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OCEAN
ACTION

Impact Report

The Business Case for Marine Protection and Conservation





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Foreword

Now is the time to pull together to protect natural resources – for the good of people, the natural world and business sustainability alike.

As one of the world's fastest growing sectors, sustainable and responsible growth has become a fundamental theme in tourism. The sector is responding with ambitious commitments – from creating a new economy for plastics in tourism (International Tourism Plastic Pledge by the World Tourism Organization, UN Environment and the Ellen MacArthur Foundation) to setting ambitious targets for sector-wide climate neutrality by 2050 (World Travel & Tourism Council). At Iberostar Group, we have understood for some time the importance of ocean protection in our coastal tourism business. Thanks to our pioneering Wave of Change movement, our hotels will be free of single-use plastics by the end of 2020, procuring all our seafood from 100% responsible sources by 2025, waste-free by 2025 and carbon-neutral by 2030. These activities don't just tell a positive story, they make a visible positive difference to our seafronts, to our customers and to our bottom line.

Yet most challenging of all, Iberostar further aims to have all ecosystems in which we operate in improving health, alongside profitable tourism, by 2030. We do this with the knowledge that more urgent action is needed to protect ocean biodiversity and the services it provides. We are already looking beyond our individual efforts to minimize negative impacts, and at opportunities to promote positive collective action: to support the target of 30% of the ocean fully protected by 2030, as well as ensuring the remaining 70% is sustainably used and managed. We strongly support the case made in this paper by Friends of Ocean

Action, The Business Case for Marine Protection and Conservation, for a closer exploration of the link between ocean production and protection – for commercial activities to be an important driver in the scaling of marine protection and conservation.

The long-term value of our industry and ocean health are intimately bound up. We have an incentive to lead, consistently and globally – before regulation provides a stick, inconsistently and jurisdiction by jurisdiction. For example, how can the entire global coastal tourism community be turned into powerful advocates for marine protection and conservation? What will it take in terms of policies, ocean access laws and planning procedures, to ensure sufficient support for regenerative ocean action and technologies? And what shall we, and other businesses involved in ocean-related activities, count as success?



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Introduction

[Friends of Ocean Action](#), launched at the 2018 World Economic Forum Annual Meeting in Davos, is an informal, multi-stakeholder coalition composed of over fifty of the world's most committed and influential advocates, business leaders and thought leaders who are helping shape global action to save life in the ocean.

These leaders, jointly convened by the World Economic Forum and the World Resources Institute (WRI), and cochaired by Peter Thomson, UN Secretary General's Special Envoy for the Ocean, and Isabella Lövin, Deputy Prime Minister of Sweden, embarked on a three-year, timebound initiative to contribute to the achievement of the United Nations Sustainable Development Goal 14 (SDG14), the ocean goal.

The Friends have identified 12 action tracks to help address the most pressing challenges the ocean is facing today. Each track is designed to drive transformative, high-impact and scalable solutions in time for the second UN Ocean Conference to take place on 2-6 June 2020 in Lisbon, Portugal. One of these action tracks is focused on marine protection and conservation – a crucial cornerstone in preserving and restoring marine habitats that play a role in everything from food and oxygen production to providing natural protection and jobs for coastal communities.

Marine protection and conservation are lacking the necessary funding to ensure effective enforcement and management, as well as the establishment of new protected areas. The need for building the business case for marine protection and conservation, then, and to understand what opportunities exist for private sector engagement and investment, has been identified as critical.

Therefore, Friends of Ocean Action commissioned this paper – and the related sector-specific roadmaps – a process which was supported by a small advisory group composed of senior leaders drawn from across the private and public sectors, and academia. It is intended that this paper and the roadmaps will serve as the basis for a series of consultations with a broader ecosystem of stakeholders and experts and, in particular, with private sector companies that are dependent, directly or indirectly, on the long-term health and sustainability of ocean biodiversity. The ultimate aim of these consultations will be to initiate a dialogue with selected business sectors on this topic and to build the necessary support that would encourage key private sector companies – individually and collectively – to become champions of the marine protection and conservation agenda through concrete commitments and direct investment.

It is important to note that what is outlined in this paper is not a replacement for the science-based recommendation of highly protecting at least 30% of the ocean by 2030; nor does it intend to disregard responsibilities that the private sector must have for the environment and society. The intent of this work is to consider marine protection and conservation from an unconventional point of view – to stimulate a new narrative and debate that can engage all businesses that are using or benefiting from the ocean space.

Executive Summary

Human pressures on the world's ocean and their threat to biodiversity are fast becoming more widely understood. But, worryingly, the negative trajectory for marine life keeps up its own pace: most national waters are overfished; coastal development accelerates; extractive industries are opening up on new fronts; and the impacts of climate change have already significantly disrupted many marine ecosystems. More urgent action is needed – but, above all, there is need for pragmatic solutions: ones that deliver strong conservation outcomes hand-in-hand with sustainable socioeconomic development.

In this context, marine protection represents a critical lever for sustaining the long-term health of the ocean. Effective protection of high-priority marine habitats has been proven to conserve biodiversity, increase productivity and ecosystem resilience, enhance fisheries and protect them from population collapse. Recognizing that there are several types of area-based management tools (ABMTs)¹, two critical components in the toolbox of marine protection and conservation are considered here: Marine Protected Areas (MPAs)², where the primary objective is conservation, and Other Effective Area-Based Conservation Measures (OECMs)³, where long-term positive conservation outcomes are expected regardless of objective.

In 2010, at the tenth Meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD), a target was agreed to achieve effective protection and conservation of at least 10% of coastal and marine areas by 2020 (Aichi Target 11). In 2015, this target was adopted into the United Nations Sustainable Development Goals (UN SDG 14.5). In the intervening years, MPA coverage has increased from less than 1% to almost 8% of total ocean area. However, of this total, only 2.5% of ocean is in implemented fully protected areas (meanwhile, approved OECM coverage is negligible). Set in the context of recent scientific studies, recommending that a minimum of 30% of the ocean needs to be fully or highly protected by 2030 to safeguard global biodiversity (with other studies suggesting upwards targets in the range of 40-70%), there is an urgent challenge to scale marine protection.

