Planet Tracker

Shareholder Engagement Guide

Petrochemical Companies and Plastic Pollution

Credit: *Giant Plastic Tap* by Benjamin von Wong

Shareholder Engagement Guide: Petrochemical Companies and Plastic Pollution

This document supports investors wishing to engage with petrochemical companies on the role these companies play in addressing plastic pollution. It provides a guide to advance the five asks investors outlined in the petrochemical investor statement.

Signatories have asked petrochemical companies to:

1. Transparently disclose, define strategies and set clear targets to transition to production of safe, environmentally sound and sustainable plastic
2. Address polymers and chemicals of concern in their products
3. Build suitable infrastructure for production of sustainable materials
4. Establish dedicated governance
5. Publicly support an ambitious international legally binding instrument for ending plastic pollution

The document will lay out the reasons why investors should engage with petrochemical companies and provide a suggested set of questions as well as further readings on each of the five asks.

Planet Tracker is happy to help on any further questions or support on engagement. Please contact Nicole Kozlowski (nicole@planet-tracker.org) for assistance.

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Background - Petrochemicals and Plastics

Plastic pollution is a significant threat to the environment and human health.

Petrochemicals and plastics associated GHG emissions are expected to grow under a business-as-usual (BAU) scenario, such that by 2060, lifecycle greenhouse gas (GHG) emissions from plastics, will more than double versus today, growing to 4.5% of global emissions (link).

A number of the additives used in plastic manufacture are toxic when released into the environment as products break down. For example, bisphenol A (BPA) can disrupt human endocrine function (the hormones which control many body processes) and has been shown to lower fertility (link).

As plastics breakdown in the environment, they can form microscopic particles which can enter the food chain or be consumed in drinking water. Many of the longer-term potential impacts of such microplastic exposure remain to be determined.

Scientists are increasingly tracking and studying the impact of microplastics in the human body (link). Microplastics have been found to induce an inflammatory response in lung tissue (link). Long-term exposure has been suggested to potentially cause asthma (link). Microplastics have been found in placental tissue (link).

It is reported that microplastics smaller than 20 micrometers can cross cell membranes and accumulate in tissues with the potential to cause inflammation, cytotoxicity and disruption of normal cellular processes. Although not yet proven in humans, animal testing has shown potentially significant negative impacts from such processes (link).

The role of Petrochemical Companies

Petrochemical companies are a major contributor to the crisis of plastic pollution. They are the tap pumping out the raw material of plastics. They take the fossil fuel feedstocks and turn them into the polymers which are then melted, extruded and formed into the plastics other corporates use. Despite this, plastic producers would like to promote the message that plastic is, or can be circular and thus deflect attention away from their own role in plastic pollution and instead put the focus on recycling and waste management. However, today we remain a long way away from a sustainable circular plastics industry.

In 2019, 91% of plastic was not recycled. 19% was incinerated and almost 50% went to sanitary landfill.[i] The remaining 22% was released into the environment in an uncontrolled way (e.g. unregulated dumpsite or leaked into the environment). This mismanaged waste presents a much higher risk of entering waterways or being burnt which then releases unintentional persistent organic pollutions (UPOPs) and therefore contributes to climate change - see Figure 1. UNEP calculated that of the seven billion tonnes of plastic waste generated globally so far, less than 10 per cent has been recycled.[ii]

