

Engaging for a Blue Economy



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Investing in our ocean

Our ocean is a crucial – but often misunderstood – necessity for a healthy planet. Besides creating livelihoods for billions of people and being a source of natural beauty, our ocean serves as a tremendous asset to climate change mitigation, absorbing 93% of climate heat and sequestering 25% of global carbon dioxide (CO₂) emissions.



Yet, with the acceleration of global warming, our ocean is reaching a point where it could turn from a source of support and healing to one of damage and destruction. Despite the CO₂ emissions "holiday" during the coronavirus-induced global lockdowns, 2020 is poised to be the hottest year on record. In concert with air temperature increases, the past five years have marked the warmest on record for ocean waters. As the ocean warms, it becomes a key contributor to severe weather events. Over the past decade, there have been over 115 climate and weather disasters with losses exceeding USD 1 billion, and the frequency and severity is increasing annually.

Exacerbating the problem, humans continue to produce, consume, and waste at an alarming rate. Plastic waste and wastewater pollution cause over 80% of all coastal and marine degradation, with plastic pollution being the most prominent threat. We can now find plastic on every beach in the world and plastic nanoparticles in most fish that we consume. We have overexploited over 34% of the world's fish stocks, disrupting the delicate balance of the marine ecosystem. And agricultural waste run-off causes ocean acidification, destroying coral reefs and making many parts of the ocean uninhabitable for marine life.

The ocean has a tremendous ability to regenerate, but it is no match for these forces and needs a concerted joint effort to change the equation. In drawing parallels with the lessons of the recent coronavirus pandemic, investment to prepare and protect ourselves against key threats is far less costly than dealing with the after-effects. The case for investing in the ocean is no different.

Fortunately, investing in our ocean is not just an imperative for planetary and human health - it also makes good business sense. The economic value of global ocean assets is around USD 24 trillion, making it the seventh-largest economy in the world. Between 2009 and 2016, it grew 9.7%, with growth forecast at twice the rate of the mainstream economy by 2030.

Specific subsectors such as aquaculture have an even higher underlying growth rate. Between 1990 and 2018, global aquaculture production rose by 527%.

Blue Economy innovation abounds and environmentally friendly, plant-based and stem cell cultivated fish and seafood alternatives is a market set to explode, following the success of the plant-based burger phenomenon. With applied technology, AI, and machine learning, we can now trace fish in the deepest waters, far below the surface to understand migration patterns and sustainably manage fish stocks.

Marine Protected Areas (MPAs) can regenerate within seven years, tripling investment returns, while natural capital solutions, such as mangroves for barrier protection, have been shown to be five times more cost-effective than man-made structures.

With all of this promise, investors are increasingly attuned to the necessity and the attractiveness of investing in the Blue Economy. Over a third of large institutional investors see the sustainable Blue Economy as one of the most important topics in 2020, according to research carried out by Credit Suisse and Responsible Investor. They are keen to support companies that are already good stewards of the ocean, and are increasingly interested in using their shareholdings to positively influence the activities and behavior of companies. This concept of "engagement" or active ownership (and exercising voting rights) is one of the fastest-growing responsible investment strategies across the globe.

In this paper, we explore the growing theme of engagement for the Blue Economy and we showcase the work of diverse actors, including scientists and academics, tech entrepreneurs and NGOs, thought leaders and institutional investors, all of whom are putting their passion, energy, and intellect into working towards the UN Sustainable Development Goal (UN SDG) 14: "Life Below Water." I am delighted and inspired to include original contributions from this truly stellar group of international ocean experts, pioneers, and innovators.

We hope that you will enjoy reading and learning about the opportunities to "Generate returns. Sustainably," by joining us on the journey of engaging for a Blue Economy and supporting this most precious of resources, our ocean.

Marisa Drew

Chief Sustainability Officer & Global Head Sustainability Strategy, Advisory and Finance

Related UN Sustainable Development Goals







Why engagement matters

We have always treated the ocean as limitless in its capacity to provide for and sustain us, as well as to absorb the byproducts of our economies – waste in every form. The Ocean Foundation, a community foundation dedicated to reversing the trend of destruction of ocean environments around the world, explains how we are seeing the cost of that myth in the rate of change in our ocean, affecting all life on earth.



As investors engaging in ocean health, we look for opportunities to restore abundance for future generations because a healthy and abundant ocean is critical to everyone's survival. As a parallel goal, such opportunities should use oceanic and coastal resources in a sustainable way to create jobs and sustained economic growth over time.

Yet the ocean is becoming more unpredictable due to excess greenhouse gas (GHG) emissions. Increasingly, these emissions affect the ocean's ability to provide oxygen, support the base of the food web, and moderate our weather. Climate change will continue to affect all transportation modes for at least the next century, disrupting the relatively stable patterns on which commerce depends.

Ocean abundance: our ultimate goal

Conservation is wonderful and necessary. Yet it is just about holding a line. Restoring ocean abundance must be our collective goal. It means minimizing the harm from human activity to allow ocean ecosystems to heal themselves. It means engaging in positive activities: governance must anticipate change and create the most hospitable waters for abundance. This requires investing in healthy mangroves, seagrass meadows, and marshes as well as waterways that are clean and free of waste.

4 A healthy and abundant ocean is critical to everyone's survival.

Our smartest ocean investments are too risky if we continue to allow excess nutrients and other pollutants to flow into the sea. Abundance has to be our goal for food security and healthy ecosystems; to get ahead of population growth; and to mitigate the ever-increasing demands for all resources.

Mankind's relationship with the ocean could shift to reduce the burden of stressors that create the risk. The COVID-19 pause in economic activity rapidly reduced CO₂ pollution and harm. Likewise, fisheries rebound when they are not overfished. A 2020 study states that we could fully restore the health of our ocean in 30 years. A healthy ocean better supports global commerce.

Encouraging a sustainable Blue Economy

Our team knows which business activities are disrupting ocean systems. We know the causes, including underlying drivers, and effects. We can weigh which companies we should push toward change because we also understand the solutions needed. Part of The Ocean Foundation's role will be to monitor and evaluate measurable outcomes for the ocean.

Fortunately, there has been an increasing focus on sustainable investments to reduce the burden on the ocean. Sustainability has leapt to the forefront of consumer, investor, and company priorities. Investor engagement can align to help countries meet the commitments of the "Our Ocean" conference and the SDG14: "Life Below Water," as well as to integrate blue carbon sequestration and shipping decarbonization into the Paris Agreement Nationally Determined Contributions. Investors can also prioritize Blue Economy sectors that have high profitability and job creation potential, such as ocean-based renewable energy, electric ship infrastructure, and nature-based resilience solutions.