To date, the majority of MPAs, by area, have been funded by progressive governments – especially of Small Island Developing States (SIDS) and of Overseas Territories – with the support of philanthropy. While they do exist,

opportunities for standalone, returns-driven investments by the private sector to finance MPAs (or OECMs) have been limited in scale. Both these ocean management tools can deliver measurable 'ecosystem services' benefits – everything from spill-over effects for increased food production, to carbon sequestration, to increased tourism receipts, to natural disaster mitigation, and more – which will make up the foundational inputs of business cases. However, at least three structural challenges impede private sector funding of MPAs at scale: managing the complex and fragmented demands for ocean resources; ecosystem connectivity; and an asymmetry of timelines on which private capital and conservation outcomes operate.

This paper proposes that, for marine protection to scale as urgently as is needed, the business case must be framed as part of a comprehensive area-based management approach: i.e., Marine Spatial Plans (MSPs) at a national or regional level. Protection needs to be designed and implemented in conjunction with the demands and needs of all other users of and stakeholders in Exclusive Economic Zones (EEZs)⁴. Strong protection across even a significant minority of total ocean area will still be an insufficient counter-weight if there is free-for-all extraction in the remaining waters. These comprehensive ocean management plans should combine protection (through MPAs and OECMs) with managed mixed-use areas, as well as heavy industrial areas, to deliver in the round: sustainable conservation of biodiversity; economic security; and the well-being of local communities. Links with Areas Beyond National Jurisdiction (ABNJ)⁵, while not in the scope of this paper, should also feed into comprehensive national plans for a sustainable ocean. Indeed, inter-governmental negotiations are ongoing about the sustainable management of ABNJ; these will hopefully reach the goal of full protection of over 30% of international waters.

There is no time to lose: a description of the priorities and an action plan for building comprehensive business cases is presented here. The end goal – ecologically representative protection on a global scale – cannot be achieved without strong government leadership: on biodiversity goals; spatial rights allocation; equitable revenue sharing; monitoring and compliance; and to ensure costs to humanity and to the environment are minimized and effectively incorporated into investment decisions. However, it is also incumbent on

1 Area-based management tools (ABMTs) can be defined as "regulations of human activity in a specified area to achieve conservation or sustainable resource management objectives".

2 Full definition in Section I.

3 Full definition in Section I.

4 An Exclusive Economic Zone (EEZ) is a sea zone over which a state has special rights regarding the exploration and use of marine resources. It stretches from the baseline out to 200 nautical miles (nmi) from its coast.

5 Marine Areas Beyond National Jurisdiction (ABNJ), commonly called the high seas, are those areas of ocean outside EEZs for which no one nation has sole responsibility for management.

all stakeholders (public, private, philanthropic, scientific and local communities) to work together in mutual self interest and to ensure a sustainable future for the ocean – underpinned by the efficient deployment of capital.

In the knowledge, though, that creating, financing and implementing Marine Spatial Plans is a complex task with lead-times likely to be multi-year, two nearer-term actions to support the scale-up of protection and conservation are also put forward: first, continued targeted designation of fully and highly protected MPAs, spearheaded by progressive governments and supported by philanthropy – typically, these will be very large MPAs (over 100,000 km²) in areas less intensively affected by human activities.

Second, new proposals are made that explore how a proportion of the coming wave of capital investment into ocean-based industrial activity could be directed to support marine protection and effective management of the 'other 70%' of the ocean. It is estimated that upwards of USD 50 billion will be invested globally by ocean-using industries in 2020 – a figure that is predicted to see double-digit annual growth over the coming decade. These new proposals, referred to as 'sector-specific opportunities', would enable 'win-wins' for biodiversity and for business alike. Private companies dependent on ocean resources have an opportunity to move early and safeguard their ability to operate by abandoning some of the old production/protection dichotomies and by creating voluntary and innovative mechanisms to drive positive conservation outcomes at scale.



Photo by Damocan / istockphotos.com

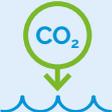
1 Marine protection: a critical component in the toolbox of sustainable ocean management

Marine Protected Areas (MPAs)

Calls for the creation of MPAs – “a clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values”⁶, analogous to land-based national parks – are not new. They have their roots in the small coastal reserves enacted in the early twentieth century, and were further developed by coordinated international action in the 1970s and '80s.⁷ More recently, though, as concern for the health and long term sustainability of the ocean and its biodiversity has accelerated, and as empirical evidence and analytical study have proven the importance of effective protection, that call has become a clamour. MPAs are now established as a critical tool in the sustainable management of our ocean, in the restoration of endangered marine life and in support of economic and social prosperity world-over.

The specific benefits accruing from MPAs are multi-faceted. From an accounting perspective, they can be expressed in terms of the 'natural capital' (stocks) and 'ecosystem services' (flows), which protection either safeguards or enhances. The relevant classes of natural capital, here, include marine fisheries, mangroves, coral reefs and seagrass. These, in turn, provide ecosystem services such as food production, mineral resources, carbon sequestration, coastal protection and tourism, as well as the intrinsic value of biodiversity on its own terms.⁸ Some of these categories resist implied dollar valuations and, for others, the direct causal links to MPAs can be challenging to quantify (e.g., the proportion of rising tourist revenues attributable to improved coastal shelf biodiversity). However, such challenges notwithstanding, the size and scale of the overall prize is impossible to question – and the alternative, continued degradation of the ocean, will ultimately lead to a 'tragedy of the commons'. **Figure 1** summarizes the asset values of ocean ecosystem services globally that are at risk.

Figure 1. Asset values of ocean ecosystem services globally⁹

OCEAN-RELATED ACTIVITIES AND ASSETS		TOTAL VALUE
THE OCEAN	Direct output of the ocean from  Marine fisheries Mangroves Coral reefs Seagrass	US\$6.9tn
	Trade and transport  Shipping lanes	US\$5.2tn
	Adjacent assets  Productive coastline	US\$7.8tn
	 Carbon absorption	US\$4.3tn

6 International Union for Conservation of Nature (IUCN) definition

7 'Marine Protected Areas: Tools for Sustaining Ocean Ecosystems' (National Research Council, 2001)

8 See www.teebweb.org/resources/ecosystem-services/

9 Hoegh-Guldberg, O. et al., 'Reviving the Ocean Economy: the case for action' (2015). WWF International, Gland, Switzerland

MPAs are not, though, as others have previously noted, a straightforward panacea.¹⁰ Without careful governance, planning and execution, MPA designations can amount to little more than 'paper parks' that are not implemented. Certain pre-requisites need to be in place if benefits are to be realized in full, or even at all. Consensus over what criteria must be satisfied for effective protection has recently emerged in the form of the MPA Guide¹¹. In addition to the guidance on levels of protection and stages of establishment offered by the MPA Guide, two further criteria around location and design are added here:

- **Level of protection:** The science now shows that biodiversity benefits from protection are significantly greater in highly and fully protected MPAs.^{12,13}
- **Stage of establishment:** MPA creation follows a traditional sequence: proposal/announcement, legal designation and implementation. Ideally, MPAs will then be *actively managed*, with demonstrable and ongoing enforceable rules, monitoring, evaluation, adaptive management and conservation outcomes.
- **Suitability of location:** The area of designation needs to reflect conservation objectives and priorities, including being ecologically representative, appropriate in size and scale, and having connectivity with other MPAs.
- **Quality of design:** MPA programmes succeed or fail based on their adaptation to local conditions. These are as diverse as humanity, but the consistent variables include stakeholder engagement, governance structures, sources of capital, incentives and enforcement mechanisms. Choices must, ultimately, lead to long-term equitable distribution of benefits.¹⁴

For all the positive benefits that well-defined, well-placed, well-designed and well-enforced MPAs can bring, it is wise to contextualize their limitations. Protection alone, even in the largest and strictest of reserves, is estimated to mitigate only around 30% of the threats to ocean life.¹⁵ MPAs offer effective protection against overfishing and the impacts of extractive and some other ocean-impacting activities, such as coastal over-development. But they do not directly address other significant threats that impact ocean health, including: climate impacts, like temperature increases and acidification, coastal run-off, from pesticides used in agriculture and from industrial sewage, air pollution, marine debris, including plastics, and invasive species. While MPAs do not mitigate these more systemic threats, they can help build ecosystem resilience to them

by eliminating other stressors and improving baseline ecosystem health.

The impacts of climate change cannot be overstated. Ocean warming is already a reality and MPA strategies must be prepared for and able to adapt to its possible extent and impacts. For example, marine populations are already moving at a rate of 50km every decade as a result of climate change¹⁶. These movements are expected to increase and, therefore, an understanding of where biodiversity is likely to move must be factored into future area designations. Lastly, reliance on the ocean's ability to act as a buffer zone for carbon emissions is potentially reaching saturation point – once it is surpassed, accelerated rises in temperature are almost certain.¹⁷ MPAs can provide a certain level of resilience to the effects of climate change¹⁸, but they cannot reverse it and, in addition, are also highly impacted by such effects – generally with incremental feedback on atmospheric CO₂¹⁹.

Other Effective Area-Based Conservation Measures (OECMs)

OECMs have been identified in 2010 in Aichi Target 11 but since received less attention as a conservation tool than MPAs. In large part, this has been due to an absence of clear definitions and criteria. However, this historical situation is likely to change given the CBD's adoption of a definition for OECMs in 2018: *"A geographically defined area other than a Protected Area, which is governed and managed in ways that achieve positive and sustained long-term outcomes for the in situ conservation of biodiversity with associated ecosystem functions and services and where applicable, cultural, spiritual, socio-economic, and other locally relevant values."*²⁰

The distinguishing feature, here, is that while MPAs have conservation as a primary objective, OECMs may be established for other sectoral primary objectives but must also demonstrate delivery of effective, *in-situ* conservation of biodiversity. Examples of potential OECMs include Indigenous Peoples and Community Conserved Territories and Areas (ICCAs), Locally Managed Marine Areas (LMMAs), Wildlife Conservancies, Military Areas, and Historical Sites. What these cases all share, despite their different goals, are governance and management systems that are expected to achieve positive and sustained long-term conservation as a secondary or ancillary outcome.²¹

10 See Barner et al., 'Solutions for Recovering and Sustaining the Bounty of the Ocean' (2015)

11 For more information see 'An Introduction to the MPA Guide' at <https://www.protectedplanet.net/c/mpa-guide>

12 Lester et al., 'Biological effects within no-take marine reserves: a global synthesis' (2009)

13 Sala et al., 'No-take marine reserves are the most effective protected areas in the ocean' (2017)

14 Kamil et al., 'An assessment of Marine Protected Areas as a marine management strategy in Southeast Asia: a literature review' (2017)

15 Tulloch et al., 'Why do we map threats? Linking threat mapping with actions to make better conservation decisions' (2015)

16 IPCC, *Ibid.*

17 International Panel for Climate Change (IPCC), Special Report: 'The Ocean and Cryosphere in a Changing Climate' (2019)

18 Roberts et al., 'Marine reserves can mitigate and promote adaptation to climate change' (2017)

19 Arias-Ortiz, et al., 'A marine heatwave drives massive losses from the world's largest seagrass carbon stocks' (2018)

20 IUCN definition.

21 IUCN/WCPA, 'Towards Recognising, Reporting and Supporting OECMs' (2019)

OECMs have the potential to harness conservation efforts and biodiversity conservation outcomes and ocean ecosystem services benefits that can approach and complement the ones resulting from fully protected MPAs. From the point of view of building business cases, they share the same fundamentals. Successful implementation of OECMs, therefore, is subject to the same pre-requisites and limitations as described above. But the OECM framework affords governance by a wider variety of actors, including those without primary conservation intent, and will usually be identified within existing management systems. They may, therefore, be of particular interest for innovative models involving the private sector.

Substantial progress towards UN SDGs, but a pressing need to scale

As noted earlier, UN SDG 14.5 set a target to achieve effective protection of at least 10% of coastal and marine areas by 2020. Significant strides have been made towards achieving this target – nearly 18 million km² of ocean has been newly designated since 2010. According to the World Database of Protected Areas, the latest tally stands at 28.2 million km², representing 7.8% of the global ocean.



However, after applying the MPA Guide's criteria for effective protection (highly or fully protected) and enforcement (actively managed), this slips by a factor of almost two-thirds – to just 2.5%.²² In respect to already-designated MPAs, there are clearly urgent tasks for policy-makers: to strengthen levels of protection, and ramp up management activity.

Neither of these actions is trivial, but they are both eclipsed by the coming challenge: scientific consensus indicates that, in order to meet sustainable biodiversity goals, a minimum of 30% of the ocean needs to be fully and highly protected by 2030 to safeguard global biodiversity. Moreover, scientific recommendations are trending upwards, with targets in the range of 40-70%.^{23,24,25} The range is necessarily wide given that the biodiversity outcomes of protecting 'optimal' or 'sub-optimal' ocean waters are highly divergent: i.e., at one end of the scale are areas that deliver maximum ecosystem services benefits, are ecologically representative, suitably inter-connected, and future-proofed against climate trends; versus, at the other end, areas that fall short on all of these measures (i.e., remote seas with little marine life). However, even assuming that new MPA designations will deliver around the average, once expansion and enhancement targets are added together, the resulting scale-up required is huge. If these goals are to be met within the next decade, it is exponential.