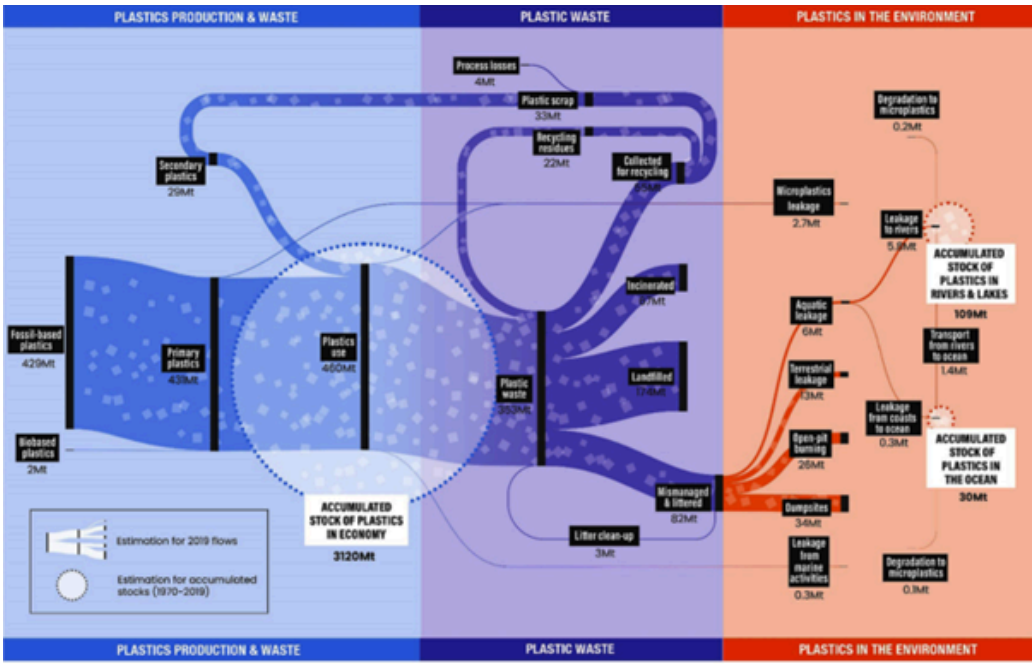


Figure 1: Only 33 million tonnes (Mt), or 9% of the 353 Mt of plastic waste, was recycled in 2019 / Source: OECD (2022), Global Plastics Outlook: Economic Drivers, Environmental Impacts and Policy Options.

Keeping the spotlight away from the growing rate of plastic production as the driver of plastic pollution has allowed the industry to maintain its expansion plans.

Figure 2 shows both the history and projected trend of global plastic production.[iii] The dotted line indicates actual production data while the dashed one indicates the second-order polynomial trend.[1] The arrows indicate the short-duration reduction in production during the global oil crisis and financial crisis.

The green shaded area represents the actual data while the pink shaded area indicates the projected data; note that the R2 is 0.998[2].