At the regional and global level, the considerable momentum behind the concept of the sustainable Blue Economy needs to be translated into action. Economic and social policies that encourage the growth of the sustainable Blue Economy increase opportunities for growth and the creation of jobs, make coastal communities better able to recover from short-term disasters, and mitigate some of the longer-term conseguences of climate change, harmful algal blooms, and ocean acidification.

Mark J. Spalding President, The Ocean Foundation

Chapter 1 The role of the ocean

The ocean plays a crucial role in the social, economic and environmental balance of life on earth. With approximately 70% of earth covered in water, the ocean is a vital component of our planet, and its protection is of utmost importance to ensure the stability of our economies, climate and our health.¹



The Blue Economy

If the ocean was a country, it would represent the seventh largest economy in the world, with a value of around USD 24 trillion.²

The Blue Economy

The Blue Economy, a term introduced in 2012 by the United Nations (UN), captures the economic potential of the ocean, as well as the need to focus on its preservation. The Blue Economy can be described as a subset of the entire ocean economy that uses ocean resources sustainably for economic growth, improved likelihoods and jobs, and ocean ecosystem health.

We rely on healthy ocean ecosystems for the abundance of resources that the ocean provides, from medicine to jobs, food to a method of transportation, as well as its crucial role in climate control. Between 2009 and 2016, the Blue Economy grew 9.7%³, and it is forecast to grow at twice the rate of the mainstream economy by 2030. It encompasses many industries such as fisheries, aquacultures, marine biotechnology, tourism, maritime transportation, and energy. All these sectors create significant employment opportunities; for example, fisheries and aquaculture employ an estimated 10%-12% of the global population, rising to 90% in some non-industrialized countries.⁴

Ocean as transport

The ocean is also the main route used for resource transportation, with 90% of world trade moved by sea. Marine transportation actually uses much less energy per kilo of cargo and per passenger than other transportation modes such as trains, cars, or planes.⁵

In 2019, direct output (value of global ocean assets) generated by the Blue Economy was USD 6.9 trillion, trade and transport generated USD 5.2 trillion global value, and coastlines USD 7.8 trillion. By 2030, seaborne trade volume will double, while port volumes could guadruple by 2050.6



Why protecting and investing in the ocean makes sense

The ocean's contribution to global economic development



Source Credit Suisse, Intergovernmental Panel on Climate Change, National Institute of Building Science, WWF

Global climate control

The ocean conveyor belt

The ocean spreads solar radiation across our planet⁷ through a process of circulating ocean currents, water evaporation, contributing to rains carried by winds to surrounding areas. This ocean "conveyor belt" is also used to carry heat from the equator to the North and South Poles. This process balances the global climate by regulating the temperature on land and avoiding extreme seasonal temperatures.⁸

Reducing CO₂ and producing oxygen

In addition to stabilizing temperatures, ocean has an important role to play in reducing CO2 and producing oxygen. Although forests are widely known as the "lungs of our planet," the ocean produces twice as much oxygen as rainforests. Phytoplankton release oxygen through photosynthesis and directly transform CO₂ and water into oxygen. One of the most important photosynthesizers is Prochlorococcus, whose evolution has made it possible to increase gradually the amount of oxygen on our planet from a mere 5% present in the atmosphere 600 million years ago to its current level of 20%. These organisms are ultimately the reasons behind life on land.⁹

Without the ocean. Earth would be similar to Mars, with no life support system. This is because the ocean plays a crucial role in balancing our climate and weather.

The carbon sink

Not only does the ocean release oxygen, it is one of the largest carbon sinks on the planet. The ocean absorbs and then stores 50 times more CO₂ than our atmosphere ¹⁰, which would otherwise remain, and increase global warming. Approximately 25% of all carbon in the world is at the bottom of our ocean in the form of dead organisms. Marine ecosystems such as seagrass, mangroves, and kelp forests cover a minor portion of the earth's surface and have an extremely strong carbon absorption capability. Seagrass, for example, only occupies 0.1% of the ocean's surface and yet manages to store up to 18% of the carbon sequestered by the ocean.¹¹ Mangroves store about 25 million tons of carbon every year - equivalent to 20,000 people flying every day for a year from New York to Sydney.¹²

Human health

The ocean and human health are inextricably linked. Fish and fish products are a rich source of important components such as proteins, lipids, vitamins, minerals, and antioxidants.

Fish as a source of protein

Worldwide, about a billion people rely on fish as their main source of animal protein and about 20% of the world's population derives at least one-fifth of its animal protein intake from fish. Some small island states depend almost exclusively on fish. Fish proteins are essential to the diet of some densely populated countries where the total protein intake level is low, and they are very important in the diets of many other countries. About half of the world's fish and other seafood consumption derives from aquaculture (both fresh and salt water), much of which is sustainable and can be replicated with the right investment (see page 34 for more on aquaculture).

Medicine from the sea

Many medicinal products originate from the ocean and provide the basic ingredients to help fight diseases including cancer, arthritis, Alzheimer's, and heart conditions.

Drugs developed from the sea include antileukemia, HIV treatments, and pain medications. While biopharma has worked with marine pharmacology for hundreds of years, research into ocean organisms is limited. In recent years, commercial interest has increased, with the rate of patent applications growing by 12% per year. New research demonstrates that marine organisms, mostly found in coral reefs, produce more antibiotic, anti-cancer, and anti-inflammatory substances than organisms found on land. 13

Positive mental health

In addition to the development of pharmaceutical products, the ocean reportedly promotes better mental health and lower vulnerability to depression. A 2019 UK study surveyed over 25,000 respondents and found that people living by the coast were 22% less likely to have symptoms of mental health disorders compared to those living far from the sea.¹⁴





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Chapter 2 Our ocean in peril

Once perceived as indestructible, the ocean faces severe threats. Human activities such as energy production, deforestation, maritime transport, and intensive livestock farming pose a severe threat to ocean health. Plastic waste, agricultural run-off, pesticides, and wastewater pollution now cause over 80%¹⁵ of all coastal and marine pollution. Industrial fishing is one of the biggest drivers in the loss of marine biodiversity and declines in fish stocks, linked to habitat destruction, overfishing, and fisheries bycatch.

If it were not for our ocean, earth would be 30 degrees hotter – but this comes at a substantial cost for ocean ecosystems.

Climate change

Climate change is already affecting the ocean in profound and complex ways. Whether they are gradual and transient or sudden and irreversible, these changes all have significant effects on ocean chemistry, currents, and ecosystems – and, by extension, on us. The Woods Hole Oceanographic Institution (WHOI), a world-class independent, non-profit organization dedicated to ocean research, exploration, and education, discusses how its scientists and engineers are working on the front line of climate change.



