



OCEAN ENGAGEMENT

Shifting Tides

Rising Need for Investments and Engagement
in the Blue Economy

EXECUTIVE SUMMARY

Rockefeller Asset Management has over a quarter of a century of experience in thematic investing. In recent years, we turned our focus to the ocean: the world's largest ecosystem and seventh largest economy. We believe that the "Blue Economy" is an emerging investment opportunity due to increased regulations, changes in consumer buying preferences, and technological advancements. Through our decade-long partnership with The Ocean Foundation, we have created a framework to identify and gain relevant exposure to blue economy investment opportunities, while also seeking to catalyze positive impact through engagement. This paper dives deeper into our investment framework, the ocean investment opportunity, and our main investment themes of pollution prevention, carbon transition, and ocean conservation.

We believe these sectors and sub-sectors enable us to invest in companies that have the capacity to improve materially and to catalyze positive change for our ocean.

THEMES & SUBTHEMES



Pollution Prevention

Chemical, Seismic and Acoustic, Waste Disposal, and Plastic



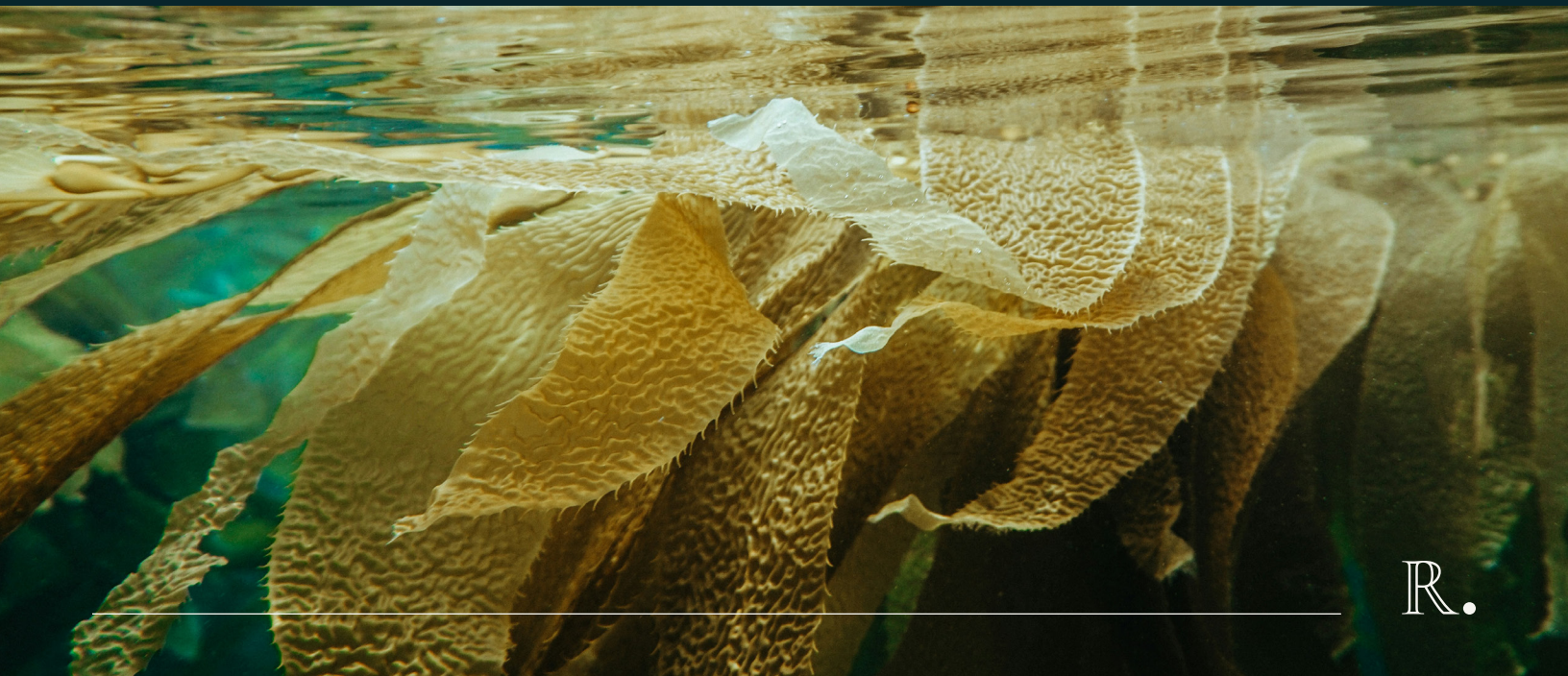
Carbon Transition

Carbon Emissions, Air Pollution, Ocean Renewable Energy, and Alternative Energy



Ocean Conservation

Overfishing, Unregulated Fishing, Depletion of Ocean Resources, Nutrient Loading, and Coastal Development