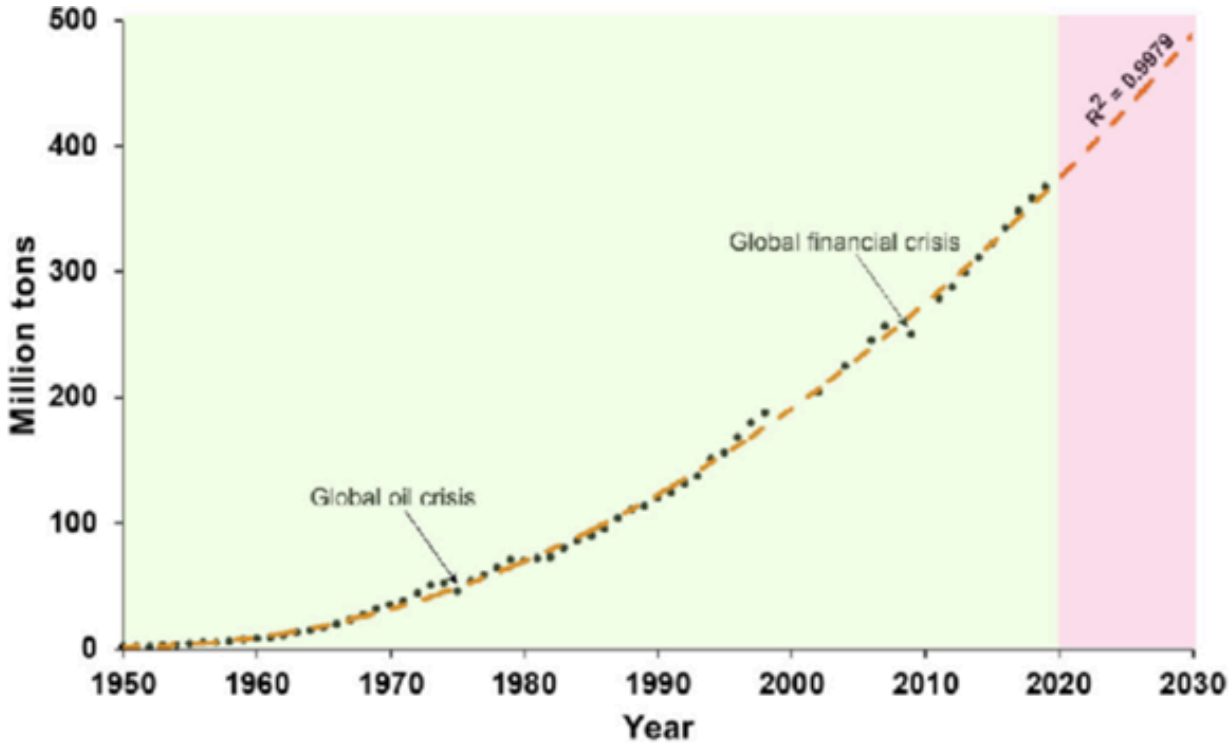


Figure 2: Historic and forecast global plastic production / Source: Ramkumar et al. (2021).

On evidence to date, capacity and output growth are likely to lead to evermore plastic waste. The OECD states, 'Globally, plastic leakage to the environment is seen doubling to 44 Mt a year, while the build-up of plastics in lakes, rivers and oceans will more than triple, as plastic waste balloons from 353 Mt in 2019 to 1,014 Mt in 2060'.[iv]

Although waste management and recycling rates can (and should) be improved, this does not absolve petrochemical companies of their own responsibility for transitioning plastics to a sustainable business model.

Further Reading

The Plastic Recycling Deception - Planet Tracker sets out how better waste management and recycling will not solve the plastic pollution crisis.

Packaging Labels - Planet Tracker demonstrates how consumer companies could improve recycling rates.

Global Plastics Outlook - OECD modelling of future plastic production growth under different scenarios.

Investor Statement Asks

1. Transparently disclose, define strategies, and set clear targets to transition to production of safe, environmentally sound and sustainable plastic

2. Address polymers and chemicals of concern in their products

3. Build suitable infrastructure for production of sustainable materials

4. Establish dedicated governance

5. Publicly support an ambitious international legally binding instrument for ending plastic pollution

Ask 1: Transparently disclose, define strategies, and set clear targets to transition to production of safe, environmentally sound and sustainable plastic

Background:

There is extensive research showing that plastic production and waste, both the plastic and additives it contains has many effects on the environment and human health.

This poses significant plastic-related risks to petrochemical companies producing the plastic polymers. Their risk register should include exposure to CO2 emissions, harmful toxic discharges, visible and invisible plastic pollution (for land, sea and air), chemical additives exposure and rising harm to people and nature.

These risks include regulatory risks (e.g. tighter emission controls, bans, taxation, and extended producer responsibility costs (link)), reputational risks, plastic-related litigation, and increased consumer demand for safe and more sustainable products.