Source Photo by Paul Caiger, © Woods Hole Oceanographic Institution

As we burn fossil fuels and put more greenhouse gasses into the atmosphere, the ocean takes up more CO₂. Human activities also generate excess heat, most of which is absorbed by ocean waters; if it were not for the ocean's heatabsorbing properties, our planet would be 30 degrees hotter than it is today. Although these ocean processes help to attenuate the impacts of climate change on land, they come at a substantial cost to ocean ecosystems.

As ocean waters take up more CO₂ from the atmosphere, they acidify, making it harder for oysters, crabs, corals, and other animals with calcium carbonate shells to grow and survive. The excess heat absorbed by the ocean also has a dramatic impact, reducing ocean productivity, and causing widespread coral bleaching and shifts in commercially important species. In turn, a warming ocean and melting glaciers are driving sea level rise: since the turn of the 20th century, sea levels have risen between six and eight inches globally. More than 200 million people live on land that could be flooded by rising sea levels by the end of the 21st century.

Coral reefs threatened

Coral reefs are among the ocean's most well-known and essential ecosystems, home to one of the most diverse marine populations on earth. They cover 1% of the ocean's surface, yet they support 25%¹⁶ of the world's marine animals. 500 million people¹⁷ worldwide depend on coral reefs for food, tourism, and coastal protection. Reefs also hold great promise as sources of natural products for potential future medicinal purposes. At the same time, coral reefs are one of the greatest victims of climate change. These remarkable ecosystems are under threat and are rapidly declining, with catastrophic loss of shallow reefs predicted by 2050. Although increasing water temperatures, destructive fishing practices, and pollution are known to be major external stressors, the actual mechanisms that cause disease and community decline, and ultimately coral death remain poorly understood.

66 Biological processes in the twilight zone sequester 2 to 6 billion metric tons of carbon annually – potentially up to six times the amount of carbon emitted by all automobiles worldwide. WHOI researchers and engineers are studying coral reefs and identifying those that are most likely to survive a warming ocean. WHOI has recently launched a coordinated, multidisciplinary coral reef initiative to bring a wide range of technologies and areas of expertise to bear on understanding corals and advancing the science needed to enable their long-term survival.

Earth's hidden frontier

Researchers at WHOI have embarked on a journey to explore and understand the ocean's twilight zone, a vast region hundreds of feet below the ocean's sunlit surface. The twilight zone abounds with life and plays a critical role in regulating earth's climate.

Its potentially irreplaceable biodiversity helps support ocean food webs, while biological and other processes in the twilight zone help sequester 2 to 6 billion metric tons of carbon in the deep ocean each year – at least double and perhaps as much as six times the amount of carbon emitted by all automobiles worldwide.

Like coral reefs, the ocean twilight zone is under threat from climate change and other human activities. As surface-water fisheries decline, interest in the commercial exploitation of resources in deeper waters is growing. The combined biomass of all twilight zone fish may be more than in the rest of the ocean combined, yet we still know too little about life down there to sustainably manage the twilight zone's abundant resources.

As part of its mission to the twilight zone, WHOI is developing new technologies to advance the exploration and understanding of this vast ocean realm, to inform policymaking for the high seas, and to raise public awareness of this important ecosystem.

Our efforts to manage and adapt to climate change depend on the ocean – and our ability to understand and sustain it. WHOI's hundreds of scientists, engineers, and students are engaged in more than 800 concurrent projects worldwide, gathering vital information needed to understand the impacts of climate change – for our ocean, our planet, and our future.

Samuel Harp

Vice President for Advancement & Chief Marketing Officer, Woods Hole Oceanographic Institution

Plastic pollution

Our culture of using and discarding disposable plastic has created an environmental crisis. REV Ocean and the Plastic REVolution Foundation, two not-for-profit organizations created with the overarching purpose of making the ocean healthy again, discuss the impact of plastics and combating marine plastic pollution.

The impact of plastic

Every year, up to 12 million tons of plastic end up in our ocean, with 80% originating from land, particularly from countries with inadequate waste management systems. A recent report, estimates that the amount of leakage is set to rise to 29 million tons a year by 2040. Plastic constitute only 10% of waste, but the majority of marine pollution. Plastic takes centuries to break down and fully decompose in the ocean due to its low temperature and less exposure to sunlight.

Plastic litter

Larger plastic debris and microplastics threaten marine life. If eaten, plastics give a false sense of fullness and can block the digestive tracts. Very small pieces of plastic may enter the blood stream and body tissue. Ingestion can lead to physical effects including inflammation, hormonal changes, reduced growth and reproduction, and increased mortality. Plastic litter also promotes disease in reef-forming corals.

Erik Solheim CEO, Plastic REVolution Foundation Nina Jensen CEO, REV Ocean

Effective waste management

Opportunities to reduce, reuse, recycle, and capture plastic waste exist, but changes require efforts within infrastructure, technology, and behavior. Improvements to waste management systems globally would significantly reduce pollution. Extended producer responsibility schemes have been central to improving and financing plastic waste management and supplementing tightly-stretched government budgets. Following collection, recycling facilities must maximize material recovery. This requires technological innovation and investments by both industry and governments. The Plastic REVolution Foundation, in association with REV Ocean, is investigating the feasibility of a large-scale chemical recycling facility in Ghana. This will be based on pyrolysis technology, enabling the conversion of plastic into smaller molecules that can be used as fuel or to create new plastic.

Ultimately, our attitudes and behavior must change. Strong policies can drive progress, but bans on single-use plastics are only feasible in combination with the development of alternatives and with support from consumers and producers alike. Through collective efforts, we can undo the damage done in a single generation, and adapt plastic production and consumption to a more sustainable future.

Sources of microplastic leakage into the ocean

Tire dust contribute

of microplastic leakage

by mass ~1,200,000 trillion particles

Where does microplastic leakage come from?

High-income countries leak

grams of nicroplastic er capita

Source Credit Suisse, Breaking the Plastic Wave: A Comprehensive Assessment of Pathways Towards Stopping Ocean Plastic Pollution, The Pew Charitable Trusts and SYSTEMIQ, 2020





Destructive overfishing

The ocean, source of all life on earth, is under unprecedented pressure from global warming, acidification, pollution, and invasive species. At the nexus of these threats is overfishing, warns Blue Marine Foundation, a global charity dedicated to restoring the ocean to health by addressing overfishing.

The problem with fisheries

Depleting the ocean of life reduces its ability to absorb CO₂ and release oxygen, leaving it less resilient to other threats. Shockingly, more than a third of the world's marine fish stocks are currently overexploited. Experts have recommended cutting global fishing by up to 50% to

enable our ocean to act as an effective buffer against climate change, as well as support a growing population. Yet the world's fishing fleet, which some claim is already twice as large as the ocean can sustain, continues to grow in size. This would be economically impossible without substantial government subsidies.



