blue and resilience bonds, and so on.

Fully implementing a Blue Economy approach requires scaling up the resources available, including by fostering sustainable private investment and providing an enabling

environment for investors. This will require innovative finance products such as blue bonds, crowding in private sector finance where practical, and strategic deployment of concessional resources such as IDA, PROBLUE and GEF financing, where they can have the greatest impact. A broad range of financial instruments can be used to support the transition to a Blue Economy, enhance ecosystem management, and protect ocean health. The selected list in Table 4 covers a wide range of instruments with different levels of complexity and administrative requirements.

In looking for ways to finance the Blue Economy, lessons can be learned from work carried out by the World Bank on financing biodiversity conservation, including the accurate valuation of marine and coastal ecosystems and the value generated from their use by the private sector. A World Bank pilot project was developed with PROBLUE support to identify accurately the benefits that have accrued to adjacent tourism operations by marine protected areas in Fiji and Brazil. This innovative approach is now being scaled up in a number of other countries. Regulation, disclosure, and engagement will need to be emphasized alongside increasing finance when appropriate.

TABLE 4. Examples of Investment Instruments

INSTRUMENT	DESCRIPTION
Blended finance	Different types of capital from different providers can be combined to achieve the following three goals: <i>Increasing capital leverage:</i> strategically use development finance and philanthropic grants to attract and mobilize additional commercial finance <i>Enhancing impact:</i> increase the scope, range, and effectiveness of the project by combining and leveraging the skill set, knowledge and resources of public and private investors <i>Delivering risk-adjusted returns:</i> manage risks so that returns are in line with market expectations.
Climate/ conservation/ impact bonds	Fixed-income financial instruments (bonds) where capital is invested upfront in initiatives that deliver measurable outcomes, such as in climate and conservation. The need for verified outcomes is paramount because investors get repaid only for proven results. It is already being used in carbon mitigation, blue carbon initiatives, and ecosystem restoration.
Blue bonds	Similar to green bonds but applied to the Blue Economy (see Box 7)
Debt swaps	Debt-for-nature swaps leverage funds for use in local conservation efforts and are based on the model of debt-for-equity swaps; the proceeds are invested in conservation activities in the indebted country. It can also involve debt forgiveness. The Seychelles debt-for-nature swap where conditions included the implementation of marine spatial planning (MSP) and protection for 30 percent of the country's EEZ, is currently the most cited example. <sup>13</sup>
Carbon credits (blue carbon)	Carbon credits are generated through a wide range of activities that sequester carbon; blue carbon refers to sequestration in marine and coastal ecosystems (mangroves, tidal wetlands, seagrasses, and so on). There are limited examples, but the field is growing fast and can build on the experience gained in terrestrial carbon sequestration. <sup>14</sup>
Conservation funds (hybrid model)	Grant-making entities that provide finance for conservation activities. They are capitalized by governments, foundations, and the private sector. Often there is no expectation of a return and therefore the funds can support higher-risk projects that have less certain outcomes.
Parametric insurance products	Parametric insurance products have been developed for various oceanic sectors. Caribbean Oceans and Aquaculture Sustainability Facility (COAST), the world's first parametric insurance, was developed by the World Bank for the fisheries sector and is intended to be a catalyst to promote resilience and sustainable management of the marine environment. It promotes formalization of the sector by giving fishers incentives to register in order to benefit from the insurance scheme. It aims ultimately to reduce the natural disaster risk that climate change poses to food security and foster policy reforms that promote climate-smart fisheries practices and coastal resilience. In Mexico, the government of the state of Quintana Roo purchased a parametric insurance product offering up to \$3.8 million to repair hurricane damage to the 160 km of coral reefs and beaches along the coast. (The pay-out was split 50 percent for reefs and 50 percent for beaches.) Hurricane Delta generated a pay-out of \$800,000 to be invested in coral reef repair and restoration.

Blue bonds are debt instruments similar to green bonds but issued to raise capital from capital market investors to finance projects supporting the sustainable use of ocean resources. Alongside other innovative financial products—for example, the recent launch of Sustainable Development Bonds targeting marine plastic pollution—these bonds offer World Bank clients the opportunity to tap into environmentally and socially conscious investment capital and provide financing on preferential terms, which can be especially attractive for higher-income countries that are not IDA-eligible.

