PLASTIC

IS EVERYWHERE—EXCEPT THE ONE PLACE IT SHOULD BE

How Investor and Company Climate Commitments Ignore Plastics and What to Do About It

JULY 2023

Ocean Conservancy®

Executive Summary

Plastics and climate change are interconnected—and existential—threats to the ocean and coastal communities.

The ocean has long been ground zero for the plastic pollution crisis, with 11 million tons of plastics entering the ocean each year. Plastics have been found everywhere on Earth, from Arctic snow to our own bodies. The news is replete with headlines of animals like whales, dolphins and turtles washing ashore, stomachs filled with plastics. But this is just one aspect of the threat.

Plastics, 99% of which are made from fossil fuels, are also a major contributor to the climate crisis. The plastics industry is on a rapid growth

trajectory, generating high levels of greenhouse gas pollution—from production to disposal—and locking in continued oil and gas extraction for decades to come. The climate impacts of plastics undermine our ability to meet the goals of the Paris Agreement and prevent catastrophic climate change. Still, amid calls to limit society's dependence on fossil fuels, plastics are missing from investor and company climate commitments and guidance.

Ocean Conservancy examined climate commitments from 28 companies and 12 investors, as well as 15 climate target-setting frameworks and guidance to understand efforts to address the climate risks of plastics—and where gaps exist. Key findings of this analysis:

- Plastics are a conspicuous gap: 11 of 12 investors and 25 of 28 companies do not include plastics in their climate commitments.
- Climate target-setting guidance and frameworks often omit the emissions from plastics, and in some cases incentivize continued plastics growth. Some of this guidance even perpetuates misinformation that plastics production is a viable greenhouse gas reduction and sequestration strategy, enabling continued buildout of plastics infrastructure.
- Investor climate commitments largely do not mention plastics even when they prioritize engagement on fossil fuels and other climate risks.
- The transparency needed to mitigate the climate impacts of plastics is lacking. For example, data on Scope 3, or greenhouse gas pollution from a company's value chain, are only required in limited circumstances and rarely reported in full, even though they are critical to understanding the climate risks of plastics.
- Reducing production and use of plastics and transitioning to a truly circular economy offer the most cost-effective opportunities for decarbonization.

It is time for companies and investors to address the climate risks of plastics to ensure that they can meet their climate goals and contribute to building a clean energy economy. To help them capitalize on this opportunity, the *10 First Principles for Incorporating Plastics into Climate Commitments* outlined in this report offer a blueprint for developing strong, actionable commitments.

Addressing the threats of ocean plastic pollution and climate change requires us to transition away from fossil fuels, produce far less plastic and build a robust circular and clean energy economy. We look forward to working with investors and companies alike to achieve that vision.

10 FIRST PRINCIPLES FOR INCORPORATING PLASTICS INTO CLIMATE COMMITMENTS

1. Reduce overall plastics production and use.
2. Phase out use of incineration, open-burning, and conversion chemical recycling of plastic waste.
3. Develop scalable alternative delivery models to eliminate single use plastics.
4. Design products for circular use, i.e., to be reusable, recyclable and long-lasting.
5. Support policies that enable a clean energy and truly circular economy.
6. Limit the use of unproven technologies when developing low-emissions polymers.
7. Commit to a just transition for workers and communities reliant on or affected by plastics.
8. Take a comprehensive approach to lifecycle analysis of alternatives (including human health, biodiversity and climate).
9. Assess plant-based materials with care, factoring in beginning and end-of-life impacts.
10. Pay to clean up pollution but not as an offset against production.

Note: Refer to the full report to learn more about each principle.

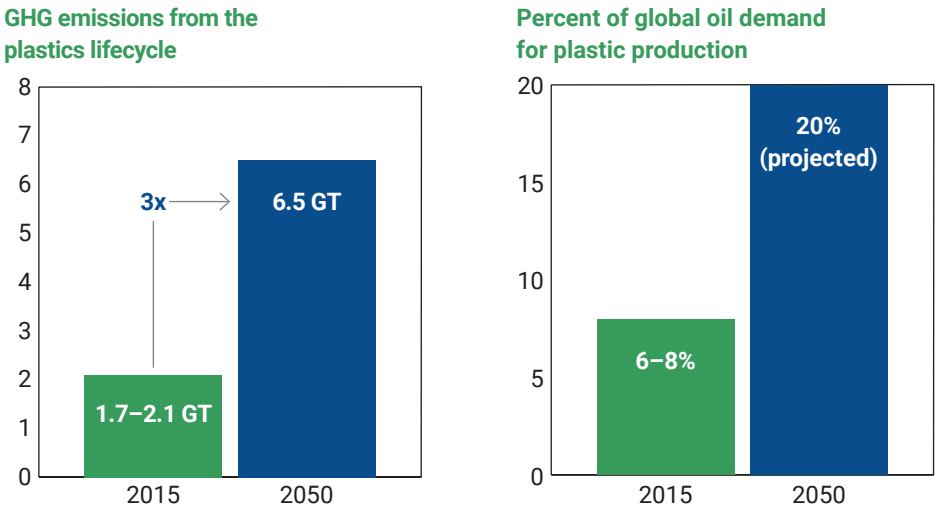
Plastic pollution and climate change are interconnected—and existential—threats to the ocean and coastal communities. If corporate and investor climate commitments continue to overlook plastics, we won't meet our climate goals. In this report, Ocean Conservancy lays out 10 principles for creating strong, actionable investor and company commitments that address the climate risks of plastics.

Plastics are fossil fuels—and they are exacerbating the climate crisis.

Research from the International Energy Agency shows that, to reach zero carbon emissions by 2050 and avoid the most catastrophic impacts of climate change, we need to leave the majority of remaining fossil fuels in the ground.[i] But amid the calls to limit society's dependence on fossil fuels, one major and growing segment of oil demand has been overlooked: *plastics*.

As we transition away from fossil fuels toward a clean energy future, the oil and gas industry is investing vast financial resources in new plastics production. Plastics and other petrochemicals are the fastest-growing sector of oil and gas demand—with needs for both energy and feedstock (i.e., the raw materials needed to make plastics). Over half of all growth in oil demand through 2050 will come from plastics.[ii] By then, plastics are projected to make up 20% of total oil demand,[iii] (Figure 1), a proportion that increases dramatically if the rest of the economy reaches net zero.[iv] This growth will lock in fossil fuel extraction for years to come.

FIGURE 1 EMISSIONS AND OIL DEMAND FROM PLASTIC



SOURCES: Emissions: Zheng and Suh, 2019, ODI, 2020; Oil Use: World Economic Forum, 2016

Plastics are energy-intensive to produce and is projected to 50% of plastic waste will be incinerated or used for energy by 2050, making them a major and growing source of greenhouse gas emissions. In all, plastics are responsible for at least 3–4% of global emissions.[v] Further, microplastics—tiny plastic particles and fibers—can harm marine bacteria[vi] and plankton.[vii] These ocean organisms are essential for absorbing carbon dioxide from the atmosphere. Emissions from the petrochemicals sector are estimated to follow a growth trajectory associated with 4° Celsius of global warming, well above the 1.5° target set out in the Paris Agreement on climate.[viii]

Nevertheless, shifting investment from fuels to plastics is seen by some as a viable transition strategy for the oil and gas industry.[ix] On the contrary, this position creates new, risky, high-emissions assets and detracts from clean energy investments by perpetuating oil and gas production. Investors and companies dependent on plastics growth are at risk from growing volatility in fossil fuel prices, clean energy policies, and regulations targeting plastic pollution. While a recent study found that the estimated risk for the petrochemicals sector has declined since 2012, 731 plastic pollution policies have been introduced during that time across the world.[x]

If we don't include plastics in climate commitments, we won't meet our climate goals.

Plastics are conspicuously missing from the climate commitments that both companies and investors have made to reduce their climate impacts and align with the goals of the Paris Agreement. At the same time, some of the climate target-setting guidance and frameworks relied upon by thousands of companies and financial institutions omit, or in some cases even incentivize, continued plastics growth. Across all of the commitments, frameworks and guidance documents reviewed, Scope 3 emissions (i.e., those from a

SCOPE 3 EMISSIONS EXPLAINED:

According to the GHG Protocol Corporate Standard, a company's greenhouse gas emissions are classified into three categories, or "scopes." "Scope 1 emissions are direct emissions from owned or controlled sources. Scope 2 emissions are indirect emissions from the generation of purchased energy." While many of the largest companies in the world already report Scopes 1 and 2, Scope 3 often represents the largest proportion of a company's emissions. "Scope 3" emissions include a wide range of emissions in a company's corporate supply chain, both upstream and downstream of its operations.[xviii] These emissions are particularly significant for plastics. For example, for a fast-moving consumer goods company using plastic packaging, Scope 3 would include upstream emissions, such as methane—a greenhouse gas 80 times as potent as carbon dioxide—associated with feedstock and energy production; emissions associated with the energy-intensive process of plastic resin production; and emissions produced while manufacturing plastic packaging. Downstream of the company's operations, Scope 3 would include emissions for transport of the product. If plastics are burned, incinerated or used for energy at end of life, these downstream Scope 3 emissions can also be extremely significant.[xix]

company's value chain) are required only in limited circumstances and rarely reported in full; however, they are critical to understanding the climate risks of plastics. (Note: While country commitments are not the focus of this report, it is also critical for governments to include plastics in their climate policies; incentives to reduce plastics are notably absent, for example, from the 2022 U.S. Inflation Reduction Act, which made historic investments in clean energy.)

To understand whether and how corporate and investor climate commitments considered plastics, Ocean Conservancy worked with external experts to review the commitments of 28 companies across the plastics value chain and the commitments of 12 institutional investors representing US $334 trillion assets under management. We also reviewed the extent to which plastics are considered in 15 net-zero frameworks and climate target-setting guidance for companies and financial institutions ("climate guidance"). This report summarizes the key findings of this new research. (The full research method is described in Appendix A.)