A recent study estimated global fisheries subsidies to be USD 35.4 billion in 2018, of which capacity-enhancing subsidies (those that allow boats to catch more fish) are a shocking USD 22.2 billion.

Industrial fishing is unsustainable

Harmful subsidies, such as the provision of ship fuel, allow unprofitable fleets to continue fishing when, under normal circumstances, it would have been too expensive for them to keep chasing ever-declining fish stocks. This results in overcapacity - too many boats trying to catch too few fish - leading to government-sanctioned overfishing and the decline of and eventual collapse of fish stocks. Given that well over half of the total value of global subsidies is paid out by the governments of China, the European Union, the USA, the Republic of South Korea, and Japan, urgent international cooperation is needed to put an end to this harmful, economically unsustainable practice. Industrial fishing is not only environmentally unsustainable, but it also deepens inequality. Small-scale coastal fishers all over the world are finding their livelihoods disappearing due to industrial vessels vacuuming up all the fish. Subsistence fishers along the coast of Africa can no longer sustain themselves and some - for example in Somalia - have turned to piracy out of desperation.

66 Acting to curb overfishing is a relatively simple way of staving off the terrifying consequences of climate change, so we need to act now.

By contrast, sustainable fishing, where smallscale fishermen use artisanal methods in harmony with nature, rather than at war with nature, can lead to an impressive recovery of stocks and habitats. A good example is in Lyme Bay in the UK county of Dorset where the Blue Marine Foundation has been working for eight years; some species have recovered fourfold and the fishermen are able to charge higher prices for their sustainably sourced catch.

The Blue Marine Foundation is rolling out this scheme in other parts of the UK, the Mediterranean, and the Maldives. If 30% of the ocean was kept free of industrial fishing and the other 70% fished in a sustainable way, then marine life would recover. Not only would this secure a future food supply and distribute wealth more equally, it would also constitute a significant - yet relatively underexplored - climate emergency mitigation measure. To guote Joan Baez: "Action is the antidote to despair." Acting to curb overfishing is a relatively simple way of staving off the terrifying consequences of climate change, so we need to act now.

Chris Gorell Barnes Co-founder, Blue Marine Foundation & founding partner, Ocean 14 Capital

Chapter 3 Ocean engagement

If corporate investors engage in SDG14: "Life Below Water," they can make a positive social and environmental impact, drive alpha, and improve ocean health. It's also one of the fastest-growing responsible investment strategies.



The role of engagement

The investible Blue Economy

In a report with *Responsible Investor* "Investors and the Blue Economy," Credit Suisse found that investor interest in ocean health-related investments is high, with 75% of respondents considering the sustainable Blue Economy as "investible." This already translates into action for some investors: 45% of surveyed asset managers said in the same report that their clients are actively asking for sustainable Blue Economy investments. It is encouraging that investors have started to recognize the active role that they can play in ocean health through direct investment. But to really take action, investors should start to engage.

Engagement as an ESG strategy

While simply buying or selling stocks in a highlyliquid market may send a signal, it is difficult to show that your investment is directly driving change. Engagement is the most direct way to create impact in listed equities. By using investors' rights and their position of ownership to influence the activities or behavior of investee companies, investors can reduce risks and contribute to positive financial, social, and environmental outcomes. Engagement captures any interactions between the investor and portfolio companies on sustainability issues and relevant strategies, with the goal of improving practices. Investors seeking to incorporate environmental, social, and governance (ESG) issues into their investment process should

At Credit Suisse, we expect the Blue Economy to become increasingly important as an emerging investment theme over the coming years. There are many ways investors can actively engage in improving ocean health and generate alpha.

consider deep engagement with their investments, as successful engagement processes correlate with share price outperformance. Active engagement is one of the fastest-growing responsible investment strategies in listed equity globally.

Investor engagement and returns

Shareholder engagement with listed companies on ESG issues has a long history and is one of the key pillars of the sustainable investing movement. Over the past two decades, shareholders have dramatically stepped up engagement with companies in their portfolios across a range of ESG issues, as they recognize that these issues are relevant to the financial returns of companies, and that they also have an important role to play in contributing to addressing the SDGs.

Between 2014 and 2016, the volume of assets managed with explicit commitments to engage or vote on ESG issues grew by 41%. In Europe alone, engagement (and exercising voting rights) is the third most popular responsible investment strategy. It is carried out by managers of more than EUR 4.27 trillion in assets under management, a figure that grew by 30% over the two years leading up to 2016.

Fund managers who seek to positively influence companies on ESG and sustainability issues have long track records in delivering outcomes.

Why is engagement important?

Enhance	Improve competitive positioning	Stay ahead of consumer preferences Shift to more sustainable business models	
returns	Reduce reputational risks	Ensure robust AML practices are in place Avoid labor strikes, protests or boycotts	
	Get ahead of regulatory risks	Avoid carbon pricing costs, pollution taxes, etc. Update equipment/infrastructure early to avoid expensive retrofits	
	Improve ESG ratings/rankings	Improve disclosure of material ESG issues	
Catalyze	Reduce environmental impact	Decrease emissions Improve efficiency in use of water, energy, etc.	
change	Improve social outcomes	Detect and prevent human rights abuses Improve worker health and safety	
AML: Anti-money launder ESG: Environmental, soci	ing al, and governance	Source Mc Kinsey, Rockefeller, Credit Suisse	

It does, however, require investors to adopt active ownership and engage with companies they are invested in. And investors should be open to coordinating their engagement with others, in partnerships for example, in order to improve the likelihood of effecting change in their holdings (see page 28 for more on partnerships).

Different engagement strategies

Many fund managers engage in dialogue with companies on ESG issues and the potential for a company to improve as a part of their stock selection process. If a fund has the goal of delivering sustainable outcomes through engagement and there is potential for a company to improve, the portfolio will likely contain many rich engagement targets and create alpha.

How does engagement work?

Fund managers focus on themes and may focus on companies holistically, looking for any areas of ESG or impact improvement. Shareholders often commission research around a topic or a sector so they are well informed about company performance on a particular issue.

What makes engagement successful? A strong business case:

Engagement is most effective when the fund manager can demonstrate a strong business case to the company as to why it should take the suggested action.

Investors push for change

In 2011, a group of 20 investors (all signatories to the UN Principles for Responsible Investment [PRI]) engaged with 40 global companies across the seafood value chain, asking about their sustainable sourcing practices. In 2016, investors in UK supermarket chain Tesco urged the retailer to only sell fish and seafood certified as sustainable by the Marine Stewardship Council. Tesco, the UK's biggest fishmonger, now has a sourcing policy aiming for 100% of its seafood to come from certified sustainable sources and is involved in industry initiatives promoting transparency, such as the Ocean Disclosure Project.