The Big Picture: The Ocean Economy, Current State, and Future Outlook

We see the ocean being the single most unifying issue that resonates throughout the world. The ocean covers 70% of the earth's surface, making ocean health imperative for the stability of the earth and longevity of global biodiversity. Economic value derived from the ocean's goods and services is estimated to be \$282 billion in the U.S. alone, with three million people working in ocean sectors. These include tourism and recreation, shipping and transport, and related goods and services.¹ The ocean economy is the world's seventh largest economy, representing an estimated 5% of global GDP or US\$3 trillion per year.² The ocean is also a critical source of food and nutrition for three billion people.³

OCEAN FACTS⁴

- Known as the **lungs of the planet**
- Home to **80%** of the world's biodiversity
- Creates **50%** of the planet's oxygen
- Absorbs **25%** of the planet's carbon dioxide
- Absorbs **90%** of heat from the earth
- Provides **99% of living space** on the planet
- Feeds **three billion** people
- Over **40%** of the world's population lives in coastal areas
- More than **90,000 miles** (~145,000km) of shoreline protected by coral reefs



1 NOAA's National Ocean Service. "Why should we care about the ocean?" (n.d.). <https://oceanservice.noaa.gov/facts/why-care-about-ocean.html>

2 United Nations Department of Economic and Social Affairs. "Making waves for a blue economy." (n.d.). <https://www.un.org/en/desa/making-waves-blue-economy>

3 United Nations Environment Programme Finance Initiative. "Sustainable Blue Finance." (2023, September 6). <https://www.unepfi.org/blue-finance/>

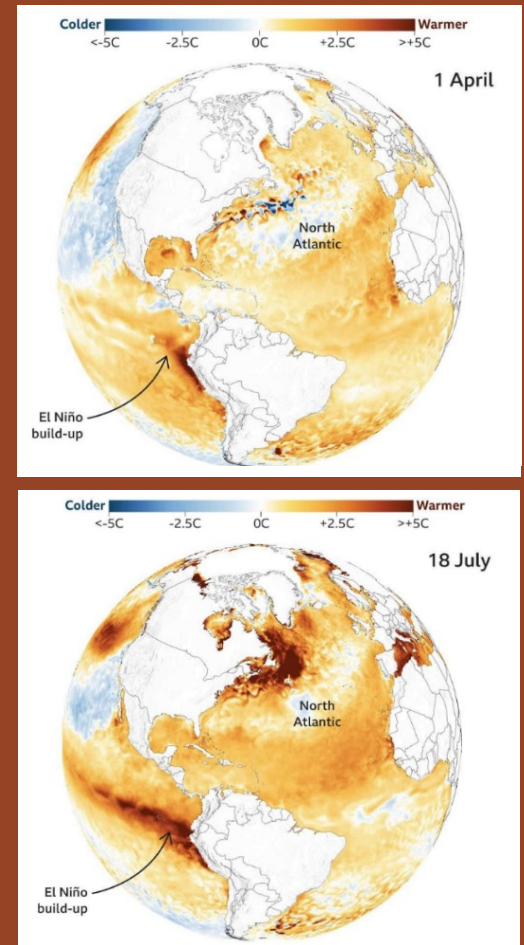
4 United Nations Environment Programme Finance Initiative. "Sustainable Blue Finance - Mobilising Capital for a Sustainable Ocean." (n.d.). <https://www.unepfi.org/blue-finance/>

