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## A drop in the ocean

Closing the gap in ocean climate finance

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# Introduction

The ocean is a fundamental economic and environmental engine providing the services that are critical for the success of every economy and the very survival of life on our planet. And yet, it is seriously neglected with little formal value placed on the complex web of those life-giving ecosystem services. Should we choose to credit these services with their true value, we would find that the ocean is worth orders of magnitude more than the amount we are currently investing in it. Today, the majority of marine investments fail to effectively target a transition to a sustainable ocean economy, focusing instead on a predominantly extractive model which includes infrastructure projects, energy provision, commercial fishing and tourism.

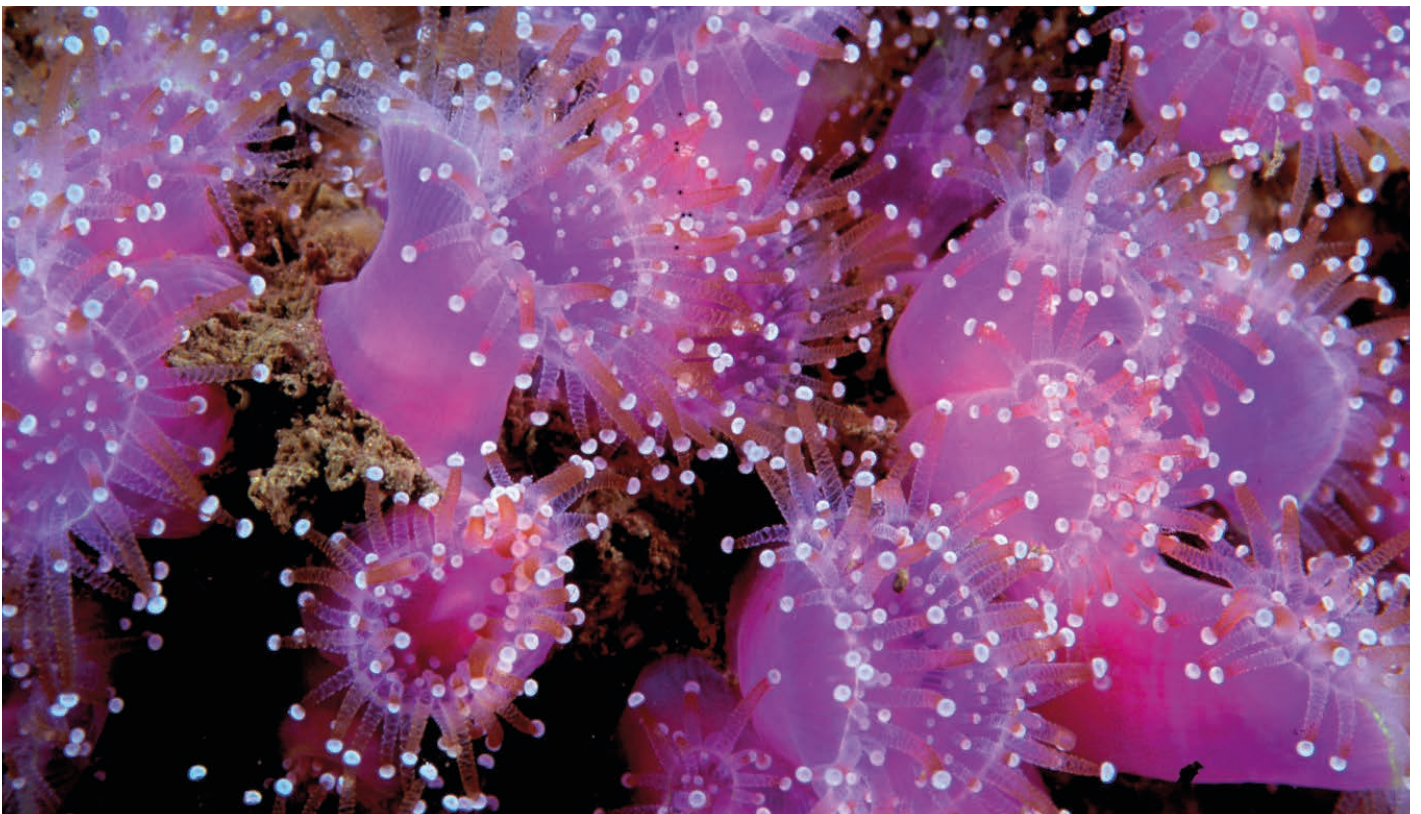
Despite the ocean's scale and importance, climate finance is unfairly skewed away from nature-based solutions – and the little investment in nature that occurs is generally directed towards better understood or more visible terrestrial ecosystems. Of the very limited capital that is mobilised for sustainable 'Blue Carbon' projects, the evidence suggests that it is exclusively spent on protecting and restoring coastal saltmarshes, seagrasses and mangroves, with deep and open ocean ecosystems entirely overlooked.

This policy paper attempts to address the imbalance. It illuminates the inequality that exists in the current approach to climate finance and makes a case for greater Blue Carbon investment. In doing so, it sheds light on the true value of our ocean and reveals just how important it is that this vital planetary engine continues to run. The benefits of a healthy ocean and a sustainable ocean economy far outweigh the costs. It is therefore imperative that policymakers, markets and corporations seek to better understand them and begin to invest in the ocean in line with its true worth.