### BOX 7. Seychelles Blue Bond

The October 2018 issuance of the world's first sovereign blue bond highlights the World Bank's role at the forefront of financial innovation for the Blue Economy.

At the time, the Seychelles had issued a sovereign blue bond with a ceiling value of \$15 million, and a maturity of 10 years. The blue bond, as well as the program of marine- and ocean-related activities that it supports, were prepared with the assistance of the Bank and the Global Environment Facility (GEF). This support included a partial World Bank guarantee (\$5 million) and a concessional loan from the GEF (\$5 million), which will partially subsidize the payment of the bond coupons. These credit-enhancement instruments allowed for a lower price of the bond by partially de-risking the investment for impact investors, but also by reducing the effective interest rate for the Seychelles.

*<https://www.worldbank.org/en/news/press-release/2018/10/29/seychelles-launches-worlds-first-sovereign-blue-bond>*

### Box 8: The Sustainable Blue Economy Finance Principles

The Bank is a signatory to the Sustainable Blue Economy Finance Principles, which were developed by the European Commission, World Wildlife Fund, the World Resources Institute and the European Investment Bank and are hosted by the United Nations Environment Programme as part of the Sustainable Blue Economy Finance Initiative. These 14 voluntary commitments challenge investors to contribute to the conservation and sustainable use of the ocean and de-risk investments in the Blue Economy.

*Source: <https://www.unepfi.org/blue-finance/the-principles/>*

Building on its Mobilizing Finance for Development (MFD) approach, and working in close cooperation with IFC, the World Bank can engage private sector partners to promote sustainable investment in oceanic sectors by helping client countries enact financial sector policies that provide a supportive climate for investment. The investment power of the Bank and other multilateral development banks is dwarfed by that of private investors, and the World Bank can and does participate in cooperative efforts to engage its partners on a common path to sustainability for investment in oceanic sectors (see Box 8). In addition, private sector actors in important areas such as tourism, maritime shipping, and the beverage industry have already recognized the importance of protecting seascapes, both in the name of corporate responsibility and to protect their investments. Working with its clients will be a key World Bank strategy to ensure private sector buy-in, to explore co-financing arrangements, and to support the sustainable development of oceanic activities.

For instance, the private sector has a critical role to play in helping prevent marine pollution, either by leading and financing innovation or by contributing through fiscal and regulatory mechanisms. The areas of intervention vary depending on the segment of the value chain, but they range from waste management companies that could implement solutions and foster technological innovation through public-private partnerships, to consumer goods

companies and plastic producers who could drive innovation in new materials and alternatives to single-use plastics.

Ways to bring in the private sector can vary depending on the activity, but they could include assessing the feasibility of private sector intervention through the establishment of an enabling policy framework, supporting policy reforms, and making direct investments in the private sector.

### **BOX 9. Framework Environmental Impact Assessment (EIA) for Private Sector Investment in Aquaculture**

In the context of a Green Growth Development Program Operation, the World Bank in 2016 helped the Kingdom of Morocco prepare a framework EIA for aquaculture operations, which focused specifically on managing the environmental impacts of fish farms on ocean health. As a result of this work the cost of individual EIAs, which would otherwise have been prohibitive, fell to affordable levels and encouraged private operators to put environmental risk management at the heart of their business plans.

Issues that have prevented greater investment commitment in the Blue Economy include:

- A limited understanding and recognition of the Blue Economy –what it is, how it is valued, and means to invest in it;
- A lack of well-developed investment opportunities and an investment pipeline;
- A limited track record of project proponents;
- Limited government support and unsuitable policy frameworks to support Blue Economy investment markets (for example, standards for green or blue bonds);
- Limited experience with new investment models (for instance, blue bonds and blue carbon);
- Limited practice in accounting for ocean risks in investment analysis;
- A lack of appropriate deal structures and exit strategies.

## **PROBLUE**

PROBLUE resources, along with other relevant trust fund programs, can be strategically deployed to leverage other resources within the Bank and beyond. These trust fund resources offer the World Bank a vehicle to identify current trends and emerging threats to oceans and the coastal and maritime economy, formulate appropriate solutions for action, and support the implementation of blue interventions around four pillars (figure 3): improved fisheries governance; marine litter and pollution reduction and prevention; blueing of oceanic sectors; and integrated seascape management. Support for these pillars, along with important cross-cutting issues such as gender, climate change, and maximizing finance for development, allow for full responses to the challenges facing our oceans.