For each, we asked the following questions:

- Are plastics included in climate commitments/guidance? *If not,* does the entity make other sustainability commitments regarding plastics?
- Are Scope 3 (value chain) emissions disclosures and targets included?
- If a company *does* have sustainability commitments related to plastics, do the commitments meaningfully reduce climate impacts, e.g., such as by reducing plastic production or by incentivizing re-use and circularity?

Findings

Net-zero frameworks and climate target-setting guidance for companies and financial institutions (climate guidance) omit or even incentivize continued plastics growth.

- Most climate guidance documents we reviewed do not make explicit mention of plastics or petrochemicals. In some cases, this is a notable omission: for example, the Net Zero Banking Alliance's commitment statement requires special scrutiny for investments in comparably carbon-intensive sectors: agriculture, aluminum, cement, coal, commercial and residential real estate, iron and steel, oil and gas, power generation and transport.
  - Many allow wide latitude in their guidance on reporting Scope 3 emissions, leaving companies to decide on their own what to include in their disclosures and which Scope 3 categories to include. This perpetuates challenges in the comparability of emissions and risk evaluation for investors. In its "Guidance on setting science-based targets for Oil, Gas, and Integrated Energy companies," the Science -Based Targets initiative (SBTi) explicitly states that non-energy oil and gas products should not be included in Scope 3 emissions. The framework states that "there should be no consideration of non-energy products (asphalt, lubricants, waxes, white-spirits and other distillates, olefins, petrochemical feedstock) for Scope 3 purposes."[xi] Because the SBTi excludes emissions from non-energy products like plastics, oil, gas and integrated energy, companies may not report, or may underreport, their Scope 3 emissions from the plastics lifecycle. Note that SBTi chemicals sector guidance is in development.
- In some cases, climate guidance is counterproductive, putting climate goals at risk. For example:
  - The Institutional Investors Group on Climate Change's (IIGCC) 2021 "Net Zero Standard for Oil and Gas" claims that the production of plastics is a viable greenhouse gas reduction strategy. The standard states, "A potential additional action available to companies refining crude oil is increasing the proportion of refinery output destined for non-energy uses (petrochemicals and plastics). Non-energy products often permanently store carbon and are excluded from the energy benchmarks used by the TPI (Transition Pathway Initiative) and SBT (Science Based Targets) to assess overall emission intensity."[xii] In other words, shifting production from fossil fuels to plastics is seen as a viable greenhouse gas reduction strategy for the

NET-ZERO FRAMEWORKS AND CLIMATE TARGET-SETTING GUIDANCE:

- Climate Action 100+
- GHG Protocol: Corporate Value Chain Standard
- Glasgow Financial Alliance for Net Zero (GFANZ) and its six initiatives: the Net-Zero Banking Alliance, the Net Zero Asset Managers Initiative, the Net-Zero Asset Owner Alliance, the Paris Aligned Investment Initiative, the Net-Zero Insurance Alliance, the Net Zero Financial Service Providers Alliance and the Net Zero Investment Consultants Initiative
- Partnership for Carbon Accounting Financials (PCAF)
- Paris Agreement Capital Transition Assessment-PACTA (Scenario Analysis)
- Institutional Investors Group on Climate Change (IIGCC)
- Science-Based Target initiative (SBTi) Net Zero Standard
- Sustainability Accounting Standards Board (SASB)
- Task Force on Climate-related Financial Disclosures (TCFD)

Documents reviewed for each included in Appendix B.

ASSET MANAGERS:

- Bank of New York Mellon
- BlackRock
- Capital Group
- Fidelity Investments
- Goldman Sachs
- JP Morgan Chase
- State Street
- Vanguard

U.S. PENSION FUNDS:

- California Public Employees' Retirement System (CalPERS)
- California State Teachers' Retirement System (CalSTERS)
- Florida State Board of Administration (FSBA)
- New York State Common Retirement Fund (NYSCRF)

Documents reviewed for each included in Appendix B.

oil and gas industry, completely ignoring the significant greenhouse gas pollution this could incentivize. Note: IIGCC released a new Oil and Gas Standard in 2023; however, this standard is in a different structure and format from the 2021 guidance, and it is unclear if the 2021 guidance still applies. This standard excludes non-energy uses of fossil fuels.

- The Glasgow Financial Analysis for Net Zero's (GFANZ) "Guidance on the Use of Sectoral Pathways for Financial Institutions" highlights five 1.5°C aligned pathways that all include continued fossil fuel production for non-energy uses out to 2050. A single footnote related to the highlighted Paris-aligned global energy mixes out to 2050 explains; "Note that remaining fossil fuel use in 2050 is for non-energy use in most pathways, e.g., for plastics production," implying that non-energy uses such as plastics production are not included in the representative pathways' emissions calculations.[xiii]

Investor climate commitments largely lack any mention of plastics even though climate is a major focus.

- While climate is central on the environmental, social and governance (ESG) agendas of institutional investors, plastics are not included even when reduction of fossil fuels is considered a priority.

- Overall, investors stated a preference for engaging with companies to encourage them to align with climate goals rather than divesting from fossil fuel assets outright. However, of the 7 investors that demonstrated a proxy voting record on climate, only the California State Teachers' Retirement System (CalSTRS) and the New York State Common Retirement Fund (NYSCRF) demonstrated active engagement with company boards.

- Plastics are not mentioned in 11 of the 12 investor climate commitments analyzed even though most asset managers and pension funds analyzed have committed to net-zero portfolios by 2050, and some state pension funds have robust climate agendas.

- The one exception is JP Morgan Chase. The firm's climate commitment links plastics to its climate goals by publicly disclosing its overall exposure to carbon-intensive sectors, including plastics, through its investments. JP Morgan Chase also evaluates climate transition risks for 7 carbon-intensive industries, including chemicals and plastics, and the firm includes "recycling and reuse" as eligible solutions in its Climate Change Solutions Fund. Note: JP Morgan has been identified as a top financier of fossil fuels globally.[xiv]

- Half of the investors studied have dedicated sustainable investment products or ESG screens that reference circular business models; these are separate from portfolio-wide climate commitments.

Corporate climate commitments largely do not include plastics; however, most consumer-facing companies recognize plastics as a sustainability risk.

- Only half of the companies reviewed have net-zero commitments with quantifiable and time-bound interim targets by 2050 or earlier. Almost all consumer-facing companies published climate commitments, though some upstream plastic resin producers did not.
- With the exception of Procter & Gamble, Unilever and Nestle, whose plastics goals are clearly linked to their climate strategies, sustainability commitments on plastics are not included in climate commitments. Companies missed opportunities to link strategies that reduce dependence on virgin plastic, such as increased use of recycled content, to climate benefits.
- Less than half of the climate commitments included Scope 3 emissions. Further, data on virgin plastic production and use were not readily accessible in the sustainability reports we reviewed. Of the 28 companies reviewed, only 11 disclose this data publicly via the Ellen MacArthur Foundation Global Commitment Progress Report.
- Brand-exposed companies and major plastic product producers did include sustainability targets related to plastics, reflecting increasing awareness of consumer concerns about plastic waste, policy and health risks. However, these commitments largely focused on waste reduction and increasing recycling,[1] often coupled with statements indicating expectations of continued growth in plastics use.
- While some companies referenced upstream design initiatives to increase the recyclability of plastics, they did not include specific commitments and timebound targets.

PLASTIC RESIN PRODUCERS:

- Dow
- ExxonMobil
- Indorama Ventures
- LyondellBasell
- PetroChina
- Saudi Aramco
- Sinopec

PLASTIC CONTAINER AND PACKAGING COMPANIES:

- Amcor
- Aptar
- Berry Global
- FP Corporation
- Huhtamaki
- Intertape Polymer
- Sealed Air

FAST-MOVING CONSUMER GOODS COMPANIES (FMCGS):

- Coca-Cola
- Danone
- Mondelez
- Nestle
- PepsiCo
- Procter & Gamble
- Unilever

RETAILERS:

- Amazon
- Costco
- Home Depot
- Kroger
- Schwartz Group
- Walgreens Boots Alliance
- Walmart

Documents reviewed for each included in Appendix B.

[1] "Recycle" or "recycling" is used here as defined by California Senate Bill 54: "Plastic Pollution Prevention and Packaging Producer Responsibility Act." The Act states that "recycle" or "recycling" "means the process of collecting, sorting, cleansing, treating, and reconstituting materials that would otherwise ultimately be disposed of onto land or into water or the atmosphere, and returning them to, or maintaining them within, the economic mainstream in the form of recovered material for new, reused, or reconstituted products, including compost, that meet the quality standards necessary to be used in the marketplace." The Act further notes that "recycle" or "recycling" "does not include any of the following: Combustion; Incineration; energy generation; fuel production, except for anaerobic digestion of source separated organic materials; other forms of disposal. "

Overlooking plastics—a major source of emissions and fossil fuel demand—in climate commitments jeopardizes our climate goals.

The omission of plastics from climate commitments represents a major risk to the achievement of climate goals and a successful clean energy transition. Without sufficient disclosures on plastics and commitments to reduce their climate impacts, this growing sector of fossil fuel demand will lock in incentives for oil and gas production, generating a growing share of greenhouse gas pollution.