THE CURRENT STATE

The Anthropocene, the period which human activity has been the dominant influence on climate and the environment, has brought significant challenges for the world's largest ecosystem. The ocean's deep seas have already absorbed 90% of the excess heat from global warming and is the repository for 25% of human-caused CO₂ emissions.⁵ As the ocean absorbs the heat and ocean temperatures rise, the water expands. This contributes to rising sea levels that are already impacting coastal communities.⁶ July 2023 proved to be record breaking: global average daily sea surface temperatures hit the highest mark in history at 69.7 degrees Fahrenheit (20.96 degrees Celsius)⁷ with the highest surface temperature recorded near the Florida Keys at 101 degrees Fahrenheit (38.33 degrees Celsius), equivalent to the average temperature of a hot tub.⁸ Global warming from burning fossil fuels, compounded by El Niño-related heat, have contributed to these extreme marine heatwaves, just one of the four global climate records broken in summer 2023.⁹

Unfortunately, the categorized "beyond extreme" marine heatwaves are not the only issues plaguing our ocean. Plastic, garbage, and other toxic waste is dumped into the ocean, which is then ingested by marine life, leading to increased rates of mortality and disease.¹⁰ This raises concern for the fishing industry and consumers of fish, as catches are being contaminated and are unfit for consumption. Despite this, people continue to eat seafood that contains microplastics, impacting human health along with ocean and marine life health, as these plastics can be absorbed by biota tissue, organs, and cells.¹¹

MARINE HEATWAVE IN THE NORTH ATLANTIC (DAILY SEA SURFACE TEMPERATURE APRIL - JULY 2023, COMPARED WITH 1985 - 1993 AVERAGE)



The ocean's deep seas have already absorbed 90% of the excess heat from global warming and is the repository for 25% of human-caused CO₂ emissions.

Source: NOAA (1985-1993 reference period recommended by NOAA as representative conditions)

5 Ocean Panel. "The Ocean's importance." (2022, October 30). <https://oceanpanel.org/the-oceans-importance/>

6 NASA Sea Level Change Portal. "Thermal Expansion - Understanding Sea Level." (2021, January 27). <https://sealevel.nasa.gov/understanding-sea-level/global-sea-level/thermal-expansion>

7 Horton, H. (2023, August 4). "Ocean surface hits highest ever recorded temperature and set to rise further." The Guardian. <https://www.theguardian.com/environment/2023/aug/04/oceans-hit-highest-ever-recorded-temperature>

8 Cardona, M. (2023, July 26). "Ocean temperatures around South Florida hit hot-tub levels." Reuters. https://www.reuters.com/business/environment/ocean-temperatures-around-south-florida-hit-hot-tub-levels-2023-07-25/?utm_source=Saithru&utm_medium=Newsletter&utm_campaign=Sustainable-Switch&utm_term=072723

9 Rannard, G., Rivault, E., Tauschinski, J. (2023, July 22). "Climate records tumble, leaving Earth in uncharted territory – scientists." BBC News. https://www.bbc.com/news/science-environment-66229065?app=news.science_and_environment.story.66229065.page

10 Yuan, Z., Nag, R., Cummins, E. (2022, June 1). "Human health concerns regarding microplastics in the aquatic environment – From marine to food systems." Science of the Total Environment. <https://doi.org/10.1016/j.scitotenv.2022.153730>

11 Yyuan, Z., Nag, R., Cummins, E. (2022, June 1). "Human health concerns regarding microplastics in the aquatic environment – From marine to food systems." <https://doi.org/10.1016/j.scitotenv.2022.153730>

THE FUTURE OUTLOOK

While the challenges facing our ocean are vast, recent policy trends provide optimism. In March 2022, UN member states endorsed a pollution resolution to address the full lifecycle of plastic, with the ultimate aim to end plastic pollution.¹² In July 2022, the UN hosted its Ocean Conference for the first time since 2017, igniting a new chapter for global ocean action focused on science-based solutions.¹³ At COP15, world leaders resumed biodiversity talks and agreed upon a Global Diversity Framework which calls for the protection 30% of the world's ocean.¹⁴ In March 2023 – after more than a decade of discussions – UN member states agreed on a historic international treaty to protect the high seas.¹⁵ These events are important next steps in creating a global governance structure that delivers predictability and accountability—not just for entities with ocean-related operations—but also our broader global economy and climate. Global governance structures will also provide strong foundations for further investment in the blue economy.