Two of the four PROBLUE pillars are designed to help drive progress in current and future World Bank work on Improved Fisheries Governance (pillar 1) and Marine Litter and Pollution Prevention and Management (pillar 2). Pillar 3 (Blueing of Oceanic Sectors) is designed to assist coastal developing countries and small island developing states (SIDS) to make traditional oceanic activities more sustainable while promoting the sustainability of newly emerging sectors. Finally, Pillar 4 (Integrated Seascape Approach) addresses ways to foster an integrated approach to the development of these sectors. The whole program draws on the large and growing body of analytical work and decision-making tools, such as marine spatial planning and natural capital accounting, to advance the capacity of World Bank client countries to assess the trade-offs among different blue development choices and pathways.

On a programmatic level, the PROBLUE Program reflects the World Bank's broader effort to implement the Blue Economy approach. The structure of the multi-donor trust fund is intended to be broad to accommodate the evolving priorities of client countries and development partners alike (figure 4). PROBLUE is structured to provide analysis and knowledge platforms for stakeholders who are contributing to the problems of overfishing, pollution, unsustainable coastal development, and so on



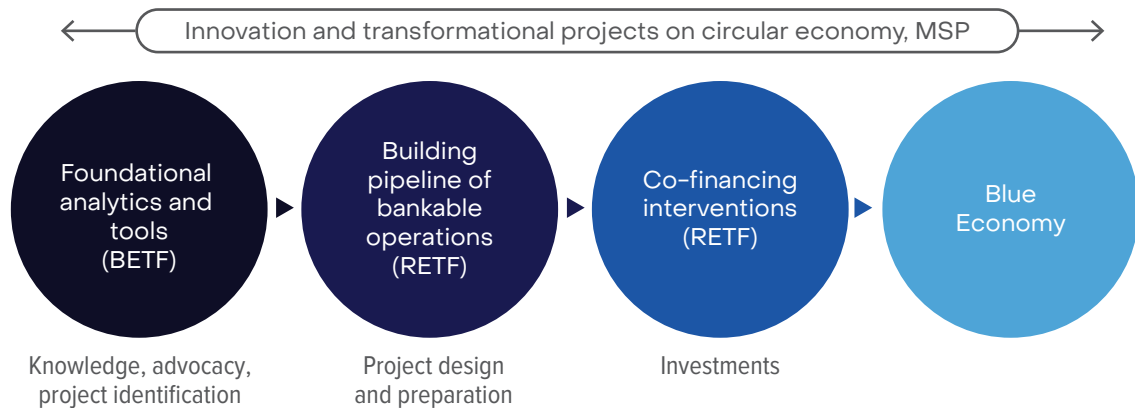
from both the public and private sectors, and for coastal and distant-water fishing nations to interact and collaborate with less-developed countries (LDCs), middle-income countries (MICs) and SIDS to develop solutions together.

**FIGURE 3. The Four Pillars of the PROBLUE Program**



Images: AdobeStock—Stanislav Komogorov, Richard Carey, DJ. Shutterstock/Ethan Daniels

**FIGURE 4. PROBLUE Funding for the Blue Economy—from Upstream Analytics to Co-investments**



# CONCLUSION

This document lays out how the World Bank can apply a “Blue Economy lens” to its operations to assist coastal client countries to transition to a Blue Economy. This transition is already under way and is most apparent in the creation of PROBLUE, a comprehensive Umbrella 2.0 program dedicated to the Blue Economy. Through this transition, the World Bank is acknowledging a number of fundamental and inescapable realities that urge the global community to transcend the business-as-usual modus operandi:

1. Oceans are and will continue to be an exceptional engine for development.
2. The success of the Blue Economy approach will determine how much sustainable growth oceans can support, but the entire issue of what is or is not sustainable must be better understood. On this basis, analytical work embedded in concrete decision-making—including in World Bank projects—can help make better decisions.
3. As the Blue Economy approach is being implemented, lessons are being learned and new solutions are being identified. As such, this report will be revised and updated to provide increasingly concrete, practical criteria to assess which ocean projects can or should be supported.
4. The challenge of constructing a Blue Economy will take more than mere adjustments to current practices, including at the World Bank. Political economy, the public good, and distributional issues will be the keys to transforming blue goals into action and ensuring that this approach ultimately contributes to poverty reduction and climate change mitigation.