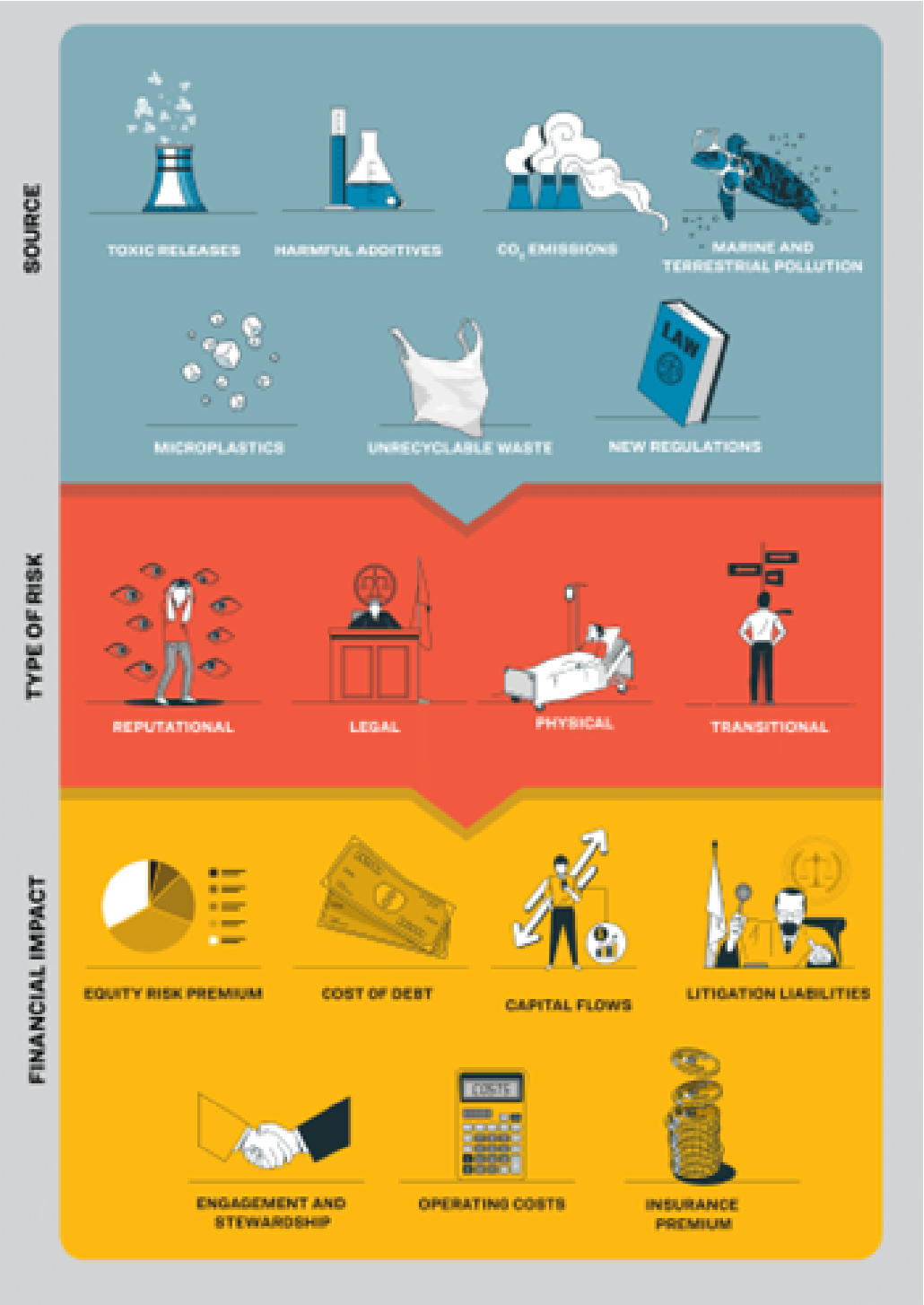
Investors and lenders in the plastic value chain are financially exposed to these plastic- related risks. Financial institutions should be contemplating the probability of substantial liabilities.

Investors should be pressing corporates to address these risks. A key part of this for petrochemical companies is to report on their plastic impacts and work to set out plans to transition away from current business practices towards safe, environmentally sound production.