Without including plastics in climate commitments, companies and investors will not be able to accurately evaluate and manage climate risk. The plastics gap in climate commitments is leading to mispricing of plastic's climate risk, which has created perverse incentives for companies and investors alike to double down on expanding plastics production. From 2006 to 2019, plastics production capacity grew faster than demand, at a compound annual growth rate (CAGR) of 5.2%. Recently, this growth has slowed slightly, leveling off to 3.1% from 2019–2021. With no intervention, demand growth is expected to continue at a CAGR of at least of 2.7% over the next 20 years.[xv]

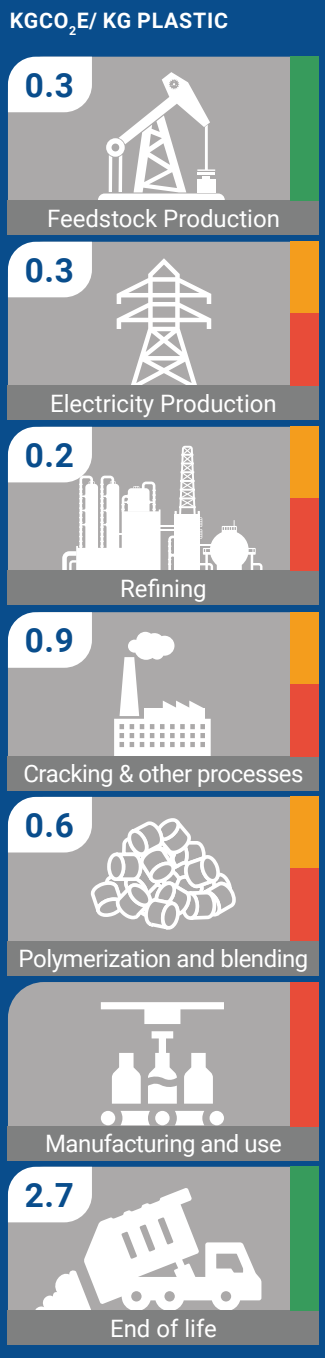
When companies focus only on addressing the downstream problem of plastic waste and ignore upstream links to fossil fuel lock-in and lifecycle greenhouse gas emissions, they miss out on promising opportunities

for cost-effective decarbonization. Numerous studies of plastics and chemicals sector decarbonization indicate high costs to transition the sector, along with significant, hard-to-abate end-of-life emissions. However, these studies consistently show that approximately half of plastic sector decarbonization, and the lowest cost options, can come from eliminating a significant amount of plastic, increasing recycling and developing new product delivery models, such as through reuse and refill systems.[xvi]

Finally, the reduction of both plastics production and waste has major co-benefits for biodiversity and human health—emerging risks that are likely to increase along with mounting evidence. For example, a recent Minderoo-Monaco Commission study estimated economic health costs of plastics of at least $1.5 trillion dollars.[xvii] Major policy efforts in just the last two years—such as the on-going negotiations of an Internationally Legally Binding Instrument on Plastic Pollution, the European Commission's Single Use Plastic Directive and California's SB54 policy—are likely to cause a softening in the demand for plastics and increase accountability requirements for plastic waste. Proactive reduction of plastic use and waste in anticipation of these policies creates the opportunity for further cost savings.

The clean energy transition is creating some of the biggest growth opportunities in our economy, and those standing to benefit include companies and investors looking to manage the risks involved, pursue climate solutions that can sustain earnings through the energy transition, and reward their investors while meeting the needs of our society.

The Plastics Lifecycle: Taking Full Account of Emissions



Methane is a major upstream risk responsible for up to 20% of emissions.

- 80x as powerful as CO_2 with climate impacts that are especially strong in the short term.
- New measurement capabilities show:
  - Methane emissions may be undercounted by as much as 60%.[xx]
  - Leakage is highly variable, measuring from 1% to 9% in various U.S. oil and gas fields.[xxi]
- Major plastic feedstocks are produced in fields that are among world's worst methane emitters.

Production drives emissions so reduction is critical.

- Resin production depends on cheap energy; the chemicals sector is the largest industrial consumer of energy.[xxii]
- Feedstock choice is a key variable:
  - Coal feedstock requires 2–3 times more energy than ethane, propane (liquid petroleum gases), or naphtha (derived from crude oil).[xxiii]
  - Ethane and propane may have significant upstream methane emissions.

Imported plastics may be a major source of under-reported emissions due to coal-based manufacturing.

- In 2015, 6% of global coal electricity was used for plastic production, largely destined for export (e.g., to the U.S., E.U. and Australia), contributing to negative health impacts for the workforce in those countries.[xxiv]

Plastics do not sequester carbon, and end-of-life emissions are growing.

- Plastics are increasingly burned or used for energy at end-of-life, releasing GHG emissions and pollution.[xxv]
- Open-burning, incineration, waste-to-energy and conversion chemical recycling are projected to increase due to plastics growth in regions with limited waste management infrastructure, growing pollution concerns, and space limitations.[xxvi]
- Abating end-of-life emissions (e.g., bringing carbon capture systems online at every municipal incineration/waste-to-energy facility) would be expensive, unsafe and technologically unrealistic,[xxvii] making prevention critical.
- Emissions from plastics made with 100% mechanically recycled content are about 1/3 of those of virgin plastic burned at end-of-life.[xxviii]

10 First Principles for Incorporating Plastics into Climate Commitments

As investors and their portfolio companies plan to achieve climate goals and succeed in a net net-zero economy by 2050, they must identify and address the climate risks of plastics and ensure that plastic-climate targets are understood and prioritized at the management and board levels. The following guidance is intended to equip investors and companies to evaluate and manage the risks. We look forward to working with both to provide more detailed guidance as we move forward.

To reduce climate risks from plastics, companies should set targets to:

1. **Reduce overall plastics production and use.** Reducing plastics must be a priority for any credible plastics-climate commitment. Plastic resin producers need to limit new capacity; consumer goods and textile companies need to eliminate short-lived and hard-to-recycle plastics; and construction and automotive companies need to maximize materials efficiency.

2. **Phase out use of incineration, open-burning and conversion chemical recycling of plastic waste.** A credible commitment must also seek to reduce the end-of-life emissions from plastics, particularly the use of open-burning, waste-to-energy systems and conversion chemical recycling—which produce significant greenhouse gas emissions and toxic pollution. Further, companies should commit

DEFINING THE CLIMATE RISKS OF PLASTICS:

- **Evaluate, develop and disclose clear, interim timebound targets for key metrics.** Scope 1, 2 and 3 emissions; the amount of virgin, fossil-fuel based plastic; and likely end-of-life treatment of plastics in the entire supply chain.
- **Require supply chain transparency (Scope 1, 2 *and* 3 emissions).** The emissions associated with plastics vary widely, depending on the amount of methane emitted during feedstock production, the feedstock choice and the electricity mix used in manufacturing. Companies should require suppliers throughout the value chain to report emissions data, thereby increasing accountability and demand for low-emissions plastics.
- **Plan for both physical and transition risks associated with climate change.** Physical risks include impacts of climate-driven extreme weather on the company's facilities and supply chains and the health and safety of the company's workers and communities. Transition risks arise from volatility in fossil fuel prices and supply as well as regulatory and policy changes supporting the clean energy transition.

FINANCE SECTOR CLIMATE STANDARDS AND GROUP COMMITMENTS SHOULD:

- Identify petrochemicals as a high-emitting sector, requiring additional scrutiny and actions to reduce emissions and climate risks; they should not incentivize petrochemicals as a transition strategy for oil and gas.
- Require disclosures of Scope 1, 2, and 3 emissions—including those from non-fuel uses of fossil fuels, such as plastics.
- Identify investments that support reduced plastic production and use and support innovation and alternative business models that reduce plastics dependence.

not to support these technologies nor to source "recycled content credits" from these or related systems. Companies should prevent the production of waste from the start by reducing plastics and increasing investments in plastics collection and recycling—including via artificial intelligence, advanced logistics and robotics—to make those systems more effective.

3 **Develop scalable alternative delivery models to eliminate single-use plastics.** Investment and innovation are needed to scale and standardize reuse and refill systems, increase materials efficiency and enable circular use. Examples include fast-moving consumer goods companies moving to use refill systems for soaps and beverages, electronics manufacturers enabling repair and extended product life, and clothing companies reducing fast fashion and increasing resale. Companies should explore opportunities for cooperation and standardization across sectors and geographies to reduce costs, educate consumers and build scale.

4 **Design products for circular use, i.e., to be reusable, recyclable and long-lasting.** Upstream redesign is critical to ensure the safe and efficient reuse and recycling of remaining plastics: reducing chemical additives, simplifying polymer types and colors to facilitate the use of recycled content, and eliminating plastics that cannot be recycled safely. This is key for durable plastics needed for decarbonization (buildings, automotive, renewable energy) where waste is an emerging concern.

5 **Support policies that enable a clean energy and truly circular economy.** Supportive policies can reduce the costs associated with proactive risk management, such as policies that eliminate fossil fuel subsidies or require companies to reduce GHG emissions and disclose climate risks. Further, regulations that ensure product safety, reduce problematic plastics, and enable waste management and recycling level the playing field for companies and reinforce the benefits of climate action.

6 **Commit to a just transition for workers and communities reliant on or affected by plastics.** Companies face fierce community resistance and jeopardize their performance when they don't sufficiently consider the effects of their activities on communities, particularly where climate impacts intersect with threats to health, safety, livelihoods and Indigenous peoples' rights to self-determination. Companies should evaluate these risks and commit to respecting community rights, promoting access to clean energy jobs, and funding the cleanup of legacy pollution.

7 **Limit the use of unproven technologies when developing low-emissions polymers.** Full decarbonization of the plastics industry will take significant investments to electrify production to the greatest extent possible. It is critical to avoid reliance on expensive and unproven technologies—such as carbon capture and storage, hydrogen and use of captured carbon as feedstock—that also perpetuate fossil fuel use. Reducing plastics production and increasing materials efficiency offer the lowest cost path to decarbonizing the plastics industry.

8 **Take a comprehensive approach to lifecycle analysis of alternatives (including human health, biodiversity and climate).** Climate is just one of the many risks to companies and investors with exposure to plastics. Lifecycle analyses should be used to evaluate alternatives across multiple categories of impact (health, biodiversity water) and implications in the context of clean-energy power and transportation systems. Companies should maximize opportunities to reduce the toxicity of products and materials; address local pollution from plastic production, manufacturing and waste; and minimize threats to biodiversity.

9 **Assess plant-based materials with care, factoring in beginning and end-of-life impacts.** Bioplastics and fiber-based alternatives (e.g., paper, bamboo) can reduce dependence on fossil fuels. However, companies should account for potential competition with food production, emissions-intensive fertilizer use and land-use change (e.g., forest clearing) to support agriculture. Further, alternatives must be developed with limited chemical additives. At end-of-life, these substitutes still create ocean and water pollution and must be designed for circular use, alongside waste management, recycling and composting systems.