It should also be noted that existing MPAs are, by area, mostly located where impacts and pressures from human activities are relatively low²⁶ – principally around Small Island Developing States (SIDS) and Overseas Territories. In contrast, in expanding effective protection to at least 30% of the ocean, global biodiversity conservation priorities suggest a majority of newly-protected waters will need to be in mainland EEZs proximate to dense human populations.

With respect to Other Effective Area-Based Conservation Measures, progress since 2010 has been slower. However, as noted above, many of the roadblocks – defining, identifying, recognizing and reporting OECMs – are now reaching resolution. It is expected that OECMs will be a complement of post-2020 targets and a critical component to conserve and sustainably use biodiversity, becoming a more commonly used tool in conservation strategies.²⁷

²² World Database on Protected Areas (See www.protectedplanet.net)

²³ Noss et al., 'Bolder Thinking for Conservation' (2012)

²⁴ Woodley et al., 'A Review of Evidence for Area-based Conservation Targets for the Post-2020 Global Biodiversity Framework' (2019)

²⁵ O'Leary et al., 'Effective coverage targets for ocean protection' (2016)

²⁶ World Database on Protected Areas (See www.protectedplanet.net)

²⁷ N. Dudley et al., 'Global Ecology and Conservation' (2018)

2 Challenges to scaling the private financing of marine protection and conservation

To date, progressive governments and the philanthropic sector have led the way in funding MPAs. While they do exist, opportunities for standalone, returns-driven investment by the private sector to support MPAs (and OECMs) have been limited in scale. At least three structural challenges impede private sector funding of marine protection at scale:

Challenge 1. Managing competing and fragmented demands for ocean resources

While there are many examples of privately financed MPAs²⁸, they predominantly operate at a local level and rely on a single revenue stream, such as license fees for extractive rights or receipts from tourist permits.

As the management area increases in scale, so the number of stakeholders increases by a factor. Private businesses can be hamstrung by the sheer number of public, private and local community actors involved – with different and often competing interests. The challenge of managing these competing demands will only become further complicated given that the top global biodiversity conservation priorities are disproportionately located in mainland EEZs proximate to dense human populations.

Challenge 2. Ecosystem connectivity

First, given the often complex movement and life-cycles of marine species, the benefits of MPAs/OECMs do not necessarily accrue directly where costs are incurred. As an example, take the Caribbean spiny lobster, an iconic coral reef species whose commercial value approaches USD 1 billion annually. Analysis of the lobster's lifecycle and larval dispersion has revealed a genuinely pan-Caribbean population²⁹. Species protection, therefore, needs to factor in trans-regional/national connectivity and networks of MPAs/OECMs will maximize ecological functionality and productivity. This presents a challenge for the private sector both in developing a business case and in implementation: species behaviours are not always well understood and, even when they are, they create cross-jurisdictional complexity (e.g., multiplication of stakeholders; enforcement, monitoring and measuring challenges).

Second, there are some ecosystem services for which the value per unit area is small – and may be inconsequential for an individual MPA/OECM investment case – but regionally or globally the ecosystem function is critical. Important elements of biodiversity may not be adequately represented by a more fragmented, private sector-led approach.²⁹

Third, the actions of users of adjacent ocean waters can have a significant impact on the outcomes delivered by MPAs/OECMs. For example, overfishing, extractive activities or pollution, can all have negative spill-over effects. Private companies may have limited practical or legal means of recourse. For example, in the coastal tourism sector, beachfronts and near-shore coasts are often managed by multiple individual properties; the positive actions of a single operator to protect marine areas and improve ocean health can easily be undone by the negative – or even just indifferent – actions of neighbouring properties.

Challenge 3. Asymmetry of timeframes

The final complexity is a familiar one in climate-related business cases and finance: a fundamental mismatch between the investment horizons of most private capital and the time delay for environmental impacts – both positive and negative – to play out. Two marine examples: first, species recovery is tied to lifecycles which can be decades-long; and second, underlying issues may accumulate over decades, but the actual impact and costs hit only suddenly.

28 See examples in valuation library of the Marine Ecosystem Services Library at map.marineecosystemservices.org

29 Kough et al., 'Larval Connectivity and the International Management of Fisheries' (2013)

30 Mace, 'The scientific basis for natural capital: developing metrics for a risk register' (2014)

3 | Way forward: three horizons of action

These challenges, which impact the scalability of standalone business cases for marine protection and conservation, begin to recede when a comprehensive area-based management approach is taken across an entire EEZ or regional coastline.

First, competition for ocean resources is managed at Treasury or Ministry of Finance level, with a perspective that can bridge the interests of business, environment, employment and welfare. The business case for protection and conservation would, therefore, calculate the internal rate of return (IRR) for different scenarios: from continuation of *status quo*; to full, ubiquitous protection; and, crucially, the complex balancing acts between extractive, mixed-use areas, OECMs and MPAs – which should reveal sweet-spots between positive socio-economic returns and long-term, sustainable outcomes for ocean biodiversity.

Second, networks of MPAs (and OECMs) can be planned to optimize ecosystem connectivity and productivity. Biodiversity benefits from protecting different marine areas can be estimated in aggregate, along with the value of other ecosystem services. This requires meticulous and time-intensive scientific work *in situ* (even if emerging digital technologies may well start to shorten the timeframes³¹), and situates business case development right at the forefront of both ocean science and natural capital accounting³². Without these inputs, and at a sufficiently granular level (in terms of area, habitat type, species, etc), any business case will be incomplete. The precautionary principle can be applied to ensure progress in the near-term but there is also need for institutional coordination across governments, academia, non-profits and the private sector in this space.

Further, comprehensive area-based management ensures that the proper functioning of protected areas is not compromised by the negative impacts outside MPAs and OECMs. Businesses have an important role to play, here, in the sustainable use and management of the remaining ocean.

And, third, public financing is fundamental in the backing of longer-term investment horizons. Blended financing instruments can also create opportunities to unlock greater scale by packaging funding from different capital sources: state, private and philanthropic.

Armed with the appropriate baseline inputs, policy-makers can create Marine Spatial Plans that describe area-based management tools for 100% of national waters, integrating

protection with sustainable use and management of the ocean and its resources – as a collective responsibility.³³ This is not a trivial exercise and will require coordination, commitment and leadership at the highest level. The task of building a comprehensive business case will, on its own, take substantial time and commitment of financial resources. It will also require coordination of stakeholders in government, business (at local, national and international levels), civil society, and the scientific and philanthropic communities.