Coalition building:

Most shareholders own a small proportion of the shares of any one company, and therefore have limited formal power. In many cases, shareholders build coalitions with other shareholders (and sometimes NGOs) and pool their influence to send a stronger signal to companies. The largest coalitions of investors can gather trillions of dollars in assets and sometimes hold a majority of shares in a company.

Peer pressure:

Shareholders often benchmark the sustainability performance of a sector and then engage with the laggards in that sector, highlighting their peers' outperformance. Companies are often unaware of how their competitors perform on ESG and impact, and peer pressure can be a powerful driver.

Escalation:

Shareholder engagement around sustainability is a process that begins with emails and progresses to calls, in-person meetings, building coalitions of investors, and ultimately, if all else fails, the filing of shareholder resolutions at company AGMs. Effective engagement requires a plan that can take up to three years to realize, and is typically broken up into six-month milestones.

Engagement linked to enhanced financial performance

Monthly adjusted return relative to engagement



Source Credit Suisse Research Institute: Summary Edition Credit Suisse Global Investment Returns Yearbook 2020 Elroy Dimson, Paul Marsh and Mike Staunton, Triumph of the Optimists: 101 Years of Global Investment Returns, Princeton University Press, 2002

Given the volume of assets in listed equities. the emergence of a new breed of engagement-focused funds and large investor coalitions around them, shareholder engagement has the potential to transform the perception of companies and contribute in a significant way to the achievement of the SDGs.

Does engagement affect financial returns?

There are relatively few studies on the financial impact of shareholder engagement. However, they all demonstrate that engagement results in positive financial outcomes. While engagement generates outperformance in average returns.¹⁸ Public US-based companies saw an outperformance of 2.3% the year after engagement. That rose to 7.1% annually, where the engagement activities were successful. Where an engagement is unsuccessful, the financial impact is not significant.

Engagement activities on ESG issues are also shown to reduce companies' downside risks - most effectively when targeting environmental topics.¹⁹ The most successful engagement outcomes occur under coordinated collaborations led by influential domestic lead investors and supported by major international investors.²⁰

Interview: Overfishing engagement

We asked Planet Tracker, the non-profit environmental data and analysis provider, how engagement by investors can alter global overfishing and deliver sustainable seafood sourcing.



Why choose engagement as a strategy for the ocean?

Much of the damage to the ocean has been done by businesses: either directly through overfishing by high-tech fishing fleets and direct pollution, or indirectly, through producing plastic packaging, for example. Many fishing fleet companies are either listed or suppliers to listed companies, also financed by listed financial institutions. Shareholders have significant power and influence that can be leveraged to encourage companies to address these problems.

Where can engagement strategies be most effective regarding overfishing?

Before we can address overfishing, there needs to be traceability and verification. Before you can get management systems in place, you need to know who is taking the fish, what species they are taking, what tackle they are using, the boats involved and who owns them. Once this is public information, investors can engage with the companies around best practice systems.

The first step for shareholder engagement is driving transparency. We're only at the beginning of gathering all the data we need. Planet Tracker has identified over 200 listed seafood companies, and is now finding out where and how they are operating. Full traceability is possible - one company is piloting a system to put a tag on every fish.

What are the different challenges in the different parts of the seafood supply chain? There are three levels that require different approaches.

First, there are companies whose business models are core to a harmful activity, such as fishing fleet companies involved in overfishing. In many of these cases, there is a collective action problem to address. If the catchment is well managed, it can result in an increased total output of the fishery, and everyone is better off. Shareholders have an important role in encouraging the sector to address collective action problems, joining forces to self-regulate or work with regulators to introduce sensible fisheries management protocols. Engaging with the financiers of those companies involved in overfishing is another form of engagement.

Second, there is a strong business case for transitioning to more sustainable (and potentially reliable) suppliers, from both a risk perspective and also a customer perspective. Many general food processors deal with huge volumes of fish, and are listed companies.

Third, retailers and restaurants sit at the end of the supply chain and have valuable reputations to protect. There is huge potential for engagement with these companies. Some of the most successful shareholder engagements on sustainable seafood have been based on pressing supermarket chains to sell certified seafood.

What international engagement activity are we seeing on overfishing?

There has been good progress in traceable supply chains in Northern Europe and North America. Elsewhere, many international listed retailers are failing to implement sustainable seafood sourcing. The worst overfishing is in Asian countries where there is close to no transparency. Retailers are receptive to change, particularly in Japan. In many cases, they are desperate for information, and this comes back to the need for investors to drive transparency.

What is the role of investor coalitions in driving change in larger companies?

Creating a coalition of investors on ocean sustainability could be very effective. Regulators regulate for what investors want, so investors need to engage with regulators to put sustainable fisheries management systems in place, as it is unlikely we will get there without them.

What is the role of investors in overfishing?

Ultimately, for investors it comes down to two things: invest in the good, and turn the bad into the good. Investors play a catalytic role in funding the most sustainable companies, and where there are issues with unsustainable companies, they can try to fix them.

Mark Campanale Co-founder, Planet Tracker

Partnership in practice

Organizing the effort to meet the challenges facing our ocean is daunting but achievable. The 17th and final SDG, "Partnerships for the Goals," is a call to action for groups to work together to help transform the world. Partnerships are needed to achieve a successful sustainable development agenda and are a key engagement principle.



There are many different ways that partnerships can develop and mobilize for action, leading to tangible impact on the ocean and the Blue Economy. What they all have in common is an agreement to work together to benefit all involved and aim towards a common goal. By convening with like-minded stakeholders to align objectives, coordinating various networks of specialists and interested parties, and by sharing the responsibility, partnerships and frameworks can deliver results that would not be achieved by a single partner operating alone.

44 An estimated 40% of the earth's ocean surfaces are now full of plastic waste, which kills an estimated 100,000 marine mammals every year.

Source Credit Suisse, The Responsible Consumer report

Rising to the plastic challenge through partnership

Recognizing the growing environmental challenge of plastic, 29 global investors representing USD 5.9 trillion in assets formed the PRI Plastics Working Group, which is focused on building an understanding of plastics from a global and holistic perspective, including how plastic fits into the circular economy and key plastic pollution issues.

Engagement goals

As a next step, investors from this original working group, including Rockefeller Asset Management (RAM) are joining forces to collectively engage plastic packaging companies on plastic transition.