We have produced this policy paper in collaboration with our partners Whale and Dolphin Conservation (WDC) and the Marine Conservation Society (MCS) and we thank them for their invaluable help and support in showcasing this most crucial of topics.



**Mike Barber**  
Climate & Sustainability, Partner, Deloitte LLP



# What is the ocean worth?

Covering over 70% of the world’s surface, comprising 97% of all water on Earth and containing 99% of the living space on the planet, it is no surprise that for thousands of years, humans have relied on seas and the ocean as an important source of food and natural resources.<sup>1</sup> From the seafaring coastal traders of antiquity to the present-day economies of global powerhouses, the huge variety and abundance of the seas have allowed civilisations to expand and thrive. A World Wide Fund for Nature (WWF) report conservatively valued the then-known “asset base” of the ocean at USD 24 trillion each year, with USD 2.5 trillion in goods and services from coastal and oceanic environments – equivalent to the 7th largest economy by GDP in 2015, just behind the United Kingdom.<sup>2</sup>

These assets are largely made up of commercially established and well-understood resources like fish stocks and aquaculture. In 2018, for example, the value of global fisheries soared to record highs at USD 401 billion, with over 179 million tonnes in production, 156 million of which was consumed by humans, the equivalent to 20.5kg of fish per capita.<sup>3</sup> Beyond food, the ocean provides us with important resources like bio-carbonates, sand and gravel, energy (renewable and fossil-based), opportunities for tourism, navigable trade and transportation routes (roughly 90% of international trade currently relies on shipping<sup>4</sup>) as well as substantial precious and heavy metal ores.<sup>5</sup>

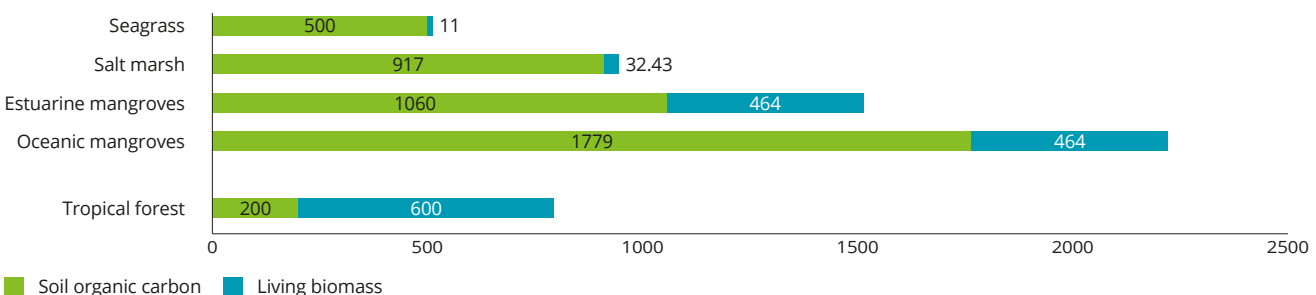
“A WWF report conservatively valued the then-known “asset base” of the ocean at USD 24 trillion each year, with USD 2.5 trillion in goods and services from coastal and oceanic environments - equivalent to the 7th largest economy by GDP in 2015, just behind the United Kingdom.”

Yet, as we focus on extracting the monetary potential from the ocean, we have been largely blind to both its ongoing destruction in the process and to the vastly greater value we can unlock through managing it as a sustainable ocean economy. Thanks to advances in our understanding of the life support systems provided by the ocean, it is increasingly apparent that our economies and societies are supported by its vital ecosystem services, the collapse of which would bring untold chaos and disruption. We know, for example, that **the ocean supplies half of the oxygen produced on the planet,<sup>7</sup> is one of Earth’s largest carbon sinks, sequestering 30% of annual carbon emissions emitted by humans** (and creating carbon stocks an order of magnitude greater than those in global terrestrial soils<sup>8</sup>) and **acts as a vital climate regulator.**<sup>9</sup> On the coast, mangroves, saltmarshes and coral reefs provide free and natural protection against flooding, and cycle minerals that support healthy coastal ecosystems.<sup>10</sup>

“In a world of 2°C warming 99% of all coral reefs will be lost.”

Biodiversity too plays a vital role in supporting healthy ecosystems. Coral reefs provide important habitats and nurseries for fish populations and have a pronounced influence on both their diversity and abundance.<sup>11</sup> The ocean contains a huge variety of plant and animal species, the unique biochemistry of which is a potential game-changer for pharmaceutical research and healthcare, and yet remains largely unexplored.<sup>12</sup> Alarming, in a world of 2°C warming – which current global climate commitments easily overshoot<sup>13</sup> – 99% of all coral reefs will be lost.<sup>14</sup> For perspective, **a 2017 Deloitte report assesses the yearly economic contribution of the Great Barrier Reef alone at USD 6.4 billion** – and this only includes the services for which there is direct market (e.g. not including coastal protection, carbon storage etc.).<sup>15</sup> Whales ‘pump’ nutrients both vertically, between depth and sea surface, and horizontally across the ocean, promoting primary production and thereby the fixing of atmospheric carbon.<sup>16</sup> When they and other marine life die, the ‘sinking carbon’ makes a significant contribution to ocean nutrient fluxes, helping to feed the algae and plankton