12 United Nations Environment Assembly of the United Nations Environment Programme. "Resolution adopted by the United Nations Environment Assembly on 2 March 2022. End plastic pollution: towards an international legally binding instrument." (2022, March 2). <https://wedocs.unep.org/bitstream/handle/20.500.11822/39764/END%20PLASTIC%20POLLUTION%20-%20TOWARDS%20AN%20INTERNATIONAL%20LEGALLY%20BINDING%20INSTRUMENT%20-%20English.pdf?sequence=1&isAllowed=y>

13 United Nations. "About the 2022 UN Ocean Conference in Lisbon, Portugal." <https://www.un.org/en/conferences/ocean2022/about>

14 United Nations Environmental Programme Convention on Biological Diversity. "Kunming-Montreal Global biodiversity framework Draft decision submitted by the President." (2022, December 18). <https://www.cbd.int/doc/c/e6d3/cd1d/daf663719a03902a9b116c34/cop-15-l-25-en.pdf>

15 United Nations Convention on the Law of the Sea. "Agreement Under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction." (2023, June 19). https://treaties.un.org/doc/Treaties/2023/06/20230620%2004-28%20PM/Ch_XXI_10.pdf

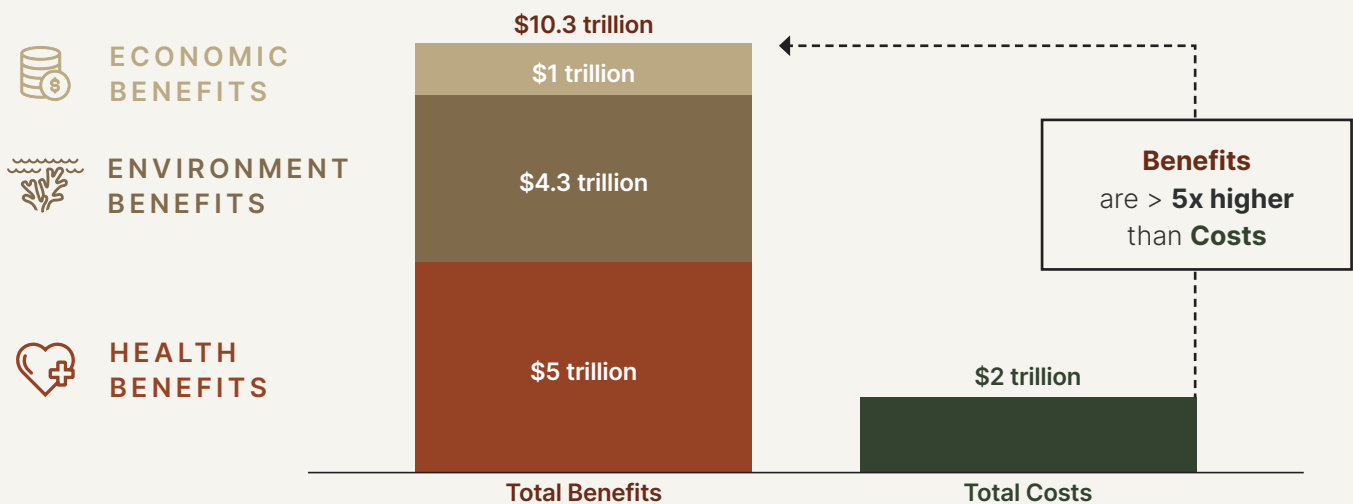
THE BLUE ECONOMY

According to our partners at The Ocean Foundation, the blue economy refers to economic activities that are based in and actively beneficial for the ocean.¹⁶ Investing in the blue economy is essential in combating economic, climate, and biodiversity risks that negatively impact us today, and the potential investment opportunity is immense. As we look towards 2030, various ocean-based industries have the potential to outperform the global economy.¹⁷ According to the Organization for Economic Co-operation and Development (OECD), strong growth from industries, such as marine aquaculture, renewable energy, green shipping, and port activities, have the potential for increased demand for products and services that can address food and energy security, as well as abide by increased environmental concerns and regulations.¹⁸ For example, the ocean could provide up to five times more food

than it does today if more sustainable precautions are taken. Additionally, it has the potential to provide two-thirds of the animal protein required to feed the global population by 2050.¹⁹ In line with increased investment and acknowledgement of the importance of the ocean, the global blue economy has the potential to more than double its contribution to the global economy by 2030.²⁰

According to the High Level Panel for a Sustainable Ocean Economy, benefits of investing in sustainable ocean sectors will result in meaningful returns. Investing \$1 in key ocean actions can yield at least \$5 in global benefits, often more, over the next 30 years. Specifically, investing \$2 trillion to \$3.7 trillion globally from 2020 to 2050 could generate \$8.2 trillion to \$22.8 trillion in net benefits, a rate of return on investment of 450–615 percent.²¹ In addition, investment will reduce exposure to losses if we do not improve ocean health and climate resilience.