A germane case study for such an effort is the establishment of the Seychelles Conservation and Climate Adaptation Trust (SeyCCAT).³⁴ The financing in this specific case – through debt conversion instruments – was complex and extended beyond the upfront costs of designing reforms with consensus. That notwithstanding, it was a four-year effort to build the business case alone, but which ultimately led to a committed protection target of more than 30% of the country's Exclusive Economic Zone waters, and sustainable use measures for the remaining areas.

The achievement of the Seychelles is noted in the context of a relatively small nation-state (by population), where governance was felt to be strong and supportive. If more ambitious targets for protection are to be met, this will increasingly require protection to be established proximate to dense human populations, amplifying the complexity. Proximity to dense human populations brings with it competing demands from fisheries and offshore mariculture, shipping lanes and port infrastructure, tourism, offshore wind, oil and gas and other extractive industries. All these ocean users have expectations of future cashflows from their activities, and the potential opportunity costs of marine protection must be counted. Many will also have made capital commitments which could result in stranded assets. Wherever there are such competing demands, more sophisticated planning will be required, as well as detailed evaluation of scenarios that can balance long-term socioeconomic and conservation outcomes.

There is no time to lose, and the priorities and an action plan for building comprehensive business cases is described below. However, in the knowledge that the lead-times for business plan completion, through to funding and into implementation, will be longer-term, two independent opportunities to support the scale-up of protection and conservation in the nearer-term are also put forward.

³¹ For example, the satellite mapping of ocean fronts being undertaken by Plymouth Marine Labs.

³² Terama et al., 'Accounting for the environment as an economic asset: global progress and realizing the 2030 Agenda for Sustainable'

³³ Barner et al., *Ibid.*

³⁴ See 'Case study: Seychelles Debt Conversion for Marine Conservation and Climate Adaptation' (Convergence, 2010)

First, continued designation of MPAs in areas less intensively affected by human activities – these are no-regret actions that will deliver biodiversity benefits and support overall ocean health – referred to as ‘targeted MPA designations’.

Second, a proposal is made for concerted effort to explore how a proportion of the coming wave of capital investment into ocean-based industrial activity (i.e., in the next five years) can be directed into marine protection and conservation, in a manner that creates ‘win-wins’ for biodiversity and business. These are referred to as ‘sector-specific opportunities’. **Figure 2** illustrates the different timelines, or horizons, of these opportunities and the relative complexity of the business case for each.

A. Targeted MPA designations

Perhaps the most positive story in the protection of marine biodiversity in the last decade has been the successful designation of 30 very large MPAs³⁵, each covering at least 100,000 km² and, in total, an area greater than 14,000,000 km² (4% of ocean area). This breakthrough in MPA coverage has been spearheaded by progressive governments and leaders, particularly in Small Island Developing States (SIDS) and in Overseas Territories, with support from non-profit organizations and their philanthropic funders.

When mapped geographically, these MPAs are mostly located in areas where impacts and pressures from human activities are relatively low³⁶. But these areas are also, in most part, hotbeds of marine biodiversity, teeming with life, and are essential to ocean health due to ocean connectivity. A cynical view, in pure financial terms, is that they represent an underexploited asset, one which can be acquired at a relatively low cost today and held on the balance sheet for its option value – a hedge against prospectors who might come looking for those services at some future date. Encouragingly, efforts to designate more very large MPAs continue. Significant initiatives are being led by Pristine Seas, Conservation International, Pew Charitable Trust, The Blue Prosperity Coalition, The Blue Action Fund, Oceans 5 and others.³⁷

B. Sector-specific opportunities

It is estimated that upwards of USD 50 billion in capital investment will be made globally into ocean-using industries in 2020 – a figure that is predicted to see double-digit annual growth over the coming decade. This prompts the question: to what extent can the scale-up of marine protection and conservation leverage these capital inflows? **Figure 3** lays out the comparative size and growth, as well as the opportunities and risks, associated with six marine industries: offshore wind, offshore aquaculture, marine fisheries, ports and harbours, coastal and marine tourism, and oil and gas decommissioning.

Figure 2. Three horizons of action for scale-up of marine protection and conservation

	Targeted MPA designations	Sector-specific opportunities	Comprehensive business cases/Marine Spatial Plans
What is it?	<ul style="list-style-type: none"> Protection of high priority, but more remote, areas of biodiversity Government-led with strong support from philanthropy 	<ul style="list-style-type: none"> Biodiversity ‘win-wins’ by partnering with heavy ocean-using industries Potentially OECMs (rather than MPAs) 	<ul style="list-style-type: none"> Ocean spatial mapping Area-based management Full Cost/Benefit/IRR analysis and scenarios
Opportunity	<ul style="list-style-type: none"> Typically large in scale Few competing stakeholders = option value/long-term security Single stakeholder (fisheries) 	<ul style="list-style-type: none"> Tap into coming (large) wave of ocean capital Secure <i>de facto</i> protection and conservation outcomes 	<ul style="list-style-type: none"> Long-term efficient use of capital and resources (public, private and local communities)
Risk	<ul style="list-style-type: none"> May not move the needle significantly in meeting ambitious global targets for protection 	<ul style="list-style-type: none"> No existing regulatory frameworks or calculus 	<ul style="list-style-type: none"> Complex, science-based plans (likely multi-year from design to implementation)
Business case complexity			

³⁵ See mpatlas <http://www.mpatlas.org/protection-dashboard/very-large-mpas/>

³⁶ World Database on Protected Areas (See www.protectedplanet.net)

³⁷ Interview with Sebastian Trong, Conservation International.