Fundamentally, the Blue Economy approach calls for the engagement and buy-in of different parts of the World Bank Group, both in the traditional sectors—fisheries, transport and shipping, and coastal tourism, for example—and in the innovative, emerging sectors (for example, offshore renewable energy, desalination, or decarbonization of shipping) where long-term success will be determined by this kind of close, holistic cooperation. The issue of marine plastics, for instance, simply cannot be addressed without the additional involvement of Global Practices such as Urban, Resilience and Land as well as Agriculture and Food, and will greatly benefit also from the involvement of others.

The Blue Economy agenda should also be implemented in the context of other key World Bank priorities, including (marine) biodiversity and climate change. Climate change must be incorporated both upstream and downstream, and several instances already reveal that the Blue Economy can be captured in Nationally Determined Contributions (NDCs) for climate change and Systematic Country Diagnostics, for example, through nature-based solutions and innovative “blue carbon” programs. The launch of new Country Climate Development Reports is yet another opportunity to ensure that oceans, blue natural capital, and their interaction with climate change are fully incorporated in the strategic process that guides the partnerships with the World Bank’s client countries.

As highlighted throughout this document, implementing a Blue Economy approach without focusing on gender and social inclusion would be illusionary and preclude any hope of achieving long-term sustainability. The exclusion of women and other social groups from decision-making processes contributes directly to the growing threats confronting oceans and continuing to ignore them would only result in partial or overlooked solutions to these problems.

The extent to which new projects can or will apply this Blue Economy lens needs to be captured accurately and transparently. Efforts are currently under way to that end, through rigorous M&E frameworks and the development of a Blue Economy Enabling Environment Index, which will focus on improved governance and increased opportunity for the private sector.

The COVID-19 recovery effort, with its emphasis on “rebuilding better and bluer,” provides a unique opportunity to reset some of the most destructive patterns and behaviours that most threaten ocean health and their dependent communities. The Bank’s Green Resilient and Inclusive Development (GRID) approach provides a framework through which the blue agenda can become part of broad national-level recovery strategies.

Having led the way on the transition to a Blue Economy, the World Bank now has an opportunity to further its leadership by reaching out to other donors and partners and encouraging them to engage with this new paradigm. Although others have stated an intention to embrace a Blue Economy approach, the World Bank has actually taken action by (i) helping set up the first sovereign blue bond, (ii) successfully launching PROBLUE, (iii) increasing its oceanic portfolio around sustainability and integration, and (iv) developing its engagement in some of the most innovative oceanic sectors. This document provides an overview of how extensive this engagement is and outlines the World Bank commitment to this approach, inviting others to join in the transition toward healthy oceans, healthy economies, and healthy communities.

Image: Shutterstock/lightrain



## ANNEX

# THE BLUE ECONOMY IN INTERNATIONAL PROCESSES



### The Blue Economy and the Sustainable Development Goals

The Blue Economy is the subject of Sustainable Development Goal (SDG) 14: Life Below Water, which calls for the world to conserve, sustainably develop, and sustainably use the oceans, seas and marine resources. The Blue Economy also relates to at least 10 other SDGs, presented below.



### The UN Framework Convention on Climate Change

The UN Climate Change Conference (COP25) in Madrid included a robust discussion of the role of the oceans in combating climate change. The COP25 built on the results of the Special Report on the Ocean and Cryosphere in a Changing Climate.<sup>15</sup> The Bank will continue its engagement with the UN Framework Convention on Climate Change (UNFCCC) to build knowledge and learn about the full complexity of ocean-climate linkages from experts.

### The Convention on Biological Diversity

Accounting for 90 percent of the biosphere, oceans are a key part of any biodiversity conservation strategy. The preparatory process for the next Conference of Parties to the UN Biodiversity Conference has highlighted the importance that the Convention on Biological Diversity (CBD) attaches to marine and coastal biodiversity.



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