OCEAN PANEL ECONOMIC ANALYSIS



Source: High Level Panel for a Sustainable Ocean Economy. "A Sustainable Ocean Economy for 2050: Approximating Its Benefits and Costs." https://oceanpanel.org/wp-content/uploads/2022/05/Ocean-Panel_Economic-Analysis_FINAL.pdf

16 The Ocean Foundation. "Blue Economy." (n.d.). <https://oceanfdn.org/blue-economy>

17 Organization for Economic Co-operation and Development (OECD). "OECD work in support of a sustainable ocean." (2020, June). <https://www.oecd.org/ocean/OECD-work-in-support-of-a-sustainable-ocean.pdf#:~:text=In%20particular%2C%20marine%20aquaculture%2C%20marine%20capture%20fisheries%2C%20marine,having%20the%20potential%20to%20outperform%20the%20global%20economy.>

18 Organization for Economic Co-operation and Development (OECD). "OECD work in support of a sustainable ocean." (2020, June). <https://www.oecd.org/ocean/OECD-work-in-support-of-a-sustainable-ocean.pdf#:~:text=In%20particular%2C%20marine%20aquaculture%2C%20marine%20capture%20fisheries%2C%20marine,having%20the%20potential%20to%20outperform%20the%20global%20economy.>

19 United Nations Environment Programme Finance Initiative. "Sustainable Blue Finance - Mobilising Capital for a Sustainable Ocean." (n.d.). <https://www.unepfi.org/blue-finance/>

20 Organisation for Economic Co-operation and Development (OECD). "The Ocean Economy in 2030. (2016). https://read.oecd-ilibrary.org/economics/the-ocean-economy-in-2030_9789264251724-en#page1

21 The High-Level Panel for a Sustainable Ocean Economy. "A Sustainable Ocean Economy for 2050: Approximating Its Benefits and Costs." (2020, July 14). https://oceanpanel.org/wp-content/uploads/2022/05/Ocean-Panel_Economic-Analysis_FINAL.pdf

Marrying Investment with Engagement: Ocean Engagement Strategy

Our ocean contains a wide diversity of renewable and non-renewable resources that provide critical inputs to support ocean-based industries, such as renewable energy and seafood products.²² We view the blue economy to encompass a wide array of industries that have direct and indirect links to the ocean. It is a diverse universe of industries and companies that range from marine transportation, port infrastructure, offshore renewable energy, the global seafood complex, and even to companies that have a role to play in developing the circular economy. This leads us to believe that the blue economy is an emerging investment opportunity due to:

POTENTIAL DRIVERS OF FUTURE BLUE ECONOMY OUTPERFORMANCE



Increased regulations



Changes in consumer buying preferences



Technological advancements

At Rockefeller Asset Management, we believe our decades long ESG investing history and over 10 years of experience in the blue economy investment opportunities, supported by our partnership with The Ocean Foundation, give us differentiated knowledge and access to address ocean-related challenges, support solutions, and catalyze positive impact through engagement.