Figure 3. Conservation opportunities from ocean-using business sectors

	Size, Sector financials	Growth, 2014-19 CAGR	Regional focus	Protection and conservation opportunities	Risks to conservation and protection
 <p>Offshore wind</p>	<ul style="list-style-type: none"> ▪ \$20-25 billion annual new capex today ▪ Likely increasing to \$100bn+ in next 10-15 years 	<ul style="list-style-type: none"> ▪ ~25% ▪ Fastest growing renewable energy tech in the OECD 	<ul style="list-style-type: none"> ▪ China will account for 50% of new capacity 	<p>Dual benefit:</p> <ul style="list-style-type: none"> ▪ Carbon mitigation from sustainable energy source ▪ <i>De facto</i> marine reserves around wind farms 	<ul style="list-style-type: none"> ▪ Impact on critical marine habitat/populations during installation of foundations (e.g. noise pollution) ▪ Operational impacts (e.g. sea-bird collisions)
 <p>Offshore aquaculture</p>	<ul style="list-style-type: none"> ▪ \$1-2 billion per year in new capex over the past few years 	<ul style="list-style-type: none"> ▪ ~6% 	<ul style="list-style-type: none"> ▪ Rapid growth in Europe, Chile and East Asia ▪ New investments expected in South Asia 	<ul style="list-style-type: none"> ▪ <i>De facto</i> marine reserves in extended buffer zones around aquaculture farms 	<ul style="list-style-type: none"> ▪ Potential negative environmental impacts uncertain but could be substantial <ul style="list-style-type: none"> ▸ Feed supply ▸ Pollution, runoff ▸ Invasive species
 <p>Marine fisheries</p>	<ul style="list-style-type: none"> ▪ ~\$100 billion annual revenue 	<ul style="list-style-type: none"> ▪ Limited, with total revenue growth of 8-40% depending on the current status of the stock 	<ul style="list-style-type: none"> ▪ Globally relevant, with specific focus on Asia and Africa regarding overfishing 	<ul style="list-style-type: none"> ▪ Voluntary no-take zones (with rights-based management/quotas) <i>de facto</i> marine reserves ▪ Ensure food security and long-term viability of the resource 	<ul style="list-style-type: none"> ▪ Impacts on local fishing livelihoods, communities ▪ Overfishing: fish stock depletion, habitat destruction
 <p>Port and harbour</p>	<ul style="list-style-type: none"> ▪ >\$30 billion per year in new capex expected over the next 10 years 	<ul style="list-style-type: none"> ▪ ~6% 	<ul style="list-style-type: none"> ▪ China likely to drive a significant portion of the investments through 'Belt and Road Initiative' 	<ul style="list-style-type: none"> ▪ <i>De facto</i> marine reserves around port/harbour infrastructure, part of security measures 	<ul style="list-style-type: none"> ▪ Impact on critical marine habitats/populations during installation generally permanent ▪ Restoration potential poorly developed and expensive
 <p>Coastal and marine tourism</p>	<ul style="list-style-type: none"> ▪ >\$25 billion annual capex investments (hotels, aviation, cruises) 	<ul style="list-style-type: none"> ▪ ~5% 	<ul style="list-style-type: none"> ▪ 50% revenue from North America and Europe ▪ Asia/Africa represent significant share of new capex 	<ul style="list-style-type: none"> ▪ Protect critical marine resources proximate to resort locations ▪ Stakeholder coordination/coalitions supporting ocean management at a destination level 	<ul style="list-style-type: none"> ▪ Tourist traffic can have negative impacts on local habitats <ul style="list-style-type: none"> ▸ Directly, e.g. through increased local development, pollution ▸ Indirectly, e.g. through air travel CO₂ emissions
 <p>Oil and gas decommission</p>	<ul style="list-style-type: none"> ▪ US\$20-50 billion expected investment (often from governments) in coming years 	<ul style="list-style-type: none"> ▪ 6,000 rigs/platform foundations due for decommiss'g in the next 20 years 	<ul style="list-style-type: none"> ▪ Significant focus on the North Sea in short term 	<ul style="list-style-type: none"> ▪ Rig/platform foundations can provide <i>de facto</i> habitats ▪ Given government funding, public interest to link these areas to network of MPAs 	<ul style="list-style-type: none"> ▪ Transition of offshore foundations should be directly linked to MPA establishment, not as opportunity to reduce costs

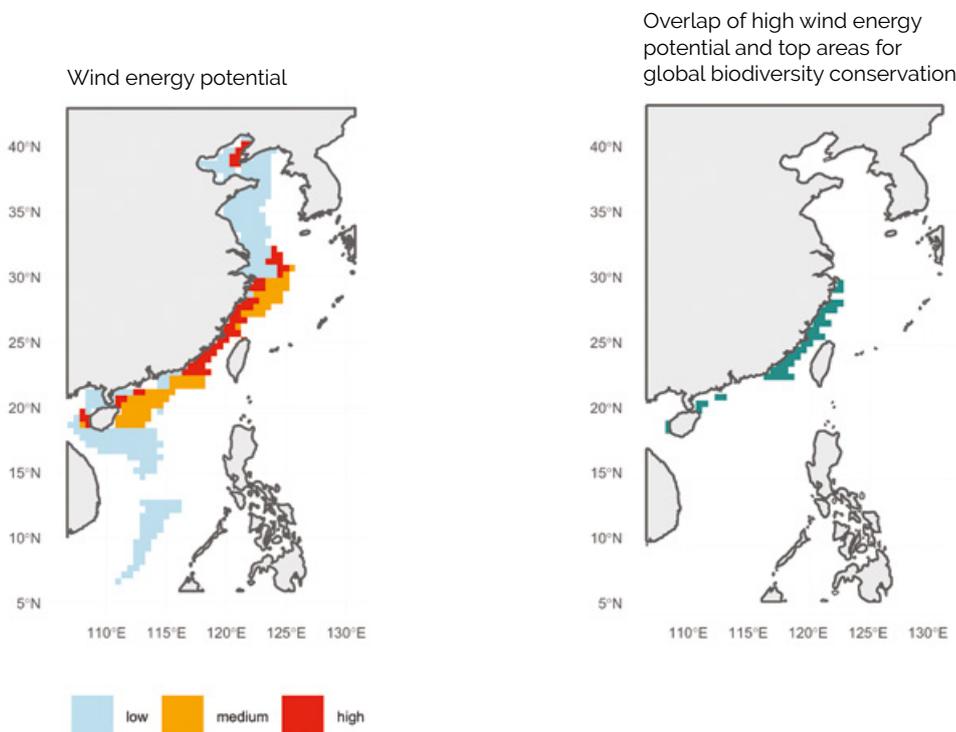
Explicitly tying conservation goals to the activity of extractive industries is controversial. But it offers the potential to realize a step-change in funding levels for marine protection – and to do so in the near term. Offsets could be negotiated based on principles most relevant to the sector. Examples include: providing funding for protection of an area of biodiversity with a commensurate level of ecosystem services as granted rights over³⁸ (and benefitting the same community); funding an environmental outcome that maintains the condition of impacted biodiversity goals³⁹; or ring-fencing a fixed percentage of capital expenditure or project value for protection and conservation.