10 **Pay to clean up pollution but not as an offset against production.** Plastic cleanups and trash collection are critical to reducing harm to communities and marine ecosystems and improving resilience to climate change. Funding plastics removal is a critical aspect of corporate responsibility for legacy plastic pollution. However, cleanups do not offset the pollution or climate risks of continued plastics production, and plastics "neutrality" is not possible. Companies that rely on plastics offsets to mitigate their plastics risk expose themselves to the potential for greenwashing charges.

Addressing plastic pollution and combatting climate change are interconnected goals for protecting our ocean, our coastal communities and our planet. To address the threats of ocean plastic pollution and climate change, the prescription begins with the need to transition away from fossil fuels and must include producing less plastic and building a robust, durable circular economy. Doing so will produce triple benefits—for climate, biodiversity and human health.

Endnotes

[i] IEA, Net Zero by 2050: A Roadmap for the Global Energy Sector (2021), p. 26.

[ii] IEA, The Future of Petrochemicals: Towards a more sustainable chemical industry, p. 11.

[iii] World Economic Forum, The New Plastics Economy: Rethinking the future of plastics (2016), p. 17.

[iv] IEA, World Energy Outlook (2022). p.329.

[v] Zheng, J., Suh, S. Strategies to reduce the global carbon footprint of plastics. *Nat. Clim. Chang.* 9, 374–378 (2019). https://doi.org/10.1038/s41558-019-0459-z. Supplementary Table 10.

[vi] Tetu, S.G., Sarker, I. & Moore, L.R. How will marine plastic pollution affect bacterial primary producers?. *Communications Biology* 3, 55 (2020).

[vii] James N. Hitchcock, Microplastics can alter phytoplankton community composition, Science of The Total Environment, Volume 819, 2022.

[viii] Systemiq, Planet Positive Chemicals: Pathways for the chemical industry to enable a sustainable global economy (2022), p. 23.

[ix] Institutional Investors Group on Climate Change (IIGCC), IIGCC Net Zero Standard for Oil and Gas Companies, p. 16.

[x] Planet Tracker, Plastic Risk: Measuring risk in the plastic sector (2023), p 3.

[xi] Science Based Targets initiative and CDP (October 10, 2020) Guidance on Setting Science-based Targets for Oil, Gas and Integrated Energy Companies, p. 14. Accessed June 27, 2023.

[xii] Institutional Investors Group on Climate Change, Net Zero Standard for the Oil and Gas (2021), p. 16.

[xiii] Science Based Targets initiative and CDP (October 10, 2020) Guidance on Setting Science-based Targets for Oil, Gas and Integrated Energy Companies, p. 14. Accessed June 27, 2023.

[xiv] Sierra Club, Banking on Climate Chaos (2022) p3.

[xv] Minderoo Foundation, Plastic Waste Makers Index 2023 (2023), p. 24.

[xvi] Energy Transitions Commission. Mission Possible: Reaching net-zero carbon emissions from harder-to-abate sectors by mid-century; Sectoral Focus Plastics (2019), p.20.

[xvii] Landrigan PJ et al., The Minderoo-Monaco Commission on Plastics and Human Health (2023), p.95. The $1.5 trillion dollar figure is an aggregate of economic health costs of plastics noted in the journal article.

[xviii] GHG Protocol, FAQ: What are Scope 3 emissions?, p. 1.

[xix] Systemiq, Planet Positive Chemicals (2022), p.59.

[xx] Ramón A. Alvarez et al. 2018. "Assessment of methane emissions from the U.S. oil and gas supply chain." Science 361,186-188. https://www.science.org/doi/10.1126/science.aar7204.

[xxi] Daniel H. Cusworth et al. 2022. "Strong methane point sources contribute a disproportionate fraction of total emissions across multiple basins in the United States." PNAS 119 https://www.pnas.org/doi/10.1073/pnas.2202338119.

[xxii] IEA, The Future of Petrochemicals: Towards a more sustainable chemical industry (2018).

[xxiii] Minderoo Foundation, Plastic WasteMakers Index (2023).

[xxiv] Cabernard, L., Pfister, S., Oberschelp, C. et al. 2022. "Growing environmental footprint of plastics driven by coal combustion." Nat Sustain 5, 139–148. https://doi.org/10.1038/s41893-021-00807-2.

[xxv] Materials Economics, The Circular Economy: A Powerful Force for Climate Mitigation (2018).

[xxvi] Zheng, J., Suh, S. Strategies to reduce the global carbon footprint of plastics. Nat. Clim. Chang. 9, 374–378 (2019). https://doi.org/10.1038/s41558-019-0459-z.

[xxvii] SYSTEMIQ, Planet Positive Chemicals: Pathways for the chemical industry to enable a sustainable global economy (2022).

[xxviii] PEW Charitable Trusts and SYSTEMIQ, Breaking the Plastic Wave: A Comprehensive Assessment of Pathways Towards Stopping Ocean Plastic Pollution (2020).

[xxix] Minderoo Foundation, Plastic Waste Makers Index: Revealing the source of the single-use plastics crisis (2021), p. 14.

[xxx] Planet Tracker, Unwrapping Investor Risk In the Global Plastic Containers and Packaging Sector (2021), p.18.

[xxxi] Break Free From Plastic (2022), Brand Audit Report 2018–2022, Vol. 5, p. 3.

Appendix A: Methods

Defining Gaps in Climate Commitments

Ocean Conservancy worked with Profundo to analyze the climate and sustainability commitments of 28 leading multinational companies: seven polymer producers that have been named as the top producers of single-use plastic waste[xxix]: Dow, ExxonMobil, Indorama Ventures, LyondellBasell, PetroChina, Saudi Aramco, and Sinopec; seven top plastic container and packaging companies[xxx]: Amcor, Aptar, Berry Global, FP Corporation, Huhtamaki, Intertape Polymer, and Sealed Air; seven fast-moving consumer goods companies (FMCGs) that are listed among top 10 polluters in the Break Free From Plastic *2018–2022 Brand Audit Report*.[xxxi] Coca-Cola, Danone, Mondelez, Nestle, PepsiCo, P&G, and Unilever); and seven top retailers that play a major role in the plastics value chain: Amazon, Costco, Kroger, Schwartz Group, Home Depot, Walgreens Boots Alliance, and Walmart. Further, we screened the portfolios of 12 U.S. institutional investors (eight asset managers and four pension funds), which together represent $33.45 trillion in assets under management, to assess their exposure to leading companies producing and using plastics as well as the risks associated with plastics and climate that those investors face. Climate and sustainability commitments were analyzed to determine whether they include 1) Climate commitments/standards or other sustainability commitments regarding plastics, 2) Scope 3 (value chain) emissions disclosures and targets, and 3) sustainability commitments related to plastics that meaningfully reduce climate impacts, e.g., by reducing virgin, fossil fuel-based plastics. This research was prepared by Manon Stravens, Pavel Boev, Jasmine Arnould, Ward Warmerdam and Barbara Kuepper from Profundo. With profound research and advice, Profundo aims to make a practical contribution to a sustainable world and social justice. Quality comes first, aiming at the needs of Profundo's clients. Thematically Profundo focuses on commodity chains, the financial sector and corporate social responsibility. More information on Profundo can be found at www.profundo.nl.

Defining Gaps in Net-Zero Frameworks and Climate Target-Setting Guidance:

In assessing investment community group standards, Ocean Conservancy worked with CEA Consulting to analyze the frameworks of 15 investor-led groups that guide companies to strengthen commitments, measurement, reporting, target setting, and scenario analysis to reduce emissions. In doing so, we studied the following finance sector standards, frameworks, and initiatives: Task Force on Climate-related Financial Disclosures (TCFD), Partnership for Carbon Accounting Financials (PCAF), GHG Protocol: Corporate Value Chain Standard, Paris Agreement Capital Transition Assessment-PACTA (Scenario Analysis), Science Based Targets initiative (SBTi) Net Zero Standard, and Sustainability Accounting Standards Board (SASB). We also evaluated the following group commitments: Institutional Investors Group on Climate Change (IIGCC); Climate Action 100+; and Glasgow Financial Alliance for Net Zero (GFANZ) and its six initiatives: the Net-Zero Banking Alliance, the Net Zero Asset Managers Initiative, the Net-Zero Asset Owner Alliance, the Paris Aligned Investment Initiative, the Net-Zero Insurance Alliance, the Net Zero Financial Service Providers Alliance, and the Net Zero Investment Consultants Initiative. This research was prepared by Sarrynna Sou, Aaron Saliman, and Mark Michelin from CEA Consulting. CEA bolsters its clients' capacity to achieve their missions and maximize their impact. CEA helps its clients better understand complex topics and supports their strategic decision-making through rapid and robust analysis, expert thought partnership, knowledge exchange across diverse stakeholders, and skilled project management. More information on CEA Consulting can be found at www.ceaconsulting.com.