**Figure 1. Global averages for carbon pools of focal coastal habitats.** Note: Tropical forests are included for comparison



Source: adapted from IUCN<sup>6</sup>

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which in turn support countless fish populations and oceanic ecosystems.<sup>17</sup> **A study by the International Monetary Fund (IMF) values the carbon-fixing potential and the direct economic contributions of the world's existing whale stock at USD 1 trillion.**<sup>18</sup> Moreover, we should not discount the non-physical ecosystem services that provide us with immeasurable cultural, spiritual and educational benefits derived directly from the marine environments around them.<sup>19</sup>

*“Continuing to manage the ocean as a purely extractive resource will inevitably lead to ecological and eventually economic bankruptcy.”*

The precise value of these ecosystem services is difficult to define. However, it is estimated that more than two thirds of global gross marine product (USD 2.5 trillion in 2015) rely on them continuing to function smoothly.<sup>20</sup> Continuing to manage the ocean as a purely extractive resource – and without regard for the environmental impacts – will inevitably lead to ecological and eventually economic bankruptcy. In fact, several ecosystems have already come close: in 1992, the Northern Cod population in the Grand Banks collapsed to around 1% of historic levels thanks to a combination of mismanagement and overfishing. The collapse threatened the livelihoods of thousands of fishermen, dealing a serious blow to Newfoundland's economy and marking an end to a way of life that had sustained its coastal communities for hundreds of years. Emergency measures were taken to reduce the impact through a USD 484 million income assistance package, followed two years later by a further USD 1.9 billion in economic support.<sup>21</sup> The collapse of the Northern Cod stocks offers an ominous glimpse into a very possible future. In 2012, it was projected that if we continue to follow a ‘high climate impact’ scenario and fail to protect against fisheries collapse, rising sea levels, worsening storms and the loss of tourism and ecosystem services, **we could face a global bill of USD 428 billion a year by 2050, rising to almost USD 2 trillion by 2100.**<sup>22</sup> With the Intergovernmental Panel on Climate Change's (IPCC) latest report on the ocean highlighting a dramatic decline in its status since, it is very likely these figures would be considerably higher if re-assessed now.<sup>23</sup>

*“The collapse of the Northern Cod stocks offers an ominous glimpse into a very possible future.”*

It is clear today that the ocean is worth far more than the amount we currently invest in it. Governments around the world today continue to pay organisations to the tune of USD 4-6 trillion to exploit nature, instead of protecting it.<sup>24</sup> It is vital that we can address this imbalance so that humans may continue to realise its innumerable benefits and sustainably support the global economy. **With over three billion people reliant on a healthy ocean for their livelihoods and more than 350 million jobs in ocean-based sectors, the cost of not doing so would be catastrophic.**<sup>25</sup> Major global climate and biodiversity summits represent one of the last opportunities to reset the balance and kick-start a new era of investment for the world's ocean. As Mike Barber, Climate and Sustainability Partner at Deloitte puts it: **“when offered a path that averts total economic collapse, gives huge reward and for little investment, why would we choose to look the other way?”**

*“Governments around the world today continue to pay organisations to the tune of USD 4-6 trillion to exploit nature, instead of protecting it.”*





# What we spend on our ocean

To understand how global climate summits serve as a vital opportunity to mobilise climate finance for the ocean, it is worth considering the state of international commitments to date.

**In 2009, developed countries around the world committed to a global climate finance budget of USD 100 billion per year by 2020.** The pledge formed a cornerstone of the COP16 Accord, staking the global ambition for international climate finance.<sup>26</sup> The commitment, however, was pitted by deep flaws and, while investment in climate change mitigation and adaptation has trended upwards over the past decade, **so far developed countries have failed to reach the USD 100 billion target.**

“Natural climate solutions receive less than 3% of all climate finance, with the ocean receiving less than 1%.”

OECD estimates tell us that this figure amounted to USD 80 billion in 2019.<sup>27</sup> Understanding how much we have actually spent is a hotly-contested subject though, with reporting to the United Nations Framework Convention on Climate Change (UNFCCC) characterised by inconsistency and lack of transparency, particularly around the proportion of private finance mobilised. For instance, public climate finance is generally considered to have been over-reported, with an investigation by Oxfam finding that **officially recorded amounts could be as much as USD 10.5-13.5 billion more than what is actually being spent.**<sup>28</sup>

While climate finance targets have not been met, the trendline tells us we are moving in the right direction. Difficulties in collecting accurate and consistent data, however, make assessing the level of climate finance mobilised for nature-based solutions (NbS) a significant challenge, particularly for oceanic systems. The best available estimate puts the amount of climate finance received by nature at less than 3% of the total. For the ocean, it is less than 1%.<sup>29</sup> Similarly, since the COP16 Accord commitment was made, best estimates calculate that **less than 1% of the total value of the ocean has been invested in ocean-based sustainable projects,**<sup>30</sup> with the UN Sustainable Development Goal (SDG) 14 (Life Below Water) remaining among the least funded of the SDGs.<sup>31</sup>

“Life Below Water (SDG 14) is among the least funded of the UN SDGs.”