The goal of this collaborative engagement is to maximize the efficiency and potential impact of the global drive to reduce plastic pollution, and persuade companies to reduce their negative effects on the environment and ocean health.

Specific engagement areas include increasing efforts to reduce, reuse and replace plastics while increasing transparency on targets and progress. Objectives include encouraging plastic packaging companies to sign the Ellen McArthur Foundation New Plastics Economy initiative, while also reducing plastic packaging, moving



A successful example of global partnership is the Ellen MacArthur Foundation's New Plastics Economy initiative, which is driving action with businesses and governments committed to work towards 100% reusable, recyclable, or compostable plastic packaging by 2025. The New Plastics Economy initiative has also created the Plastics Pact, a network of national implementation initiatives aligned around that same common vision and a set of ambitious targets tailored to a local context.

The climate emergency and biodiversity crisis facing our ocean will result in huge migrations and the displacement of communities. So partnerships need to work in close collaboration with communities to understand their needs. resulting in beneficial outcomes for people and nature. By focusing on activities that are sustainable and that engage local communities from the start and developing close, sincere, and meaningful partnerships with local and coastal communities, a Blue Economy investment will build economic as well as social resilience.

Engagement objectives

away from single use packaging, and increasing recycled content. 40% of global plastic production is used for packaging and 95% of plastic is single use.

The PRI Plastics Working Group is also defining longer-term engagement goals, such as defining net zero plastic targets, paths to achieve this transition, and ways to measure progress.

Chapter 3 – Ocean engagement

Interview: **Ocean futures**

We spoke to Rockefeller Asset Management (RAM) about their approach to proactive engagement with international companies on ocean health, and how they are working to bring about long-lasting change.



Source Alex Antoniadis/Unsplash

How important is engaging with companies around ESG?

RAM has been engaging with companies on ESG topics for three decades and this is now a focus area across many of our strategies. A core differentiator is our well-established practice of engaging shareholders to drive long-term value creation across investment portfolios, while also improving global ESG standards.

How do you select companies to engage with on ocean health?

We look for companies with meaningful opportunities for improvement. We select companies based on: 1) the investment thesis;

2) an ocean health assessment; and

3) their willingness to engage in constructive dialogue - their "engageability."

We then seek to leverage our ownership role, our knowledge of the issues, and subject matter expertise within our network of partners to decrease their impact on the ocean, while improving the company's long-term value.

44 Engagement can reduce risks to the ocean and to a company, enhance competitiveness, and improve ocean health.

How do you engage with companies?

We use a four-step engagement process in an effort to maximize returns and catalyze positive change:

- Start with constructive dialogue Send official letters
- Collaborate with other asset owners
- or managers
- Participate in shareholder resolutions

How do you develop an engagement dialogue with companies?

We start by reviewing each company's performance on material ESG issues. RAM has developed a proprietary materiality map on ESG issues, such as wastewater management and packaging that can affect financial returns. We look for both potential risks and opportunities for improvement and discuss these with technical experts and leaders at the company. With this insight, we then establish engagement targets for each company. These are specific items we would like to see the company address or improve that we believe will strengthen its performance and contribute to a positive impact, such as ocean health. Engagement targets linked to ocean health might relate to pollution prevention, ocean conservation, and carbon transition. We look for improvements such as better waste disposal, reduced use of plastics, better chemical management, more sustainable fishing practices, and reductions in GHG emissions. We discuss the competitive benefits of these targets with each company, contextualizing with industry best practices. While some companies are ESG leaders, many of our holdings have room to improve and we call these companies "ESG improvers." We typically focus most of our time and energy on working with the improvers, as this is where we believe we can make the biggest difference.

How can you make an impact through company engagement?

Engagement can reduce risks to both the ocean and the company, enhance competitiveness, and improve ocean health. For example, imagine a shipping company that lacks proper environmental compliance systems. Identifying this risk and encouraging the company to incorporate effective systems can reduce its exposure to significant fines. Or imagine a plastic packaging company with products that end up in waterways. By shifting its business away from plastic and towards more environmentally-friendly types of packaging, the company can get ahead of increasing regulation and access growing markets for more sustainable solutions.

Mia Overall ESG Engagement Lead, Rockefeller Asset Management

Engagement in practice

Rockefeller Asset Management (RAM) partners with ocean experts, and stakeholders to help companies improve their commitment to ocean health. RAM describes the process to actively engage with different companies to drive change.

Desalination

Issue identified:	How we engaged with the company:	Outcome:
A multinational water service provider providing clean drinking water and wastewater services had two major business lines: desalination and wastewater treatment solutions. Desalination is energy intensive and, if the remaining salt is dumped back into the ocean it can contaminate the water.	RAM worked closely with The Ocean Foundation to under- stand the environmental considerations related to desalination plants. The company employed measures to safely dispose the brine to facilitate dispersion, with little impact to coastal and marine ecosystems. RAM reviewed studies on ocean-related impact of desalination, environmental risk, and impact assessments with The Ocean	RAM's partnership with The Ocean Foundation helped to understand issues related to desalination, leading to informed investment decisions in a company that improves water quality and access.

Wastewater treatment solutions

Issue identified:

Apparel manufacturing is a water and energy-intensive industry. RAM sought to discuss the importance of setting water and energy reduction targets, with one of China's largest vertically-integrated clothing manufacturers. RAM also examined sustainability oversight and governance, and a system to monitor suppliers.

How we engaged with the company:

Foundation.

After requesting a call via email – with no response, RAM sent an official letter, clarifying the scope of the discussion. Ultimately, constructive dialogue was mutually informative.

Progress achieved:

Two months after RAM's constructive dialogue, this large clothing manufacturer published its Annual Report, including increased disclosures:

- Section on sustainability governance
- Table illustrating resource efficiency projects completed, in progress or planned between 2017–2021, including water reduction and energy reduction targets in two areas
- Discussion about supplier management

Desalination is energy-intensive and, if the remaining salt is dumped back into the ocean, it can contaminate the water.



Chapter 4 Ocean innovations

The transition from a short-term, destructive approach to ocean assets toward a more climate-secure and sustainable Blue Economy presents a tremendous economic and sustainable investment opportunity.



Source Aqua-Spark portfolio company Matorka

Pioneering Blue Economy models

From the world's biggest companies to ambitious startups, businesses across the globe are embracing different approaches to the Blue Economy and resetting ocean health. Pioneering technologies, ground-breaking scientific research, and new industries are all playing their part in delivering impact and meeting the SDGs.