Appendix B: Resources Reviewed for this Report

NET-ZERO FRAMEWORKS AND CLIMATE TARGET-SETTING GUIDANCE	
Name	**Resources reviewed**
Climate Action 100+	■ Climate Action 100+, About, online: https://www.climateaction100.org/about/. ■ Transition Pathway Initiative, Overview, online: https://www.transitionpathwayinitiative.org/overview. ■ Climate Action 100+, Frequently Asked Questions—Net Zero Company Benchmark, online: https://www.climateaction100.org/progress/net-zero-company-benchmark/frequently-asked-questions/. ■ Climate Action 100+, Climate Action 100+ Benchmark Indicators, 2021, online: https://www.climateaction100.org/wp-content/uploads/2021/03/Climate-Action-100-Benchmark-Indicators-FINAL-3.12.pdf. ■ Climate Action 100+, Climate Action 100+ Company Assessments Version 1.9, 2021, online: https://www.climateaction100.org/wp-content/uploads/2021/12/Climate-Action-100-Company-Assessments-Version-1.9.xlsx.
GHG Protocol: Corporate Value Chain Standard	■ Greenhouse Gas Protocol, Frequently Asked Questions, online: https://ghgprotocol.org/sites/default/files/standards_supporting/FAQ.pdf.
Glasgow Financial Alliance for Net Zero (GFANZ)	■ UN Climate Change, New Financial Alliance for Net Zero Emissions Launches, 2021, online: https://unfccc.int/news/new-financial-alliance-for-net-zero-emissions-launches. ■ Oil and Gas Climate Initiative, Homepage, online: https://www.ogci.com/. ■ IPIECA, Homepage, online: https://www.ipieca.org/. ■ GFANZ, Progress Report, 2021, online: https://assets.bbhub.io/company/sites/63/2021/11/GFANZ-Progress-Report.pdf
(GFANZ) Net-Zero Banking Alliance	■ Global Financial Alliance for Net Zero (GFANZ), Net-Zero Banking Alliance, n.d., online: https://7f0f76c0.sibforms.com/serve/MUIEAAZdvrZ_D_V0MF4mWsjly_cLGGi2Mt1m8itEu7CUJQ1fDFCylNHQV8wvJD3xotQCC8JGpK_NlQVNlg16lkroK2YuPry-bz_kfZw6PA-_RrrFiXVSQLLsUYXzzynDf0Rmt0huf69yiWPdy_v7TXdKpRQqJFv_SmDcDO8kFaBFMxFInTJ4MCo06w5ql0zqoX9K6_XXnbxbgmKD.
(GFANZ) Net Zero Asset Managers	■ Global Financial Alliance for Net Zero (GFANZ), Net Zero Asset Managers, 2021, online: https://www.netzeroassetmanagers.org/media/2021/12/NZAM-Commitment.pdf.
(GFANZ) Net-Zero Asset Owner	■ Global Financial Alliance for Net Zero (GFANZ), Net-Zero Asset, 2022, online: https://www.unepfi.org/wordpress/wp-content/uploads/2022/01/NZAOA-Target-Setting-Protocol-Second-Edition.pdf.
(GFANZ) Net-Zero Insurance Alliance	■ Global Financial Alliance for Net Zero (GFANZ), Net-Zero Insurance Alliance, 2021, online: https://www.unepfi.org/psi/wp-content/uploads/2021/07/NZIA-Commitment.pdf.
(GFANZ) Net Zero Financial Service Providers Alliance	■ Global Financial Alliance for Net Zero (GFANZ), Net Zero Financial Service Providers Alliance, n.d., online: https://www.netzeroserviceproviders.com/our-commitment.
(GFANZ) Net Zero Investment Consultants Initiative	■ Global Financial Alliance for Net Zero (GFANZ), Net Zero Investment Consultants Initiative, n.d., online: https://www.unpri.org/download?ac=14611.

Institutional Investors Group on Climate Change (IIGCC)	■ Institutional Investors Group on Climate Change, About Us, online: https://www.iigcc.org/about-us/. ■ Institutional Investors Group on Climate Change, Paris Aligned Investment Initiative, online: https://www.iigcc.org/our-work/paris-aligned-investment-initiative/. ■ Institutional Investors Group on Climate Change, Net Zero Investment Framework Implementation Guide, 2021, online: https://www.iigcc.org/download/net-zero-investment-framework-implementation-guide/?wpdmdl=4425&refresh=622fea39939721647307321. ■ Institutional Investors Group on Climate Change, IIGCC Net Zero Standard for Oil and Gas, 2021, online: https://www.iigcc.org/download/iigcc-net-zero-standard-for-oil-and-gas/?wpdmdl=4866&refresh=622fedcb7e8ec1647308235.
Partnership for Carbon Accounting Financials (PCAF)	■ Partnership for Carbon Accounting Financials, About, online: https://carbonaccountingfinancials.com/about. ■ Partnership for Carbon Accounting Financials, The Global GHG Accounting and Reporting Standard for the Financial Industry, 2022, online: https://carbonaccountingfinancials.com/files/downloads/PCAF-Global-GHG-Standard.pdf.
Paris Agreement Capital Transition Assessment-PACTA (Scenario Analysis)	■ Transition Monitor, PACTA for Banks Methodology Document, 2021, online: https://www.transitionmonitor.com/wp-content/uploads/2021/07/PACTA-for-Banks-Methodology-document-02-07-2021_v1.2.0_v4.pdf.
SASB	■ Sustainability Accounting Standards Board, About, online: https://www.sasb.org/about/. ■ Sustainability Accounting Standards Board, Standards, online: https://www.sasb.org/standards/. ■ Sustainability Accounting Standards Board, Why aren't direct (Scope 1) GHG emissions included in every industry Standard? How do the SASB Standards account for indirect (Scope 2) and (Scope 3) emissions?, 2021, online: https://help.sasb.org/hc/en-us/articles/360060352271-Why-aren-t-direct-Scope-1-GHG-emissions-included-in-every-industry-Standard-How-do-the-SASB-Standards-account-for-indirect-Scope-2-and-Scope-3-emissions-
SBTi Net Zero Standard	■ Science Based Targets, How it works, online: https://sciencebasedtargets.org/how-it-works. ■ Science Based Targets, Science-Based Target Setting Manual, 2023, online: https://sciencebasedtargets.org/resources/files/SBTi-How-To-Guide.pdf. ■ Science Based Targets, Net-Zero Getting Started Guide, 2023, online: https://sciencebasedtargets.org/resources/files/Net-Zero-Getting-Started-Guide.pdf. ■ Science Based Targets, Guidance for Setting Corporate Targets on Operations and Value Chain (Scope 3) Greenhouse Gas Emissions Reduction, 2020, online: https://sciencebasedtargets.org/resources/legacy/2020/08/OG-Guidance.pdf. ■ Science Based Targets, 2020 Progress Report, online: https://sciencebasedtargets.org/resources/files/SBTiProgressReport2020.pdf.
Task Force on Climate-related Financial Disclosures (TCFD)	■ Green Central Banking, G7 nations: mandatory climate-related disclosure, 2021, online: https://greencentralbanking.com/2021/06/08/g7-nations-mandatory-climate-related-disclosure/. ■ Task Force on Climate-related Financial Disclosures, Recommendations of the Task Force on Climate-related Financial Disclosures, 2021, online: https://assets.bbhub.io/company/sites/60/2021/10/FINAL-2017-TCFD-Report.pdf. ■ Task Force on Climate-related Financial Disclosures, Guidance on Implementing the Recommendations of the TCFD, 2021, online: https://assets.bbhub.io/company/sites/60/2021/07/2021-TCFD-Implementing_Guidance.pdf ■ Financial Stability Board, Financial Stability Implications from FinTech, 2021, online: https://www.fsb.org/wp-content/uploads/P141021-1.pdf. ■ BlackRock, Larry Fink's 2021 Letter to CEOs, online: https://www.blackrock.com/us/individual/2021-larry-fink-ceo-letter.

INVESTORS	
Name	**Resources reviewed**
Asset Managers	
BlackRock	■ BlackRock (n.d.), About us, online: https://www.blackrock.com/us/individual/about-us/about-blackrock. ■ BlackRock (n.d.), From ambition to action—the path to net zero, online: https://www.blackrock.com/us/individual/about-us/road-to-net zero. ■ BlackRock, BlackRock's 2030 net zero statement, online: https://www.blackrock.com/corporate/about-us/our-2021-sustainability-update/2030-net zero-statement. ■ S&P Global (n.d.), BlackRock heading to net zero but holds large fossil fuel investments for now, online: https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/blackrock-heading-to-netzero-but-holds-large-fossil-fuel-investments-for-now-62628334. ■ BlackRock (n.d.), Climate risk and the global energy transition, online: https://www.blackrock.com/corporate/literature/publication/blk-commentary-climate-risk-and-energy-transition.pdf. ■ CBS News (2022, February 18), BlackRock touts investment in fossil fuels after threat from Texas official, online: https://www.cbsnews.com/news/blackrock-texas-fossil-fuels-boycott/. ■ Pensions and Investment (n.d.), BlackRock stresses commitment to fossil fuel investments, online: https://www.pionline.com/esg/blackrock-stresses-commitment-fossil-fuel-investments. ■ BlackRock (n.d.), BlackRock Circular Economy Fund, online: https://www.blackrock.com/hk/en/products/310165/blackrock-circular-economy-fund. ■ BlackRock (n.d.), Global Funds Prospectus, p.37. ■ BlackRock Investment Stewardship, 2022 climate-related shareholder proposals more prescriptive than 2021. ■ Minderoo (n.d.), Plastic waste maker index—Top 100 polymer producers, online: https://www.minderoo.org/plastic-waste-makers-index/data/indices/producers/. ■ Crow Polymer Database (n.d.), Crow's top 10 plastic packaging companies, online: https://polymerdatabase.com/Polymer%20Brands/Top%2010%20Packaging%20Companies.htm. ■ Break Free From Plastic (2022), Brand Audit Report 2018–2022, Vol. 5, p. 3.
Bank of New York Mellon (Bank of NYM)	■ BNY Mellon (n.d.), About us, online: https://www.bnymellon.com/us/en/about-us/about-bny-mellon.html. ■ BNY Mellon (2021), 2020 Enterprise ESG Report: Putting the Future First, p. 58, online: https://www.bnymellon.com/content/dam/bnymellon/documents/pdf/2020-enterprise-esg-report.pdf. ■ MNY Mellon (n.d.), Newton Investment Management, Newton net zero pledge, online: https://www.bnymellonim.com/nl/en/intermediary/product-franchise-sustainable-investing-newton/#why-newton-investment-management. ■ BNY Mellon (2021) 2020, Enterprise ESG Report, Putting the Future First. ■ BNY Mellon (2021), Enterprise ESG Report. ■ CDP (n.d.), Mellon, online: https://www.cdp.net/en/responses/1464/BNY-Mellon. ■ BNY Mellon (n.d.), How Issuers and Investors Can Find Common Ground on ESG , online: https://www.bnymellon.com/us/en/insights/all-insights/how-issuers-and-investors-can-find-common-ground-on-esg.html. ■ BNY Mellon (n.d.), Considering Climate at BNY Mellon. ■ MNY Mellon (n.d.), Newton Investment Management, Avoiding Divestment, online: https://www.bnymellonim.com/nl/en/intermediary/responsible-investment-landing/responsible-investment-topical/finding-net zero/. ■ MNY Mellon (n.d.), Newton Investment Management, What does Sustainable investing mean for Newton Investment Management, online: https://www.bnymellonim.com/nl/en/intermediary/product-franchise-sustainable-investing-newton/#why-newton-investment-management. ■ ESG Clarity (n.d.), Newton's Parry: Circularity is an opportunity open to all, online: https://esgclarity.com/newtons-parry-circularity-is-an-opportunity-open-to-all/. ■ MNY Mellon (n.d.), Proxy Guidelines Summary (May 2022), online: https://www.mellon.com/content/dam/mellondotcom/pdf/disclosures/proxy-voting-guidelines-mellon.pdf.