In addition to offset mechanisms, opportunities for genuine ‘win-wins’ may exist in certain sectors. Offshore wind energy, for example, has a critical role to play in meeting climate commitments. While it is not free of biodiversity impacts across the construction, operational and decommissioning phases, the establishment of large offshore wind farms may create opportunities for *de facto* protection and conservation in these waters. With proper design, wind farms could actually play an important role in enhancing marine conservation, such as through implementing artificial reefs.⁴⁰

To illustrate the opportunity at a high level, in **Figure 4**, new datasets that map the global biodiversity benefits of protection, produced by an international team of experts led by Enric Sala at National Geographic Society, are overlaid with data on the potential for offshore wind energy. Taking China’s EEZ as an example, the output shows that *two-thirds* of the total area which has high potential for offshore wind (>100,000 km²) overlaps with areas deemed to be in the top 10% of global biodiversity conservation priorities. To contextualize the significance: full/high protection of all the ocean area in this top 10% could achieve 80% of the maximum benefit for biodiversity⁴¹.

The overlap is striking and prompts consideration of whether the establishment of new networks of protected areas – in the form of permanent no-take zones around offshore wind farms (OWFs), effectively managed and monitored for conservation outcomes – could become an explicit objective tied to the building of new offshore wind capacity. Careful consideration and scientific criteria will be required to ensure biodiversity hotspots and natural ecosystems are not disrupted. This should not be a means to compromise existing MPAs and priority could be given to building OWFs in degraded marine areas with ecosystem

Figure 4. Overlap between potential for offshore wind energy and biodiversity conservation priorities in China’s EEZ⁴²



38 See premioslatinoamericaverde.com/archivos/2018/proyecto_2856_archivo.pdf (Slide 9 – 110 Hectares)

39 See www.environment.gov.au/marine/gbr/reef-trust/offsets

40 See Challenge 3: www.offshorewindinnovators.nl/products/offshore-wind-innovation-challenge-autumn-2019

41 Biodiversity benefits refer to minimizing species extinction risk, maintaining diverse species traits in ecosystems, and preserving the evolutionary history of marine life, while ensuring biogeographical representation.

42 High potential for offshore wind: wind speed >8 m/s at 100m; ocean depth <60m. Medium potential: wind speed >8 m/s at 100m; 60<depth<1,000m. Otherwise low potential. Cell size 50km by 50km.

restoration priorities. But OWF businesses, in partnership with governments and other stakeholders, clearly have an opportunity to meaningfully contribute to the urgent challenge of scaling marine protection and conservation.

These negotiations will require strong political will and conservation support, as well as compelling narratives for and positive collaboration from industry. But the prize is high – from offshore wind alone, it could measure in the millions of km² of *de facto* no-take zones. IUCN's guidance warns that environmentally damaging industrial activities and infrastructure development should not occur in OECMs; a case could be made, though, to include lower-risk/high-return sectors under certain circumstances where long-term *de facto* protection is achieved with explicit, ongoing conservation management objectives (e.g. offshore wind, oil and gas decommissioning, and tourism).⁴³ **Figure 5** presents a simple analysis of the six sectors against these two dimensions.

Individual action, at company level, will be important. While implementing extra measures to ensure protection can place a burden on companies it can also be good risk management, help protect companies' reputations and Corporate Social Responsibility (CSR) goals, and fulfil their responsibilities to achieve the UN SDGs. But it is the real opportunity through coordinated action at the sector level (e.g., industry consortia) that the opportunity lies: creating

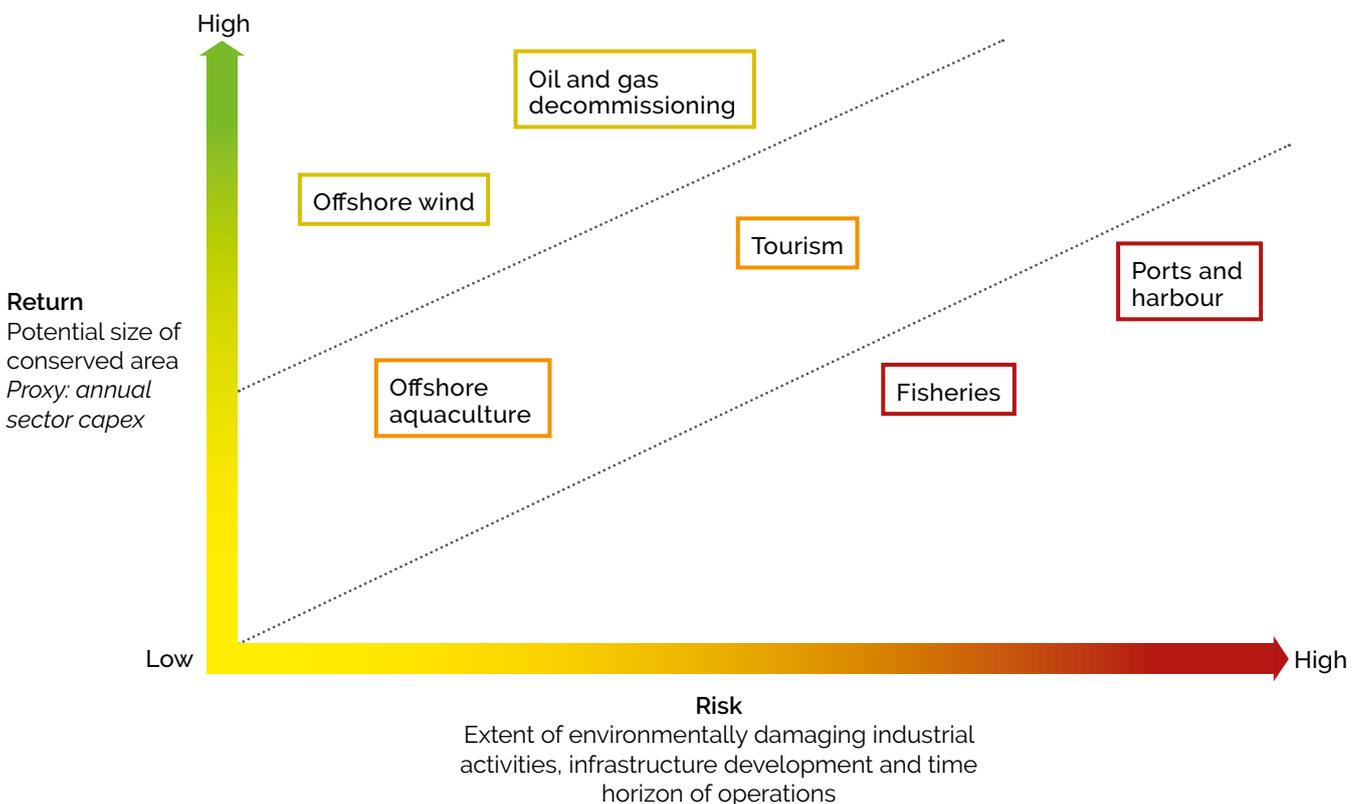
new, politically more powerful, more vested bases of support for spatially defined protection, thereby showing commitment to implementing solutions at scale.