The UK is providing some leadership in this regard: from a climate finance fund of GBP 11.6 billion, the UK government has committed at least GBP 3 billion to nature-based solutions. Specifically, **the UK government has also recently launched its GBP 500 million Blue Planet Fund,** which will support developing countries in protecting the marine environment to tackle climate change, biodiversity loss and poverty.<sup>32</sup>



## Nature-based solutions – what are they?

Nature-based solutions are often regarded as a key lever of global efforts to both reduce emissions and capture those already released, since they can sequester large volumes of carbon in addition to delivering benefits for both human well-being and the natural world.<sup>33</sup> The United Nations Environment Programme (UNEP) predicts that a cumulative total investment of USD 8.1 trillion by 2050 (and USD 536 billion per year by the same timeframe) is required in NbS if the world is to meet its climate change, biodiversity, and land degradation targets, on top of science-based emissions reductions.<sup>34</sup> **This means that the annual investments in NbS will have to triple by 2030 and increase four-fold by 2050 from the current investments of USD 133 billion (using 2020 as base year).**<sup>35</sup>

A considerable amount of funding in NbS comes from the public sector, which contributes around USD 115 billion per year, invested by national governments into protection of biodiversity and landscapes, forest restoration, peatland restoration, regenerative agriculture, water conservation and natural pollution control systems.<sup>36</sup> By contrast, private sector funding amounts to only USD 18 billion per year and is largely invested in sustainable supply chains and environmental offsets.<sup>37</sup>

Over the last decade, technology-based solutions have also gained considerable traction as potential solutions for mitigating climate change. These solutions are aimed at direct carbon capture for storage underground, with large-scale carbon removal set to play an important role within the global clean energy transition.<sup>38</sup> Businesses in the low carbon and renewable energy sectors have played an important role in the uptake of such solutions by acquiring GBP 8.1 billion of capital assets in 2018.<sup>39</sup> Such technological solutions have often been favoured for their methodological certainty and limited leakage risks,<sup>40</sup> but have also been criticised for not delivering the same co-benefits as nature.<sup>41</sup>

“The UK’s blue carbon assets have a higher value than fishing, fossil fuels and renewable energy combined.”

#### Ocean-based solutions - what are they and why are they currently overlooked?

Nature-based solutions are comparatively complex and can be further broken down into land-based and marine-based solutions. Terrestrial solutions create land-based sinks through schemes such as forest and grassland protection, afforestation/ reforestation, agroforestry, regenerative agriculture and peatland restoration.<sup>42</sup> Marine-based solutions typically focus on coastal sinks through protection and restoration of kelp forests, mangroves, salt marshes and seagrass meadows, which typically make up what is currently understood as Blue Carbon.<sup>43</sup>

There has been a recent surge in the use of NbS to combat climate change. **However, the public funding which makes up 86% of all financing is heavily weighted towards terrestrial ecosystems.**<sup>44</sup> Of the future annual investment needed in NbS (i.e. USD 536 billion), mangrove restoration only accounts for 0.09% (USD 0.5 billion per year) whereas forest-based restoration accounts for 37% (USD 203 billion per year).<sup>45</sup>

“The UK’s seagrasses, muds, sands and saltmarshes alone capture more carbon dioxide than the UK’s woodlands.”

This is perhaps surprising given **several policy assessments highlighting the untapped potential of marine climate solutions compared to land-based solutions.** The UK’s Office of National Statistics (ONS) found that by conservative estimates, seagrasses, muds, sands and saltmarshes alone capture carbon dioxide with a value of at least GBP 57.5 billion – by comparison, woodlands in the UK captured carbon worth about GBP 55 billion.<sup>46</sup> The ONS also found that the UK’s Blue Carbon assets have a higher value than fishing, fossil fuels and renewable energy combined.<sup>47</sup>

“Without robust scientific data, creating investable ocean projects and markets is problematic.”

Yet, while voluntary markets are being created in better understood ecosystems like seagrass meadows and saltmarshes, ocean-based projects remain critically underrepresented and underfunded. A significant challenge lies in obtaining consistent, quantifiable data. Daniel Crockett, Development Director at the Blue Marine Foundation, suggests that *“there is no doubt that other habitats such as kelp and the sediment itself store carbon, nor is there doubt that fish and megafauna play a role in the carbon cycle, but the evidence to support quantification of this is at an early stage”*.<sup>48</sup> Without robust scientific data, creating investable ocean projects and markets is problematic. Due to the shifting and often uncompromising nature of the open ocean and deep seas, gathering data at great depths and pressures is both a logistical and scientific challenge.<sup>49</sup> Indeed, the deep ocean is the least-known environment on Earth, with biologists suggesting that **90% of the species that researchers collect in the abyssal zones are new to science.**<sup>50</sup> More broadly, ocean-related scientific study is estimated to account for only between 0.04% and 4% of total R&D expenditure worldwide.<sup>51</sup> In order to create investable projects, Daniel goes on to say, we require *“consistent, accurate and usable data which simply does not exist yet [for open ocean environments]. These are some of the great unanswered scientific questions of our time, and deserve to be global research priorities, reflecting the magnitude of the opportunity.”*

“Ocean-related scientific study is estimated to account for only between 0.04% and 4% of total R&D expenditure worldwide.”