Capital Group	■ Capital Group (n.d.), Net zero: Our role as the world seeks to decarbonise, online: https://www.capitalgroup.com/individual-investors/gb/en/about-us/esg/net zero-energy-transition.html. ■ Capital Group (2021), Task Force on Climate-related Financial Disclosures (TCFD) report. ■ Capital Group (n.d.), Our ESG approach, online: https://www.capitalgroup.com/intermediaries/es/en/about/esg/esg-approach.html, online. ■ Capital Group (n.d.), About Us, Our History, online: https://www.capitalgroup.com/intermediaries/lu/en/about/history.html. ■ Capital Group (2022), Proxy Voting Procedures and Principles.
Fidelity Investments	■ Fidelity Investments (n.d.), Our company, online: https://www.fidelity.com/about-fidelity/our-company. ■ Fidelity Investments (2022), Report on Investment Sustainability and Impact. ■ Fidelity Investments (2020), Environmental, Social, and Governance Statement of Policy. ■ Bloomberg (2021, December 14), Pimco, Fidelity Shun Net zero Alliance Embraced by BlackRock, online: https://www.bloomberg.com/news/articles/2021-12-14/pimco-fidelity-shun-net zero-alliance-embraced-by-blackrock?leadSource=uverify%20wall. ■ Public Accountability dot org (2022), Fidelity's Fossil Fuel Problem. ■ Fidelity Investments (n.d.), Fidelity's Sustainable Investing Offering. ■ Fidelity International (n.d.), Big brands need to clean up on plastics, online: https://www.fidelity.nl/artikels/deskundige-adviezen/big-brands-need-to-clean-up-on-plastics-ff1125-m. ■ Fidelity Investments (2019), Stewardship Principles and Proxy Voting.
Goldman Sachs	■ Goldmans Sachs (n.d.), About us, online: https://www.goldmansachs.com/about-us/index.html. ■ Goldmans Sachs (n.d.), Accelerating Transition, online: https://www.goldmansachs.com/accelerating-transition/index.html. ■ Goldman Sachs (2022), Accelerating Transition: Task Force on Climate-Related Financial Disclosures Report 2021 2019 Baseline And 2030 Targets for Our Priority Sectors. ■ Portfolio Earth (2021), Bankrolling Plastics, The Banks That Fund Plastic Packaging Pollution. ■ Financial Times (2022, August 7), US banks tout fossil fuel credentials after Republican ESG backlash, online: https://www.ft.com/content/a35dc7ce-defb-4181-b528-c0b1e34e1d07. ■ Goldman Sachs (2022), Sustainability Report. ■ Bloomberg Europe (2021, October 19), Goldman Sachs Won't Stop Financing Fossil Fuel Firms, Solomon Says, online: https://www.bloomberg.com/news/articles/2021-10-19/goldman-sachs-won-t-stop-financing-fossil-fuel-firms-ceo-says#xj4y7vzkg. ■ Goldman Sachs (2022), Goldman Sachs Asset Management's Statement on ESG & Impact Investing. ■ Goldman Sachs (2020), Environmental Policy Framework, pp. 10–13.

JPMorgan Chase	■ JPMorgan Chase (n.d.), About our business, online: https://www.jpmorganchase.com/about/our-business. ■ JPMorgan Chase (n.d.), JPMorgan Chase Releases Carbon Reduction Targets for Paris-Aligned Financing Commitment, online: https://www.jpmorganchase.com/news-stories/jpmorgan-chase-releases-carbon-reduction-targets-for-paris-aligned-financing-commitment. ■ JPMorgan Chase (n.d.), Sustainability, Our Commitments, online: https://www.jpmorganchase.com/impact/sustainability/es-commitments. ■ Financial Times (2022, March 29), Global banks keep up pace with USD742bn in fossil fuel finance despite climate pledges, online: https://www.ft.com/content/3eeee0f7-bb02-4950-a6d6-49da39c3cc41. ■ JPMorgan Chase (2021), Environmental, Social & Governance Report, 2020. ■ UNPRI (n.d.), JPMorgan Chase & Co. | Adopt policy financing no new fossil fuels at JP Morgan, online: https://collaborate.unpri.org/group/9311/stream?destination=/shareholder-resolution. ■ Banking on Climate Chaos (2022), Fossil Fuels Financing Report 2022. ■ JPMorgan Chase (2021), JPMorgan Chase Targets More Than USD2.5 Trillion over 10 Years to Advance Climate Action and Sustainable Development, online: https://www.jpmorganchase.com/news-stories/jpmc-to-advance-climate-action-and-sustainable-dev-goals. ■ JPMorgan Chase (2021), Environmental and Social Policy Framework. ■ JPMorgan Chase (n.d.), Sustainable investing funds, online: https://am.jpmorgan.com/nl/en/asset-management/adv/investment-themes/sustainable-investing/capabilities/. ■ JPMorgan Chase (n.d.), JPMorgan Climate Change Solutions Fund, online: https://am.jpmorgan.com/nl/en/asset-management/adv/investment-themes/sustainable-investing/capabilities/climate-change-solutions-fund/. ■ JPMorgan Chase (2022, May), Climate change voting—Our approach, J.P. Morgan Asset Management Global Investment Stewardship Team.
State Street	■ State Street (2022), Accelerating Growth, 2021 Annual Report. ■ State Street Global Advisors (n.d.), Ex Fossil Fuel Equity Suite, online: https://www.ssga.com/international/en/institutional/ic/insights/ex-fossil-fuel-equity-suite. ■ State Street (2022), 2021 ESG Report. ■ State Street Global Advisors (2022), TCFD Report Q2 2022. ■ State Street Global Advisors (n.d.), Fossil Fuels: An ESG Screening Approach, online: https://www.ssga.com/international/en/institutional/ic/insights/fossil-fuels-an-esg-screening-approach. ■ State Street Global Advisors (2021), 2020 Asset Stewardship Approach. ■ State Street Global Advisors (2022), Framework for Voting Environmental and Social Shareholder Proposals. ■ State Street Global Advisors (n.d.), Climate Stewardship, online: https://www.ssga.com/international/en/institutional/ic/insights/climate-stewardship. ■ Minderoo (n.d.), Plastic waste maker index—Top 100 polymer producers, online: https://www.minderoo.org/plastic-waste-makers-index/data/indices/producers/.
Vanguard	■ Bloomberg (n.d.), Vanguard Group Inc, online: https://www.bloomberg.com/profile/company/5125Z:US#xj4y7vzkg. ■ Vanguard (n.d.), Vanguard's initial commitment under the Net Zero Asset Managers initiative, online: https://corporate.vanguard.com/content/corporatesite/us/en/corp/articles/vanguards-approach-to-net zero-goals.html. ■ Financial Times (2022, May 25), Vanguard refuses to end new fossil fuel investments, online: https://www.ft.com/content/435a9384-8711-4b99-95a8-d55e962343c6. ■ Fossil Free Funds (n.d.), Vanguard, online: https://fossilfreefunds.org/families?q=Vanguard. ■ Financial Times (2022, May 25), Vanguard refuses to end new fossil fuel investments, online: https://www.ft.com/content/435a9384-8711-4b99-95a8-d55e962343c6. ■ Vanguards (2021, November), Vanguard's approach to ESG. ■ Vanguard (n.d.), Our approach to climate risk, online: https://institutional.vanguard.com/insights-and-research/perspective/our-approach-to-climate-risk.html. ■ Vanguard (2022, May), Vanguard Investment Stewardship Policy Insights. ■ Minderoo (n.d.), Plastic waste maker index—Top 100 polymer producers, online: https://www.minderoo.org/plastic-waste-makers-index/data/indices/producers/.