The aquaculture industry

Farming seaweed across just 0.001% of the ocean's ecologically suitable area could make the global aquaculture industry, one of the world's fastest-growing food sectors, carbon neutral. One of the initiatives that is transforming the aquaculture industry to a more sustainable one is Aqua-Spark – an investment fund from the Netherlands investing in sustainable aquaculture businesses across the value chain that generate investment returns, while creating positive social and environmental impact. The fund invests globally in small-to mid-sized enterprises that are working towards the production of safe,

The aquaculture industry – One of the world's fastest growing food sectors



Source Credit Suisse, Intergovernmental Panel on Climate Change, National Institute of Building Science, WWF

accessible aquatic life, such as fish, shellfish and plants, in a way that does not harm the health of the planet. One example is Matorka, an innovative land-based Arctic Charr and Salmon Trout farming operation based in Iceland that aims to lead the aquaculture industry in sustainable practices. Making optimal use of Iceland's natural resources, this carbon-neutral farm uses no antibiotics, chemicals or hormones and is powered by renewable energy, while the fish are fed a high quality uniquely sustainable diet.

Solving the plastic problem with seaweed Seaweed is one of the few foods with zero inputs to cultivate – no freshwater, no feed, no fertilizer or pesticides and no land (deforestation-free). It absorbs five times more carbon than land-based plants and helps reverse ocean acidification. The commercial seaweed market is forecast to grow to USD 11.9 billion by 2027, a Compound Annual Growth Rate (CAGR) of 9.1%.

The aquaculture economy is growing between



Plastic alternatives

Plastic alternatives are being developed that could substantially reduce the amount of plastic dumped in the ocean. Notpla is a revolutionary material made from seaweed and plants. It naturally decomposes in four to six weeks, much faster than polylactic acid (PLA), a bioplastic that can take 80 years to decompose in nature. One of Notpla's applications is Ooho, a biodegradable and edible water "bottle" that encases a serving of liquid in a clear membrane made from seaweed. The seaweed is flavorless and is eaten together with the water or left to biodegrade. For the 2019 London Marathon, runners received over 30,000 of these edible drinks capsules. This technology is not limited to beverages; Notpla wants to replace single-use sauce sachets and use Ooho as greaseproof cardboard takeaway boxes.

Aquaponics – a new industry

Aquaponics is an emerging industry that embraces circular economy principles to reduce the strain on our ocean. Aquaponics explores alternative seafood approaches to replace traditional fish farming. In 2017, the global aquaponics market was valued at USD 523.7 million. Aquaponics combines fish farming and hydroponics, farming fish and using their wastewater for crops as fertilizer. Increased income due to dual raising activity, low water usage, and reduced technical complexity are the major factors driving the growth of the global aquaponics market. Moreover, increasing demand for organic food is anticipated to fuel its growth.

Alternative seafood approaches

Alternative seafood can help stem damage to ocean biodiversity by circumventing the need for fishing, and we are seeing companies developing both plant and stem-cell based products for human consumption. Finless Foods provides sustainable seafood "without the catch." The company uses cellular biology to grow marine animal cells in the lab such as blue fin tuna, an endangered species due to predatory fishing practices. This technology eliminates the need for commercial fishing and provides a product free from contaminants associated with traditional fishing – mercury, microplastics, and antibiotics.

BlueNalu is a pioneer in "cellular aquaculture," in which living cells are isolated from fish tissue, placed into culture media for proliferation, and then assembled into fresh and frozen seafood products. This new technology produces real seafood products directly from fish cells in a way that is healthy for people, humane for animals, and sustainable for our planet. New Wave Foods has developed a sustainable, plant-based shrimp alternative made from seaweed and other clean, sustainably farmed, ocean sources.



Source Aqua-Spark portfolio company Molofeed

Spotlight: Sustainable communities

The carrageenan (versatile texturizer derived from seaweed) market is forecast to grow substantially over the next ten years. Yet the market is challenged due to opaque supply chains. Coast 4C, a commercial venture aiming to unlock the potential of the seaweed revolution and the circular economy, explains how it is working to deliver change.



Source Coast 4C. © R.Botero/Coast4C

Coast 4C's approach to transitioning coastal communities into sustainable economies

Tons of nets removed

Seaweed farming

methods improved

Commercial

Virgin nylon displaced

Insurance for natural

disasters

Communities incentivized

66 We establish inclusive value chains for seaweed that produce positive outcomes. With so much demand from existing carrageenan applications, from food to pharmaceuticals, getting this right has huge scope for growing the Blue Economy.

Coast 4C is an award-winning initiative that aims to unlock the potential of the seaweed revolution and the circular economy to transition its existing network of 32 marginalized coastal communities in Southeast Asia into exemplars of a vibrant and sustainable Blue Economy.

Key activities

Empowering seaweed farmers

Supporting seaweed farmers to increase production of seaweed, using sustainable practices and increase their share in the value chain, connecting them with responsible global markets. Coast 4C has provided financial inclusion for 2,015 households, setting up selfhelp financial services, and has trained 61 seaweed farmers in more sustainable practices.

Supporting Marine Protected Areas (MPAs)

Marine Protected Areas conserve, manage, and protect, aiming to restore biodiversity and key habitats, including mangroves and coral reefs. Coast 4C incentivizes and sustains larger and more effective community-based MPAs, restoring biodiversity and critical natural habitats, such as mangroves, to enhance climate resilience; so far it has legally established MPAs covering 4,855 hectares.

Reducing ghost fishing

Reducing ghost fishing by diverting discarded fishing nets into the circular economy; to date Coast 4C has diverted 235 million meters of fishing nets, which have then been turned into Nylon 6 yarn by Econyl[®].

Source Credit Suisse, Coast 4C

Dr Nick Hill CEO, Coast 4C

Conservation



Communities enabled to take conservation actions

Income generated Profit shared



Resilience plans

Disaster risk reduction and management



Climate

Spotlight: Cutting-edge technology

Ocean health is a critical issue: humanity is pushing the ocean past its breaking point, driving upheaval in ecosystems all over the world, leading to chain reactions of damage that are threatening global food and economic security. Groundbreaking technologies, such as those from Tidal, a team at X (formerly Google X), Alphabet's innovation engine, are working to reverse this.



Source Google LLC

X believes that reversing climate change requires an approach from multiple angles. Tidal's technologies bring greater visibility and understanding of what is happening under the water; it measures and monitors the impact of climate change to ensure the ocean can remain healthy enough to support humanity. Tidal is starting with ocean farming, which is critical to global food security. It needs technology to help it scale sustainably and understand ecosystem challenges caused by climate change. It is working with fish farmers in several countries across Europe, Asia, and the US to protect the ocean and help feed humanity in a sustainable way.

Fish producers are eager to minimize food waste, detect diseases earlier, and reduce chemical usage. Today, the health and welfare decisions for hundreds of thousands of fish are based on observing a few individuals taken out of the water and being manually inspected – a process that is time-consuming, unreliable, and impossible to scale.