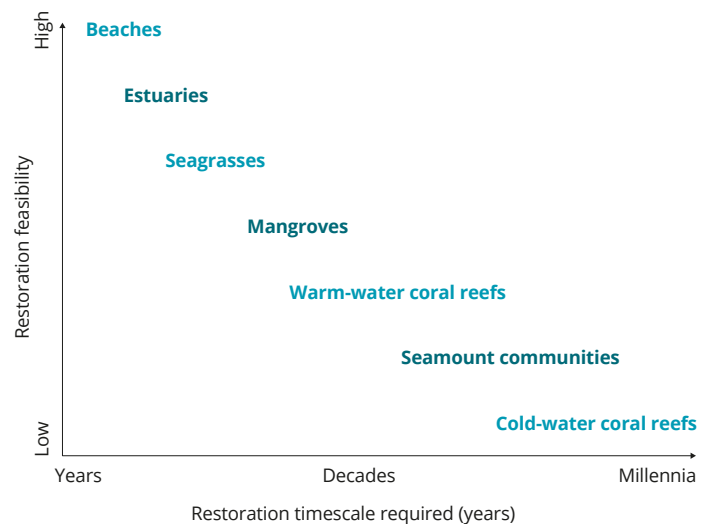


Besides data gaps, marine connectivity and governance regimes have provided key challenges in upscaling ocean-based offsets. The ocean operates as a singular system in flux and due to this ‘marine connectivity’, area-specific marine offsets often tend to be problematic. On land, such offsets are typically implemented within an area with more clearly defined ecological or political boundaries, and unlike migratory or wide-ranging species such as whales and dolphins, remain static, making them easier to manage and monitor.<sup>52</sup>

The absence of clear governance arrangements in areas beyond national Exclusive Economic Zones (EEZs) makes it difficult to implement offset projects and attribute responsibility over impacts – this can be a significant challenge for countries with limited resources and/or weak governance, which already struggle to protect their marine resources.<sup>53</sup> **Regulated marine areas such as EEZs form the limit of the UNFCCC jurisdiction, leaving most of the open ocean and deep sea unconsidered with respect to climate mitigation and adaptation.**<sup>54</sup> As Simon Dent, Head of Blue Investments at Mirova Natural Capital puts it: *“creating and investing into blue economy projects on the high seas is an immense challenge that is exacerbated by the lack of any obvious jurisdictional control or ownership of resources”*.<sup>55</sup>

Although it is an under-researched area, there is a wide gulf between coastal and deep-sea marine solutions, with most of the funding channelled towards the former, while opportunities to protect and restore the deep seas, seabed and deep-sea communities remain overlooked. The disparity in funding is likely attributable to the data gaps and absence of governance regimes, in addition to lower implementation risk in coastal and terrestrial areas.<sup>56</sup> Coastal communities and their dependencies on the ocean for human wellbeing and other ecosystem services are well understood and the impact is relatively easy to quantify.<sup>57</sup> Nevertheless, restorative marine-based solutions typically have varying levels of feasibility, impact and timescales.<sup>58</sup>

**Figure 2. Potential for undertaking restoration offsets for different marine ecosystems**



Source: adapted from Jacob, C. et al. 2020<sup>59</sup>

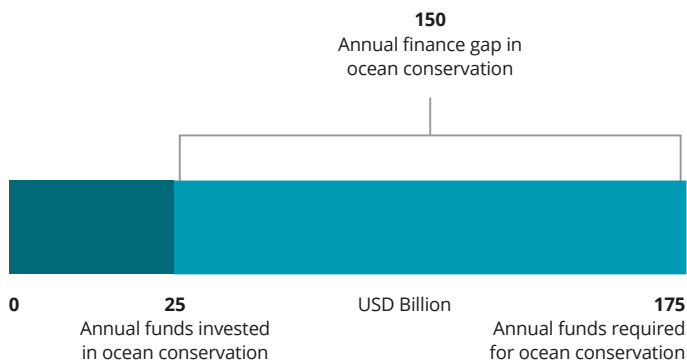
The deep seas are considerably more complex and harder to navigate by comparison, but contain immense opportunities for conservation, carbon sequestration and restoration. The complex conditions allow many marine wilderness areas to nurture unique biodiversity, and yet they remain unprotected and unregulated. This lack of protection means the open ocean provides potentially suitable marine-based solution sites where existing or predicted threats can be averted.<sup>60</sup> Several studies have attempted to analyse the ocean conservation financing gap, and while no agreed-upon estimate is available, **there is consensus among experts that ocean conservation is underfunded everywhere.** This is particularly apparent in the biodiverse tropics, suggesting these regions may be a priority zone for policymakers and corporations.<sup>61</sup>

# What do we need to invest and how?

The urgent need for exponentially higher investment in conserving and restoring the world’s ocean is clear, but a full understanding of how much is enough, and how best to raise this figure, remains less so.