Pension Funds	
California Public Employees' Retirement System (CalPERS)	■ CalPERS (n.d.), CalPERS United Nations Net Zero Asset Owner Alliance Partnership, online: https://www.calpers.ca.gov/page/investments/sustainable-investments-program/climate-change/united-nations-net zero-asset-owner-alliance-partnership. ■ CalPERS (n.d.), CalPERS' Investment Strategy on Climate Change, First Report in Response to the Taskforce on Climate-Related Financial, Disclosure, online: https://www.calpers.ca.gov/docs/board-agendas/202006/invest/item08c-01_a.pdf. ■ CalPERS (n.d.), The Importance of Corporate Engagement on Climate Change. ■ CalPERS, CalPERS and Divestment. ■ CalPERS (n.d.), Environmental, Social & Governance Integration, online: https://www.calpers.ca.gov/page/investments/sustainable-investments-program/esg-integration. ■ CalPERS (2022), 2022 Proxy Season, online: https://news.calpers.ca.gov/2022-proxy-season/. ■ CalPERS (2022), CalPERS Proxy Voting Guidelines May 2022. ■ AI-CIO (2022, September 12), World's Largest Pension Funds' Assets Rise to Record $23.6 Trillion, online: https://www.ai-cio.com/news/worlds-300-largest-pension-funds-assets-rise-to-record-23-6-trillion/. ■ Minderoo (n.d.), Plastic waste maker index—Top 100 polymer producers, online: https://www.minderoo.org/plastic-waste-makers-index/data/indices/producers/.
California State Teachers' Retirement System (CalSTRS)	CalSTRS (n.d.), About CalSTRS, online: https://www.calstrs.com/about-calstrs. CalSTRS (n.d.), CalSTRS Board commits to net zero investment portfolio, online: https://www.calstrs.com/calstrs-board-commits-to-net zero-investment-portfolio. CalSTRS (n.d.), CalSTRS' Board sets science-based emissions goal for 2030 and commits to additional net zero actions, online: https://www.calstrs.com/calstrs-board-sets-science-based-emissions-goal-for-2030-and-commits-to-additional-net zero-actions. Bloomberg (2021, December 8), California's Public Pensions Are Major Fossil Fuel Investors, online: https://www.bloomberg.com/news/articles/2021-12-08/green-california-s-public-pensions-are-top-fossil-fuel-investors. CalSTRS (n.d.), CalSTRS perspective on fossil fuel divestment, online: https://www.calstrs.com/calstrs-perspective-on-fossil-fuel-divestment. CalSTRS (n.d.), 2021 Green Initiative Task Force Update Report, online: https://www.calstrs.com/green-initiative-task-force. CalSTRS (n.d.), ESG investment policy, online: https://www.calstrs.com/esg-investment-policy. CalSTRS (n.d.), CalSTRS advances net zero progress, climate change action and human capital management during proxy season, online: https://www.calstrs.com/calstrs-advances-net zero-progress-climate-change-action-and-human-capital-management-during-proxy-season.
New York State Common Retirement Fund (NYS CRF)	New York State Common Retirement Fund (2022), Proxy Voting Guidelines. Office of the New York State Comptroller (n.d.), Leading the Way on Climate Investment, online: https://www.osc.state.ny.us/common-retirement-fund/leading-way-climate-investment. New York State Common Retirement Fund (2022), Progress Report on the New York State Common Retirement Fund's Climate Action Plan. Fintel (n.d.), Berry Institutional Ownership and Shareholders, online: https://fintel.io/so/us/bery. New York State Common Retirement Fund (2019), Climate Action Plan 2019. New York State Common Retirement Fund (2022), General Investment Policies. AI-CIO (2022, September 12), World's Largest Pension Funds' Assets Rise to Record $23.6 Trillion, online: https://www.ai-cio.com/news/worlds-300-largest-pension-funds-assets-rise-to-record-23-6-trillion/.
Florida State Board of Administration (FSBA)	■ Florida State Board of Administration (n.d.), About us, online: https://www.sbafla.com/fsb/Home.aspx,. ■ The State Board of Administration of Florida (2022), A resolution directing an update to the Investment policy statement and Proxy voting policies for the Florida retirement system defined benefit pension plan, and directing the organisation and execution of an internal review. ■ Florida Government (2022, August 23), Governor Ron DeSantis Eliminates ESG Considerations from State Pension Investments, online: https://www.flgov.com/2022/08/23/governor-ron-desantis-eliminates-esg-considerations-from-state-pension-investments/. ■ FSBA (n.d.), Annual Investment Reports, online: https://www.sbafla.com/fsb/PerformanceReports/AnnualInvestmentReports.aspx. ■ Florida State Board of Administration (FSBA) (2022), 2022 Corporate Governance Summary Report.

COMPANIES	
Name	**Resources reviewed**
Polymer Producers	
Dow	■ Dow (n.d.), ESG 2021 Report. ■ Dow (n.d.), Accelerating our sustainability commitments, online: https://corporate.dow.com/en-us/science-and-sustainability/commits-to-reduce-emissions-and-waste.html.
ExxonMobil	■ Minderoo Foundation (2021), The Plastic Waste Makers Index, Revealing the source of the single-use plastics crisis. ■ ExxonMobil (2021, January), Sustainability Report Highlights. ■ ExxonMobil (2021, Jan 5), Plastic Waste Management, online: https://corporate.exxonmobil.com/Sustainability/Sustainability-Report/Environment/Plastic-waste-management#Minimizingplasticpelletlossfromouroperations. ■ ExxonMobil (2022, July), Advancing Climate Solutions, 2022 Progress Report, July 2022 Update.
Indorama Ventures	■ Indorama Ventures (n.d.), Welcome to Indorama Ventures ESG Profile, online: https://sustainability.indoramaventures.com/en/esg-profile. ■ Indorama Ventures (2022, June), IVL Sustainability-Linked Finance Framework. ■ Indorama Ventures (n.d.), Sustainability Strategy, online: https://sustainability.indoramaventures.com/en/our-sustainability/sustainability-strategy. ■ Indorama Ventures (n.d.), Climate Change Strategy, online: https://sustainability.indoramaventures.com/en/environmental/climate-change-strategy. ■ Indorama Ventures (n.d.), GHG Management, online: https://sustainability.indoramaventures.com/en/environmental/ghg-management. ■ Indorama Ventures (n.d.), Recycling, online: https://sustainability.indoramaventures.com/en/environmental/recycling/at-a-glance. ■ Indorama Ventures (n.d.), Waste management, online: https://sustainability.indoramaventures.com/en/environmental/waste-management.
LyondellBasell	■ LyondellBasell (n.d.), 2021 Annual Report. ■ LyondellBasell (n.d.), Sustainability Report 2021. ■ LyondellBasell (n.d.), 2021 Semi-Annual U.S. Political Activity Report.
PetroChina	■ PetroChina (n.d.), Annual Report 2021. ■ PetroChina (n.d.), Health, Safety, and Environment, online: http://www.petrochina.com.cn/ptr/jkaqhj/jkaqhj.shtml. ■ PetroChina (n.d.), PetroChina ESG Report 2021.
Saudi Aramco	■ Saudi Aramco (n.d.), Annual Report 2021. ■ Saudi Aramco (n.d.), Supporting the energy transition. Non-metallic solutions, online: https://www.aramco.com/en/sustainability/climate-change/supporting-the-energy-transition/non-metallics. ■ Saudi Aramco (n.d.), Climate Change. Technology, online: https://www.aramco.com/en/sustainability/climate-change/technology. ■ Saudi Aramco (n.d.), Sustainability. Climate Change. Reducing emissions to address climate change, online: https://www.aramco.com/en/sustainability/climate-change. ■ Saudi Aramco (n.d.), Sustainability Report 2021. ■ Saudi Aramco (n.d.), Our sustainability data, online: https://www.aramco.com/en/sustainability/our-sustainability-data. ■ Saudi Aramco (n.d.), Managing our footprint. Circular carbon economy, online: https://www.aramco.com/en/sustainability/climate-change/managing-our-footprint/circular-carbon-economy. ■ Saudi Aramco (n.d.), Natural Resources Protection. Waste management, online: https://www.aramco.com/en/sustainability/minimizing-environmental-impact/protecting-natural-resources/waste-management. ■ Bofiliou T, Wiilis J, Guessous N. (2022, August), Alliance to End Plastic Waste: Barely Credible, Planet Tracker, p. 2.
Sinopec	■ Sinopec (n.d.), Annual Report 2021. ■ Sinopec (n.d), Addressing climate change, online: http://www.sinopec.com/listco/en/csr/kcx/qhxd.shtml. ■ Sinopec, Sinopec Oilfield Service Corporation (n.d.), 2020 Environmental, Social, and Governance (ESG) Report. ■ Sinopec (n.d.), Reduce greenhouse gas emission, online: http://www.sinopec.com/listco/en/csr/kcx/jswsqt.shtml.

Plastic Container and Packaging Companies	
Amcor	■ Amcor (n.d.), Sustainability Report 2021.
Aptar	■ Aptar (n.d.), Sustainability Report 2021. ■ Aptar (n.d.), Annual Report 2021. ■ Aptar (n.d.), Sustainability Report 2020. ■ Aptar (n.d.), ESG Approach. Goals and Targets, online: https://www.aptar.com/esg/approach/.
Berry Global	■ Berry (n.d.), Annual Report 2021. ■ Berry (n.d.), Sustainability in Action. Impact 2021, Environmental, Social and Governance Report.
FP Corporation	■ FC Corporation, Annual Report 2021. ■ FP Corporation (n.d.), Environmental Policy, online: fpco.jp/en/en_esg/en_environmenteffort.html. ■ FP Corporation (n.d.), ESG Data, online: https://www.fpco.jp/en/en_esg/en_esg_data/en_environment_data.html. ■ FP Corporation (n.d.), Climate Change, online: https://www.fpco.jp/en/en_esg/en_environmenteffort/en_climate_change.html.
Huhtamaki	■ Huhtamaki (n.d.), Embedding sustainability in everything we do, online: https://www.huhtamaki.com/en/sustainability/. ■ Huhtamaki (2022, May), Design Principles for Circularity in Our Products. ■ Huhtamaki (n.d.), Annual Report 2021.
Intertape Polymer	■ Intertape Polymer Group (n.d.), 2021 Annual Report. ■ Intertape Polymer Group (n.d.), Our Products, online: https://sustain.itape.com/our-products/index.html. ■ Intertape Polymer Group (n.d.), Sustainability documents, online: https://www.itape.com/SustainabilityDocuments. ■ Intertape Polymer Group (n.d.), Energy & Climate, online: https://sustain.itape.com/our-planet/index.html. ■ Intertape Polymer Group (n.d.), Sustainability Report 2021. ■ Intertape Polymer Group (n.d.), Our Products, online: https://sustain.itape.com/our-products/index.html. ■ Intertape Polymer Group (2022, April 7), Sustainable Product Design and Development Vision.
Sealed Air	■ Sealed Air (n.d.), Corporate profile, online: https://ir.sealedair.com/. ■ Sealed Air (n.d.), 2020 Global Impact Report. ■ Sealed Air (n.d.), Priorities and Commitments, online: https://www.sealedair.com/company/sustainability. ■ Sealed Air (2020), SEE Annual Global Impact Report 2020. ■ Sealed Air (n.d.), Priorities and Commitments, online: https://www.sealedair.com/company/sustainability. ■ Sealed Air (2020), Annual Report 2020.
Fast-Moving Consumer Goods Companies	
Coca Cola	■ Break Free From Plastic (2021), Brand audit report 2021, Volume IV, p. 21. ■ Coca-Cola (n.d.), Net Zero by 2040, online: https://www.coca-colahellenic.com/en/a-more-sustainable-future/netzeroby40. ■ Coca-Cola (n.d.), Emissions Reduction, online: https://www.coca-colahellenic.com/en/a-more-sustainable-future/mission-2025/emissions-reduction. ■ Coca-Cola (2022) Making Our Packaging More Sustainable, online: https://www.coca-colahellenic.com/content/dam/cch/us/documents/a-more-sustainable-future/world-without-waste-/Packaging%20Fact%20Sheet%202022.pdf.downloadasset.pdf. ■ Coca-Cola (n.d.), World Without Waste, online: https://www.coca-colahellenic.com/en/a-more-sustainable-future/mission-2025/world-without-waste. ■ Coca-Cola (2021) Integrated Annual Report 2021.
Danone	■ Danone (2016) Climate Policy. ■ Danone (2018, October) Danone Packaging Policy. ■ Danone (n.d.), Circular economy of packaging, online: https://www.danone.com/impact/planet/packaging-positive-circular-economy.html. ■ Danone (2016) Climate Policy. ■ Danone (n.d.), Towards Carbon Neutrality, online: https://www.danone.com/impact/planet/towards-carbon-neutrality.html.