C. Comprehensive business cases: Marine Spatial Plans

In this final section, the three phases of activity required to create a comprehensive business case for protection and conservation – i.e., Marine Spatial Plans – are laid out. In the initial phase, a set of core activities will happen at nation-state level, including: ocean spatial mapping; establishing baseline inputs for natural capital, biodiversity and ecosystem services; understanding existing and projected ocean-related socioeconomic activity; and scenario modelling of different strategic conservation and socio-economic trade-offs, including continuation of the *status quo*.

In the second phase, analysis will need to expand to the regional and, ultimately, local level, in order to create credible implementation plans, engaging the appropriate stakeholders across government, business and communities. Finally, in the third phase, coordinated work will be needed to match opportunities to appropriate sources of capital, e.g. according to scale of investment, rate and timeline of returns.

Figure 5. Risk/return matrix for sector-specific conservation opportunities



⁴³ IUCN/WCPA, 'Recognising and reporting OECMs' (2019)

Phase 1a: Pre-requisite inputs

- Spatial mapping of EEZs: at appropriate scale to understand individual marine habitats and species;
- Establish baseline inputs: natural capital; biodiversity and ecosystem services; business and economy;
- Estimate impact of protection (MPAs, OECMs): in terms of biodiversity and ecosystem services benefits; quantification of specific marine habitats and species protection;
- Project impact of broader ocean management strategies: heavy extraction, mixed use, etc;
- Assess any cross-jurisdictional issues;
- Assess role of and relationship with Areas Beyond National Jurisdiction (especially for highly migratory species).

Phase 1b: Outputs, trade-offs and choices

- Scenario modelling (calculation of IRRs);
- Prioritization of conservation and socioeconomic objectives.

Phase 2: Action plans

- Segmentation of national-level outputs into discrete addressable markets/business cases: scale may vary from small to very large depending on value and risk;
- Evaluate delivery models: ownership structures, governance arrangements, stakeholders, risks;
- Develop delivery plan: Key Performance Indicators, timelines, implementation coordination, roles, responsibilities and management.

Phase 3: Identification of appropriate funders

- Match discrete business cases to funders: based on timelines, returns and risk profile;
- Explore blended financing instruments: opportunities to unlock greater scale by packaging funding from different capital sources (state, private and philanthropic).

Figure 6. Tools, scale and stakeholders involved during each of these three phases are also laid out.

	Phase 1a	Phase 1b	Phase 2	Phase 3
	Establish baseline inputs: biodiversity, ecosystem services, business and economy	Evaluate benefits and costs of different ocean management scenarios	Tailor action plans to on-the-ground realities	Identify appropriate funders/mechanisms
Activities	<ul style="list-style-type: none"> ▪ Baseline marine habitats and species ▪ Estimate biodiversity impact of MPAs ▪ Project biodiversity impact of broader ocean management strategies ▪ Assess any cross-jurisdictional issues ▪ Assess role of and relationship with high seas 	<ul style="list-style-type: none"> ▪ Estimate ecosystem services benefits of MPAs ▪ Evaluate opportunity costs of protection ▪ Scenario modelling (IRRs) ▪ Examine conservation and socioeconomic objectives 	<ul style="list-style-type: none"> ▪ Segment national-level outputs into discrete addressable markets/business cases ▪ Evaluate delivery models ▪ Develop delivery plans 	<ul style="list-style-type: none"> ▪ Match discrete business cases to funders ▪ Explore blended financing instruments
Tools	<ul style="list-style-type: none"> ▪ Ocean spatial mapping ▪ Habitat/species-level projections 	<ul style="list-style-type: none"> ▪ Marine spatial planning ▪ Financial valuation models 	<ul style="list-style-type: none"> ▪ MPA implementation best practice 	<ul style="list-style-type: none"> ▪ Conservation finance experience
Scale	<ul style="list-style-type: none"> ▪ Habitat/species-level across National jurisdiction 	<ul style="list-style-type: none"> ▪ Regional inputs informing national decision 	<ul style="list-style-type: none"> ▪ Local and regional 	<ul style="list-style-type: none"> ▪ International, national, regional and local
Key stakeholders	<ul style="list-style-type: none"> ▪ Ministries of Environment, Fisheries, Energy and Business ▪ Marine science community ▪ Marine conservation philanthropy ▪ Private sector 	<ul style="list-style-type: none"> ▪ Finance Ministry and others ▪ Private sector ocean-using industries ▪ Local communities 	<ul style="list-style-type: none"> ▪ Local communities ▪ Private sector ocean-using industries ▪ Marine conservation philanthropy 	<ul style="list-style-type: none"> ▪ Private capital ▪ Public and philanthropic capital ▪ Private-sector ocean-using industries

4 | Conclusions and next steps

The environmental case for marine conservation is compelling and urgent, but there remains much to do to build the business cases that will lead to effective protection at scale. In combination, though, coordinated action across the three horizons mapped out in this paper would direct the appropriate stakeholder energy and capital at the available opportunities.

First, philanthropic funding will still lead the way in designation of new MPAs in areas less intensively affected by human activities. While they do exist, standalone returns-driven investment opportunities for the private sector to support MPAs are likely to be limited in scale.

Second, business sectors that are dependent on living or renewable ocean resources have an opportunity to move early and safeguard their ability to operate, by creating voluntary and 'win-wins' mechanisms to drive conservation. Sector-specific roadmaps should be developed, with the collaboration of industry leaders and key experts, to determine the approaches and mechanisms that can deliver the most, the fastest.

Finally, the end goal – ecologically representative protection, on a global scale – cannot be achieved without strong government leadership on biodiversity goals, spatial rights allocation, equitable revenue sharing, addressing principle/agent issues, and to ensure cost to humanity and environment is effectively incorporated into investment decisions. However, it is incumbent on all stakeholders (public, private, philanthropic, scientific and local communities alike) to work together in mutual self-interest and to build the Marine Spatial Plans and comprehensive business cases for a sustainable ocean future – underpinned by the efficient deployment of capital.



Photo by enriquelopezgarre/pixabay.com



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