A recent estimate has put the figure at **USD 175 billion per year**, with over half this sum (>USD 90 billion) needed to reduce marine pollution alone. About one-fifth of the funding should be set aside for protecting and restoring wetland ecosystems, coastal habitats, coral reefs and other environments.<sup>62</sup> The same study estimated the yearly sum of ocean conservation finance to be approximately USD 25 billion – which to put in perspective is **40% less than the total sum of government fisheries subsidies** alone at USD 35 billion<sup>63</sup> – leaving an **annual funding gap of around USD 150 billion**.

**Figure 3. Annual ocean conservation financing gap**



Source: adapted from Johansen, D., & Vestvik, R. 2020<sup>64</sup>

Separately, another study claims at least USD 10–20 billion per year will be needed just to protect – but not restore or clean up – half of the world’s ocean.<sup>65</sup>

Excepting the examples above, estimates of the financing gap for marine conservation are lacking, which presents a conundrum for any actors looking to turn the tide on ocean degradation. More marine-specific research on this funding gap is urgently needed, although **there is broad agreement that ocean conservation remains chronically underfunded**.<sup>66</sup>

Given that our understanding of ocean ecosystems is far from complete, particularly in deep, remote locations – as Canadian oceanographer Dr Paul Snelgrove has put it “*we know more about the surface of the Moon and about Mars than we do about this habitat*”<sup>67</sup> – there is a strong possibility that this figure (i.e. USD 175 billion p.a.) is a significant underestimate, since many areas of the ocean may be in a considerably more degraded state than we can accurately monitor. As an example of our collective blind spot, consider the relatively new discovery that washing synthetic clothes releases billions of plastic micro-fibres into the ocean.<sup>68</sup> The evidence base is constantly being updated as well: for instance, we now know that **more than twice the number of whale and dolphin species are negatively affected by marine litter/ plastic today compared to 1997**.<sup>69</sup> A range of alarming stress factors could exacerbate ocean degradation soon in unforeseen, non-linear ways, including deep sea mining, collapse of coral reefs, species depletion, accumulation of pollutants etc., which could make the above figure obsolete in the near future.

“At least USD 10–20 billion per year will be needed to protect half of the world’s ocean.”

## Ocean funding a drop in the ocean

Although we live on a blue planet, with the ocean dominating our land and atmosphere, regulating our weather and water cycles, and containing 99% of the living space on the planet,<sup>70</sup> **it remains largely overlooked on the agendas of business and policymakers – often in favour of terrestrial-based ecosystems.**

Consider the example of REDD+, an entire framework created by the UNFCCC COP in 2005 to reduce greenhouse gas emissions through financially incentivising the protection, restoration and sustainable management of forest ecosystems in developing countries – and the many billions of dollars it has channelled – and the lack of ocean equivalent by comparison.

**Nor is there an internationally agreed figure or milestone for investment in ocean conservation** (despite UK-led efforts to establish an international coalition to protect 30% of the ocean by 2030)<sup>71</sup> – unlike the climate finance pledge of USD 100 billion per year by 2020 agreed internationally as part of the 2009 COP16 Accord. This reflects the ocean’s lack of priority at the global policy level, and such a figure should be a key target outcome of future global summits on nature and climate.

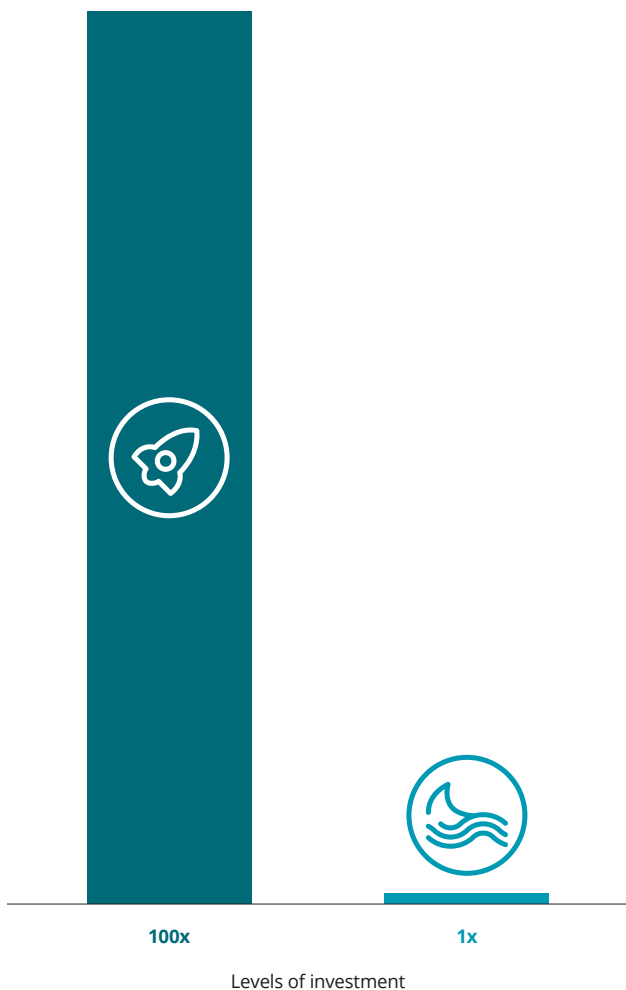
“We know more about the surface of the Moon and about Mars than we do about the deep-sea floor.”