Mondelez	■ Mondelez (n.d.), Climate Action, online: https://www.mondelezinternational.com/Snacking-Made-Right/Climate-Action. ■ Mondelez (n.d.) Packaging & Plastics, online: https://www.mondelezinternational.com/Snacking-Made-Right/Packaging-Innovation. ■ Mondelez (n.d.) Goals and Progress, online: https://www.mondelezinternational.com/Snacking-Made-Right/Reporting-and-Disclosure/Goals-and-Progress.
Nestlé	■ Nestlé (2021, November) The Rules of Sustainable Packaging, online: https://www.Nestlé.com/sites/default/files/2020-06/rules-of-sustainable-packaging.pdf. ■ Nestlé (2021, February) Nestlé's Net Zero Roadmap, online: https://www.Nestlé.com/sites/default/files/2020-12/Nestlé-net zero-roadmap-en.pdf. ■ Nestlé (n.d.), Our road to net zero, online: https://www.Nestlé.com/sustainability/climate-change/zero-environmental-impact. ■ Nestlé (2021) Creating Shared Value and Sustainability Report 2021, online: https://www.Nestlé.com/sites/default/files/2022-03/creating-shared-value-sustainability-report-2021-en.pdf. ■ Nestlé (2021, February) Nestlé's Net Zero Roadmap, online: https://www.Nestlé.com/sites/default/files/2020-12/Nestlé-net zero-roadmap-en.pdf.
PepsiCo	■ PepsiCo (n.d.), Climate Change, online: https://www.pepsico.com/our-impact/esg-topics-a-z/climate-change. ■ PepsiCo (n.d.), PepsiCo's Climate Action Strategy. ■ PepsiCo (n.d.), Goals and progress, online: https://www.pepsico.com/our-impact/sustainability/2021-esg-summary/goals-progress. ■ PepsiCo (n.d.), Packaging, online: https://www.pepsico.com/our-impact/sustainability/focus-area/packaging.
Procter & Gamble	■ Procter & Gamble (2021, September) Climate Transition Action Plan. ■ Procter & Gamble (2021, December) Ambition 2030. ■ Procter & Gamble (2021, September 15), P&G Accelerates Action on Climate Change Toward Net Zero GHG Emissions by 2040. ■ Procter & Gamble (n.d.) Plastic Packaging, online: https://www.pginvestor.com/esg/environmental/plastic-packaging/default.aspx. ■ Procter & Gamble (2020) Circular Solutions: Keeping Plastic Waste out of Nature. ■ Procter & Gamble (n.d.) Our Political Involvement, online: https://us.pg.com/structure-and-governance/our-political-involvement/.
Unilever	■ Unilever (2021, March 22) Climate Transition Action Plan. ■ Unilever (n.d.) Rethinking plastic packaging, online: https://www.unilever.com/planet-and-society/waste-free-world/rethinking-plastic-packaging/.
Retailers	
Amazon.com	■ Amazon (n.d.), Annual Report 2021. ■ Amazon (2021), Reaching Net zero Carbon by 2040. ■ Amazon (2021), Decarbonizing and Neutralizing the Use Phase of Connected Devices. ■ Amazon (n.d.), Renewable Energy Methodology. ■ Amazon (n.d.), The Climate Pledge, online: https://www.aboutamazon.com/planet/climate-pledge. ■ Amazon (n.d.), Goals and Progress, online: https://sustainability.aboutamazon.com/our-approach/goals-and-progress. ■ Amazon (n.d.), Sustainability Report 2021. ■ Amazon (n.d.), Explore our work around the globe, online: https://sustainability.aboutamazon.com/around-the-globe?energyType=true&workerCount=true&engagementProgram=true&productCategory=true. ■ Amazon (2021), Carbon Neutralization & Nature-Based Solutions.

Costco	■ Costco, Company Information, online: https://www.costco.com/company-information.html. ■ Statista, Leading retailers worldwide in 2020, by retail revenue, online: https://www.statista.com/statistics/266595/leading-retailers-worldwide-based-on-revenue/. ■ Costco, Climate Action Plan, online: https://www.costco.com/sustainability-climate-action-plan.html. ■ The Wall Street Journal, Costco Shareholder Vote Signals Focus on Supply-Chain Emissions, online: https://www.wsj.com/articles/costco-shareholder-vote-signals-focus-on-supply-chain-emissions-11643194803#:~:text=Costco%20Wholesale%20Corp.,warming%20to%201.5%20degrees%20Celsius. ■ Costco, Packaging Sustainability, online: https://www.costco.com/sustainability-packaging.html. ■ Costco, Waste Minimisation, online: https://www.costco.com/sustainability-waste-minimization.html. ■ Costco, Packaging, Importance of Compostability, online: https://www.costco.com/sustainability-packaging.html. ■ Costco, Sustainability Commitment, SDGs, online: https://www.costco.com/sustainability-introduction.html#sustainability-progress. https://mobilecontent.costco.com/live/resource/img/static-us-landing-pages/FAQ_Packaging_Costco.pdf. ■ Costco, 2018 Sustainability Commitment, online: https://mobilecontent.costco.com/live/resource/img/sustainability-archive/2018-sustainability-archive.pdf#page=40&zoom=100,0,0. ■ Ceres, Practicing Responsible Policy Engagement: How large U.S. companies lobby on climate change, online: https://ceres.org/practicingRPE/costco-wholesale. ■ Costco, Sustainability report update compares goals with progress, online: https://mobilecontent.costco.com/live/resource/img/static-us-connection-april-22/Connection_US_April_2022.pdf.
Kroger	■ Kroger (n.d.), ESG Report. ■ Kroger (2020, June), Sustainable Packaging Goals, updated June 2020.
Schwarz Group	■ Schwarz Group (n.d.), We Take Action for People, online: https://gruppe.schwarz/en. ■ Schwarz Group (2021), Progress Report 2020 ■ Schwarz Group (n.d.), Single-Use-Plastic, online: https://reset-plastic.com/en/plastic-strategy/reduce/single-use-plastic. ■ Schwarz Group (2022, August 4), Great progress toward achieving our REset Plastic targets; Schwarz Group (n.d.), Redesign, online: https://reset-plastic.com/en/plastic-strategy/redesign. ■ Schwarz Group (2022, August 4), Great Progress Toward Achieving our Reset Plastic Targets. ■ Schwarz Group (n.d.), Recycle, online: https://reset-plastic.com/en/plastic-strategy/recycle.
The Home Deport	■ The Home Depot (2021), Annual report. ■ The Home Depot (n.d.), 2021 ESG report. ■ The Home Depot (n.d.), 2022 ESG report. ■ The Home Depot (2022), Chemical Strategy. ■ The Home Depot (n.d.), The Home Depot and the Environment.
Walgreens Boots Alliance	■ Walgreens Boots Alliance (n.d.), Annual Report 2021. ■ Walgreens Boots Alliance (n.d.), About us, online: https://www.walgreensbootsalliance.com/about-us. ■ Walgreens Boots Alliance (n.d.), 2020 Corporate Responsibility Report. ■ Walgreens Boots Alliance (n.d.), ESG Report 2021. ■ Walgreens Boots Alliance (2020), Statement of Greenhouse Gas (GHG) Emissions. For fiscal year 2020, the 12 months ended Aug. 31, 2020.
Walmart	■ Walmart (n.d.), About, online: https://corporate.walmart.com/about. ■ Walmart (n.d.), Climate Change, online: https://corporate.walmart.com/esgreport/environmental/climate-change. ■ Walmart (n.d.), Climate Change, Mitigation, online: https://corporate.walmart.com/esgreport/environmental/climate-change#approach. ■ Walmart (n.d.), Waste: Circular Economy, online: https://corporate.walmart.com/esgreport/environmental/waste-circular-economy. ■ Walmart (n.d.), What is Walmart doing to minimize packaging waste, online: https://corporate.walmart.com/askwalmart/what-is-walmart-doing-to-minimize-packaging-waste. ■ Walmart (n.d.), Engagement in Public Policy, online: https://corporate.walmart.com/esgreport/esg-issues/engagement-in-public-policy. ■ Ellen MacArthur Foundation (n.d.), Global Commitment 2021 Signatory Report, Walmart, Inc., online: https://ellenmacarthurfoundation.org/global-commitment/signatory-reports/ppu/walmart-inc.

Ocean Conservancy®

TO LEARN MORE, CONTACT:
Aarthi Ananthanarayanan
Director, Climate and Plastics Initiative
+1 203 376 4546
aarthi@oceanconservancy.org