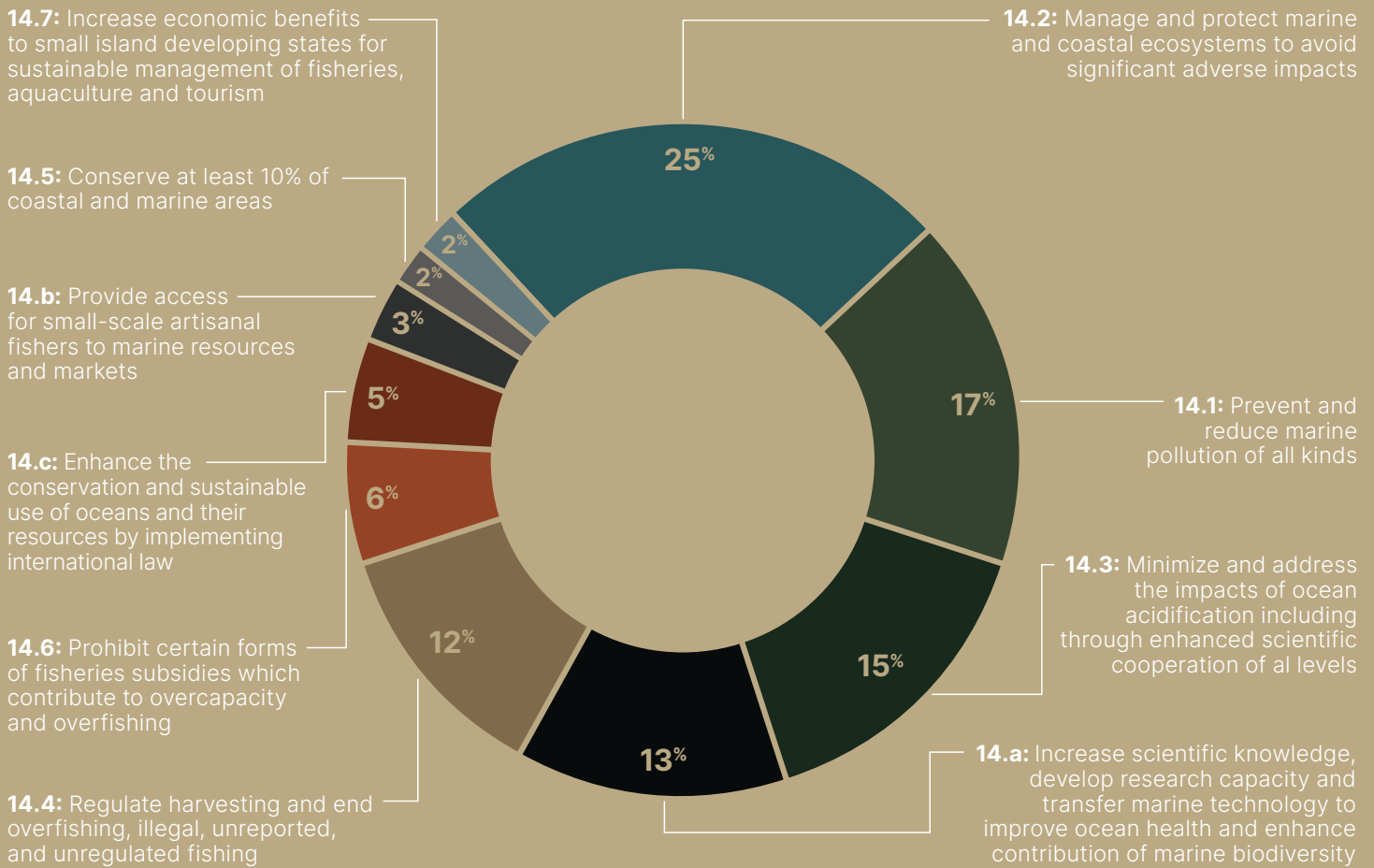
We look for opportunities to actively engage with companies to address material issues that can enhance their risk profile and seek to capitalize on opportunities linked to the sustainable development goals (SDG). In particular, on the structure of the Ocean Engagement strategy and its themes and subthemes are closely related to SDG 14: Life Below Water, which has historically been the most underfunded SDG despite having potential in addressing the triple planetary crisis.²³ For companies in the portfolio, we proactively engage to seek improvements that we believe will benefit progress against SDG 14. In 2023, we spent most of our time discussing SDG 14's sub indicators 14.1, 14.2, and 14.3.

²² Sumaila, U.R., Walsh, M., Hoareau, K. et al. (2021, June 8). "Financing a sustainable ocean economy." Nature Communications. <https://doi.org/10.1038/s41467-021-23168-y>

²³ United Nations Development Program. "The ocean and the blue economy are fundamental to addressing the triple planetary crisis – says UNDP." (2022, June 8).