At a more focused level, consider the disparities in US government funding in 2019 for 'Ocean, Coastal, and Great Lakes Research' of USD 219 million<sup>72</sup> compared with NASA's budget in the same year of USD 21.5 billion<sup>73</sup> – **approximately a hundred-fold difference**; roughly half of this was allocated to funding missions to the Moon and Mars,<sup>74</sup> despite – to continue Dr Paul Snelgrove's quote – *"the fact that we have yet to extract a gram of food, a breath of oxygen or a drop of water from those bodies"*. It is research imbalances such as these which have contributed towards the UN announcing 2021-2030 as the 'Decade of Ocean Science'.<sup>75</sup>

“Only 8% of the voluntary commitments to act on SDG 14 as part of the UN's Ocean Conference came from the private sector.”

**Figure 4. Difference in US government spending between space and ocean research**



Source: Deloitte internal research

“Ocean conservation fares little better among the donor community, with estimates that it has received less than 1% of all philanthropic funding since 2009.”

Among the business community the lack of focus on the ocean continues, with the recent results of KPMG's Survey of Sustainability Reporting identifying that UN SDG 14: *Life Below Water*, is one of the least prioritised goals, with only 18% of companies prioritising it.<sup>76</sup> Tellingly, at the time of writing, only 8% of the voluntary commitments to act on SDG 14 as part of the UN's Ocean Conference came from the private sector, with 39% and 23% coming from governments and NGOs respectively.<sup>77</sup> **There is an opportunity for businesses to step up to the plate, as one of the least-represented sectors in this agenda**, but with the greatest capacity to provide financing, especially in a post-Covid world with elevated levels of government debt globally.

Ocean conservation fares little better among the donor community, with estimates that it has received less than 1% of all philanthropic funding since 2009.<sup>78</sup>

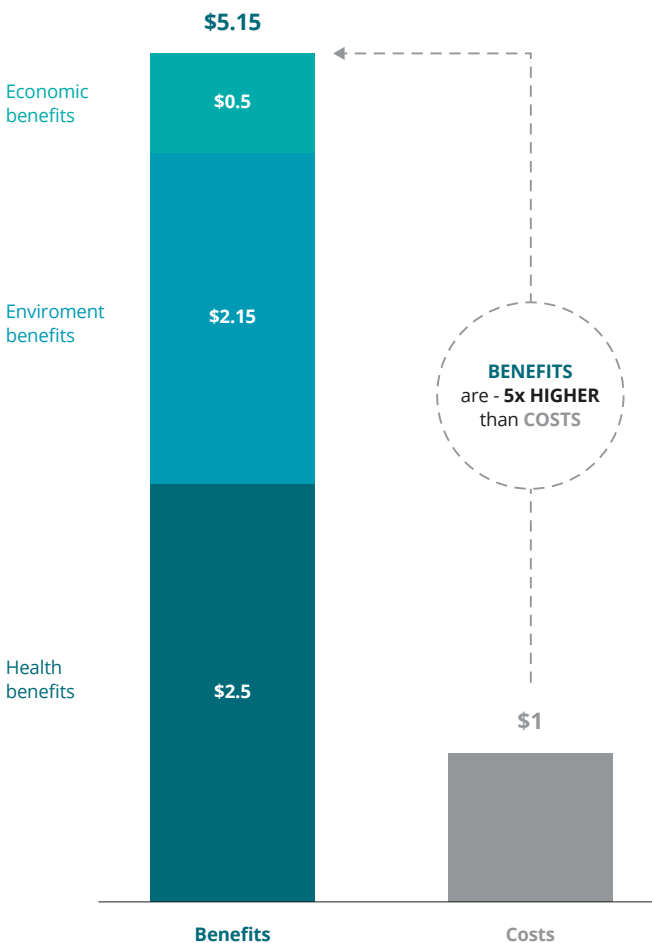
“For every \$1 invested in rebuilding marine life, around \$10 are generated in economic return.”

**What benefits could this bring?**

The benefits of acting decisively and urgently are huge and diverse – to name just a few: effective climate mitigation to prevent climate breakdown, climate adaptation to increase our resilience to the changes we have already locked in, provision of sustainable livelihoods for marine and coastal communities, a cheap and nutritious source of protein for billions around the world, a pristine biome to catalyse scientific and medical breakthroughs, and a rich, awe-inspiring habitat to continue the chain of millennia's worth of cultural heritage and the anchor of our spirituality and identity.