Neil Davé, Managing Director of Tidal, explains more: "At Tidal, we've developed an underwater camera system and machine perception tools that detect and interpret fish behaviors invisible to the human eye. Our software continuously tracks and monitors thousands of individual fish underwater, observing and logging feeding behavior, and collecting environmental information like temperature and oxygen levels." The system detects, interprets, and models fish behaviors over time to help farmers track the health of their fish and make smarter decisions about how to manage their habitats and make better, more environmentally friendly decisions about fish feeding – for example, optimizing feeding, which helps reduce costs and environmental pollution.

Tidal's technology is absolutely critical in enabling the aquaculture industry to scale in a cost-effective and sustainable way.

Tidal is also working with ocean health experts to determine how machine learning models and underwater vision and sensing systems can help find new ways to protect the ocean.

Neil Davé Managing Director, Tidal, X Development

Upholding our ocean future

Our ocean is connected with distant areas across the globe, and linked by currents that transport heat, food, and nutrients essential to life. The ocean is the most important ecosystem in our lives - therefore it is critical to use our individual and collective power to engage with and for ocean health.



Drastic change is the only solution

Simply put, human life depends on the health of the ocean. Yet as humans, we have lost our connection to the ocean with devastating effect. Our ocean health has reached a tipping point. Its future state may be altered irreversibly, endangering the earth's entire ecosystem.

The connectivity of ocean life and the threats it faces requires us all to connect and engage on how we use and manage our ocean. The challenges posed in this paper transcend geographical boundaries and so too must our efforts to prevent, reduce, and mitigate their impacts.

Regenerating ocean life

About 70% of our earth's surface is ocean. As much as 75% of the ocean lies beyond national jurisdictions and is owned by the global community. However, it also means that no one entity is fully accountable for those parts of the ocean and their condition. We must therefore take a collective responsibility and active approach to ocean regeneration, reverse what we humans have done, and change corporate and personal behavior. The challenge is to mobilize international cooperation to ensure that marine resources are protected and will survive long into the future.

We are not going to meet the SDG target of protecting 10% of the ocean by 2020, or the scientifically agreed target of protecting 30% of the ocean by 2030 – a critical benchmark to regenerate ocean life and rebuild its resilience.

The future of our planet therefore requires engagement by all ocean users. Coordination is essential in making a positive impact. Exercising influence through constructive dialogue and partnerships opens the door for vital long-term change as we are already seeing with new global initiatives on plastic pollution, for example.

A shared responsibility

We all have a duty to work together towards a common goal, to bring together governments, global financial organizations, business leaders, investors, academia, and NGOs to engage and make a change. International, regional, and national governance frameworks are crucial, but partnerships, corporate leaderships, and private capital are also vital in securing the health of our ocean.

Why engagement matters

As this report explores, engagement is the most direct way to create an impact. Influencing corporate behavior through a proactive engagement approach can produce a virtuous cycle, leading to positive social, environmental, and financial results, and reducing risks to both our ocean and business. Moreover, it can generate alpha and mitigate risks for investors.

As a global custodian of wealth with the drive to make an impact in our heart, Credit Suisse aims to provide its own contribution to restoring our ocean. We believe that it is totally possible to have a positive impact on the environment without sacrificing financial returns. It is our objective to complement scientific and political avenues by accelerating action and ocean engagement in the corporate space, in particular related to the allocation and "voice" of capital. As an investor supporting this cause, we recognize the need to engage directly with the corporate space on ocean health, as well as with policymakers, investors, and governments, on a much broader basis.

We also encourage the development of new technologies that work in harmony with the ocean and protect its sustainability. There are many exciting developments in the new Blue Economy sector, from influential world-leading corporations to young startups that need capital support, partnerships, and encouragement to survive and prosper.

By working with partners on pioneering multi-sector collaborations, supporting the development of groundbreaking investment products, incentivizing blended finance and private sector investment into coastal natural capital, working with companies creating ocean impact, and proactively engaging in the Blue Economy, we hope to play our part in reducing the investment gap in SDG14: "Life Below Water."

Imprint

Five ways you can help save the ocean today

1

Demand plastic-free alternatives

The ocean face a massive and growing threat from plastics. Urge companies to provide plastic-free alternatives and say no to single-use plastics such as straws, plastic cutlery, coffee cups, bottles, plastic bags, balloons, plastic-wrapped produce, and take-out food containers.

2

Reduce your carbon footprint

 CO_2 is making our ocean more acidic. This is contributing to the loss of corals on a global scale, as the increasing acidity of the water weakens calcium skeletons. Act to reduce your carbon footprint, such as alternatives to driving a car and turning off lights.

3

Avoid ocean-harming products

There are many products directly linked to harming endangered or threatened species, unsustainable fishing methods and pollution. Avoid buying cosmetics that contain shark squalene, jewelry made of coral or sea turtle shell, souvenir shells of conches, nautiluses, and other marine life, and single-use plastics like straws and bottles that can end up in our ocean.

4

Eat sustainable seafood

Choose seafood that is healthy and supports ocean biodiversity from well-managed, wild fisheries. Sustainably caught wild seafood is a renewable resource that requires minimal freshwater to produce and emits less CO₂.

5

Engage in ocean issues

Elect public officials that support good ocean policies and can help protect marine life and our ocean. Make lawmakers aware of the crises facing marine life and our ocean. Engage – remind them of policies you care about and why they are important.

James F. Simon President, Oceana

Authors

Marisa Drew Dana Barsky James Gifford Vivienne Yang Thomas Erdmann Alexandra Stettler Svea Ludwig Polly Ribet

Editorial support

Christa Jenni Catherine McLean Trachsler

Project management

Camilla Damm Leuzinger Serhat Günes Zuzana Skvarkova

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Contributors Mark Campanale

Co-founder, Planet Tracker www.planet-tracker.org

Neil Davé

Managing Director, Tidal, X Development www.x.company/projects/tidal

Chris Gorell Barnes

Co-founder, Blue Marine Foundation www.bluemarinefoundation.com

Samuel Harp

Vice President for Advancement & Chief Marketing Officer Woods Hole Oceanographic Institution www.whoi.edu

Dr. Nick Hill

CEO, Coast 4C www.coast4c.com

Nina Jensen

CEO, REV Ocean www.revocean.org

Mia Overall

ESG Engagement Lead, Rockefeller Asset Management www.rockco.com

James F. Simon

President, Oceana www.oceana.org

Erik Solheim CEO, Plastic REVolution Foundation www.revocean.org

Mark J. Spalding

President, The Ocean Foundation www.oceanfdn.org

Important information

References

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