<https://www.undp.org/press-releases/ocean-and-blue-economy-are-fundamental-addressing-triple-planetary-crisis%E2%80%94says-undptions> Development Programme

SDG14 ENGAGEMENT ALIGNMENT



For example, plastic pollution has been recognized as causing significant harm to ocean ecosystems. Despite this, plastic use has increased considerably over the last two decades.²⁴ Furthermore, emerging concerns, such as microplastics, are leading to potential new policies and regulations to address recycling infrastructure, alternative packaging, and potential health risks.²⁵ Rockefeller’s Ocean Engagement strategy is designed to encourage companies to sustainably manage and protect marine coastal ecosystems from pollution of all kinds. We also look to address the impacts of ocean acidification and aim to end overfishing and destructive fishing practices through influencing business practices and promoting positive impacts on the ocean environment. We have seen recent policies passed, helping to accelerate renewable energy, the circular economy, and sustainable marine transportation. These opportunities can be identified among mature industries that are usually overlooked by public equity funds that are seeking ESG leaders. In addition to exciting opportunities among solution-oriented and ESG-leading business models, there are underappreciated opportunities among mature industries that have attractive valuations, middling third-party ESG scores, or may not be adequately recognized for their sustainability efforts. The incorporation of active engagement can reduce risk and promote sustainable efforts that may be recognized by the market over time. As long-term investors, this twin approach is aligned with our process to position us to unlock alpha and provide positive impact.

24 Organisation for Economic Co-Operation and Development (OECD). “Plastic pollution is growing relentlessly as waste management and recycling fall short, says OECD.” (2022, February 2). <https://www.oecd.org/environment/plastic-pollution-is-growing-relentlessly-as-waste-management-and-recycling-fall-short.htm>

25 Munhoz, Davi R., Paula Harkes, Nicolas Beriot, Joana Larreta, and Oihane C. Basurko. 2023. “Microplastics: A Review of Policies and Responses” *Microplastics 2*, no. 1: 1-26. <https://doi.org/10.3390/microplastics2010001>



THE FOUR STEP PROCESS

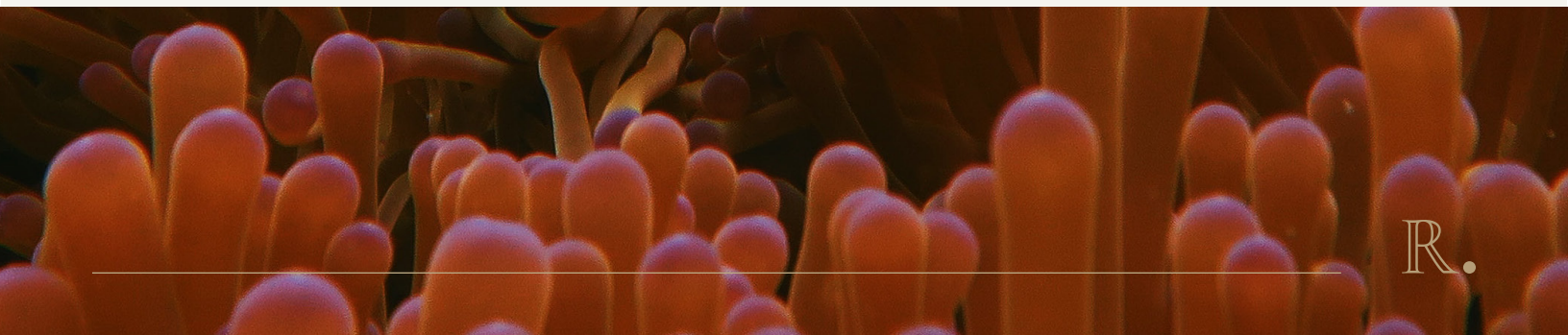


We believe that organizations that are improving their ESG practices will experience stronger financial returns over the long term and incorporating engagement into the investment process can lead to share price outperformance over time. That is because our engagement focuses on areas of improvement that have a strong business case and make sense from a financial perspective. Our approach goes beyond just selecting companies that are ocean leaders and solutions.

To influence this, our shareholder engagement team builds relationships with investee companies to identify and analyze material issues and opportunities. When it comes to ocean risk and opportunities, this practice is imperative.