Indeed, recent research has found that sustainably investing USD 1 across only four key ocean actions alone (mangrove protection and restoration, decarbonising the shipping sector, scaling up offshore wind energy production and boosting production of sustainable ocean-based protein – fisheries and aquaculture) can yield at least USD 5 in global benefits.<sup>79</sup> For marine conservation specifically, another study estimates that for every USD 1 invested in rebuilding marine life, around USD 10 are generated in economic return.<sup>80</sup>

**Figure 5. Sustainable ocean investments yield benefits at least 5x higher than costs**



Source: adapted from Konar, M., & Ding, H. 2020<sup>81</sup>

There are not only huge benefits to be realised through effective ocean investment, but the cost of inaction is also prohibitively expensive – we cannot afford to underinvest in the ocean: **depending on the level of climate-related sea level rise (0.5-1.0 metres), we could face a total bill of between USD 200 billion – USD 1 trillion a year by 2100 in loss of land, people relocation and coastal protection.**<sup>82</sup>

“There is a significant lack of existing or scalable mechanisms to incentivise or mandate private sector investment in ocean restoration.”

**Where could this come from?**

There is a significant lack of existing or scalable mechanisms designed by governments, NGOs and international agencies to incentivise or mandate private sector investment in ocean restoration.<sup>83</sup> By contrast, financial land-based restoration mechanisms are well-represented; this is particularly evident in the UK, with the likes of voluntary carbon markets (Woodland Code and Peatland Code), Biodiversity Net Gain and nutrient offset schemes.

Governments must intensify efforts to create investment-ready projects for Blue Carbon and a new pipeline for ocean-based projects. Recent encouraging examples include the UK government’s GBP 10 million Natural Environment Investment Readiness Fund, which is, among others, supporting the development of a UK Saltmarsh Carbon Code and a kelp restoration project in Sussex that will be funded by payments for ecosystem services.<sup>84</sup>

“The use of blended finance is rarely evidenced with ocean investment.”

Other innovative examples include: the IMF’s recent exploration of **whale-based carbon offsets** as a means of financing whale and ocean conservation,<sup>85</sup> a Swiss Re-backed **parametric insurance scheme to protect an economically vital coral reef** in Mexico’s Yucatan Peninsula,<sup>86</sup> the world’s first **sovereign blue bond** launched by the Republic of the Seychelles in late 2018,<sup>87</sup> and Mirova’s pioneering impact investment **Sustainable Ocean Fund (SOF)** – targeting returns from marine conservation, circular economy and sustainable fisheries/aquaculture – which reached a final close of USD 132 million in July 2020, exceeding its target.<sup>88</sup> **Both the SOF and the Seychelles blue bond made use of blended finance**, with the SOF securing a USD 50 million facility with USAID to provide investors with a principal protection guarantee<sup>89</sup> and The Nature Conservancy receiving USD 5 million of grant funding from donors with which to buy an initial portion of the blue bonds.<sup>90</sup> Notwithstanding these examples, the use of blended finance is rarely evidenced with ocean investment – both absolutely and compared to land-based investments – and further research into its potential to unlock ocean investment flows would be a valuable addition to the evidence base. Encourage Capital has also published a series of **sustainable fisheries investment blueprints**,<sup>91</sup> which reconcile return-generation with the responsible stewardship of the world’s dangerously overexploited fish stocks.<sup>92</sup>

“We cannot afford to underinvest in the ocean.”

Yet there is still very little sustainable private investment in the ocean: in emerging sectors of the blue economy for instance, which require new investment capital, the overwhelming source of existing funding continues to be philanthropy and official development assistance (ODA).<sup>93</sup> The bulk of ocean investments have been directed not at transitioning to a sustainable ocean economy but at large-scale infrastructure, energy, transport, commercial fisheries, aquaculture, biotechnology and tourism.<sup>94</sup>

“There could be significant scope to apply or strengthen taxes to port environments and large sea-faring vessels, including cruise ships, tankers and ferries, with the proceeds dedicated to blue economy investments.”

**Taxes designed to ‘internalise externalities’ are another tool at policymakers’ disposal**, with levies both incentivising reductions in the harmful effects being targeted and raising funds in parallel to finance beneficial outcomes. This has already been implemented successfully in numerous jurisdictions in the shape of carbon taxes, and a potential case study for marine taxes can be found in France’s “Francization” tax, in which the **owners of leisure boats longer than seven metres must pay a yearly tax for the protection of coastlands and marine coastal environments**. This tax raises around EUR 37.5 million per year, representing 72% of the France’s coastal authority’s annual budget in 2020.<sup>95</sup> There could be significant scope to apply or strengthen taxes to port environments and large sea-faring vessels, including cruise ships, tankers and ferries, with the proceeds dedicated to blue economy investments and restoration activities.<sup>96</sup>





# Conclusion

The ocean is a vital resource on which the global economy depends. More than this, the health of marine ecosystems is intrinsically linked to our ability to both survive and thrive as a species and as a global community. **The ocean is one of our best defences against climate change**, offering a myriad of natural ecosystem services that can help to protect and restore our planet. Indeed some authors have argued that with the right corrective actions we can achieve ocean recovery as soon as 2050.<sup>97</sup> But if we are to realise these benefits **policymakers must re-balance the books of climate finance and apportion ocean-based sustainable investment in line with its value**, and include currently overlooked open ocean ecosystems within the definition of Blue Carbon. We must also galvanise the scientific and business communities to **exponentially boost current efforts to understand, protect and restore this rich, complex and little-understood environment**, which we know holds the key to all life on earth.



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