The engagement team and the fundamental analysts speak to management about key ESG issues throughout the research and investment process. These discussions enable us to assess a company's engage-ability, develop an engagement plan, and work constructively to catalyze improvement. Engagement then continues throughout the holding period, as our team follows a four-stage shareholder engagement escalation process to increase the probability of an outcome: (1) Constructive Dialogue, (2) Official Letters, (3) Collaborative Action, and (4) Shareholder Resolutions. We seek to proactively engage with management, often speaking to individual companies several times a year. Our four-step engagement process seeks to enhance company returns and catalyze positive change:

Enhance company returns	Improve competitive positioning	<ul style="list-style-type: none"> • Stay ahead of consumer preferences • Shift to more sustainable business models • Reduce cost by cutting waste
	Reduce reputational risks	<ul style="list-style-type: none"> • Avoid labor strikes, protests or boycotts
	Get ahead of regulatory risks	<ul style="list-style-type: none"> • Avoid potential carbon pricing costs, pollution taxes, etc.
	Improve ESG ratings/rankings	<ul style="list-style-type: none"> • Improve disclosure of material ESG issues
Catalyze positive change	Reduce environmental impact	<ul style="list-style-type: none"> • Decrease emissions • Improve efficiency in use of water, energy etc. • Protect natural capital
	Improve social outcomes	<ul style="list-style-type: none"> • Improve worker health and safety



By discussing best practices with companies actively involved in the blue economy, we can influence their business practices to promote positive impacts on the ocean environment.

Specifically for the Ocean Engagement strategy, we categorize each holding into one of three buckets: Solution, Leader, or Improver. In this strategy, we focus on Improvers, as we believe there is an opportunity for us to directly address ocean health by working with companies on business practices that can lead to the reduction of the risk posed to ocean environments. By doing this, we establish our

engagement thesis to detail what change could be beneficial for the company and the ocean. We actively avoid business models that are ocean endangerers, such as offshore oil and gas or deep seabed mining companies, as their operational activities can lead to adverse impacts to marine environments. Pollution Prevention, Carbon Transition and Ocean Conservation are three major themes that we believe can capture solution-based opportunities. These themes are then broken down further into subthemes that we use as a framework to synergistically and intentionally engage across the portfolio.

1 Pollution Prevention

The theme focuses on:

- Chemical Pollution
- Seismic & Acoustic Pollution
- Plastics
- Pollution & Waste Disposal

Engagement topics:

- Embrace circular economy principles to prevent medical waste in waste streams (waste disposal companies)
- Transition away from plastic packaging towards other forms of packaging (packaging manufacturers)
- Request product formulation changes and adopt green chemistry to avoid ocean environment degradation (consumer product companies)

2 Carbon Transition

The theme focuses on:

- Carbon Emissions
- Ocean Renewable Energy
- Alternative Energy
- Air Pollution

Engagement topics:

- Reduce Greenhouse Gas (GHG) emissions to mitigate sea level rise and ocean acidification (shipping, energy & airline companies)
- Promote the transition to low carbon energy
- Promote use of carbon offsets to supplement emission reduction strategy

3 Ocean Conservation

The theme focuses on:

- Overfishing & Unregulated Fishing
- Nutrient Loading
- Depletion of Ocean Resources
- Coastal Development

Engagement topics:

- Implement sustainable aquaculture and fishing practices (fishing companies)
- Develop coastal protection programs that will preserve coastal areas and enhance guests' experience (hotel groups)
- Limit agricultural runoff that contributes to coral bleaching and algae blooms (fertilizer companies)

Uniquely Rockefeller opportunities await.

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ESG investing refers to an investment approach that incorporates ESG criteria into the investment process. This approach is subjective by nature, and there is no guarantee that an ESG investment approach will be successful or that it will reflect the beliefs or ideals of any one particular investor. ESG market data is limited and much of the data is unstructured and reported in varying increments and timetables. While we endeavor to obtain and analyze relevant ESG market data, there is no guarantee that we will be successful in these efforts. ESG investing can also limit the investment opportunities available to a portfolio, such as the exclusion of certain securities or issuers for nonfinancial reasons and, therefore, the portfolio may perform differently than or underperform other similar portfolios that do not apply an ESG criteria to their investment approach.

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RCMID-1428079438-5034

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