Corporate transparency on current plastic impacts can be provided by disclosing data in the CDP plastic module and to the TNFD. Public explanation of transition strategies and target setting can help elucidate how a corporate intends to reduce its risk over time.

We note that CDP has gathered together more than 300 investors representing more than $29 trillion in assets to call for better disclosure of environmental data (link). Target companies include some of those which are a focus for petrochemical investor statement, so investors may want to add their support to the CDP campaign.

The plastic risk register



Source: Planet Tracker

Engagement Questions

Ask 1: Transparently disclose, define strategies, and set clear targets to transition to production of safe, environmentally sound and sustainable plastic

Question: Do you report on your plastic impacts via a standardised framework such as CDP?
Target: Start disclosing plastic metrics to the likes of CDP or TNFD.

Question: What are your company's targets for refillable and reusable content?
Target: The replacement of virgin plastic in packaging with refillable and reusable content when applicable.

Question: Do you intend to set targets to transition away from virgin fossil fuel feedstocks?
Target: Establish targets for non-fossil fuel production.

Question: Are you investing in the production of sustainable (non-fossil fuel) plastic substitutes and moving away from single use plastic?
Target: Establish targets for non-fossil fuel production and for decrease in SUP output, ideally a capex number.

Question: **What strategies are in place to mitigate the risks associated with reliance on future, unproven technologies for achieving your sustainability ambitions?**
Target: Investors need to assess the company's backup plans and interim solutions that ensure progress towards climate targets, even as future technologies are being developed.

Engagement Opportunities

CDP Non Disclosure Campaign: Annual financial institution-led campaign engages high-impact companies to demand that they disclose environmental data through CDP. Target companies include some of those which are a focus for petrochemical investor statement, so investors may want to add their support to the CDP campaign. Link to campaign.

ChemSec Investor Initiative on Hazardous Chemicals (IIHC): The initiative aims to reduce the adverse impacts of hazardous chemicals and thereby exposure to the financial risks to which they are linked. A key ask is to increase transparency and disclosure. Link to campaign.

Ask 1: Further Reading

Climate Impact of Primary Plastic Production – Work by the Lawrence Berkeley National Laboratory shows that under a conservative growth scenario (2.5%/yr), GHG emissions from primary plastic production would more than double to 4.75 GtCO2e by 2050, accounting for 21-26% of the remaining global carbon budget to keep average temperature increases below 1.5°C.

Turning off the Tap: How the world can end plastic pollution and create a circular economy – UNEP report setting out the economic and business models needed to address the impacts of the plastics economy.

Once Seen as Industry Savior Petrochemicals Losing Financial Appeal – IEEFA report sets out how the outlook for virgin plastics is turning negative.

Exposing Plastic Risk – Planet Tracker discusses the risk register of plastic exposed corporates.

Ask 2: Address polymers and chemicals of concern in their products

Background:

Plastic polymers contain toxic and hazardous chemicals (link). Out of the 16,000 chemicals present in plastics over 4,000 have been identified as toxic. Many of the chemicals used have yet to be fully tested for their impacts on human health and the environment.

Chemicals of concern have been found in plastics across a wide range of sectors and products value chains, including toys, packaging (including food contact materials), electrical equipment, vehicles, textiles, building materials, medical devices, personal care products, and agriculture.

Chemicals of concern can be released from plastic along its entire life cycle. This includes the production of polymers, the manufacture of plastic products, during their use and at the end of life. Poorly managed plastic waste is an important route for these chemicals to enter the air, water and soils.

Despite knowing that many chemicals used or produced by petrochemical facilities can be highly toxic, reporting requirements in many jurisdictions and loopholes in enforcement mean companies can often hide their toxic footprints. This leaves local communities in the dark on their exposure to potentially harmful chemicals.

When significant health impacts from chemicals are found and regulators move to prohibit use, banned chemicals are often replaced by similar substitutes. This regulatory arms race tilts in favour of the plastics industry as pre-marketing requirements for testing are low, whilst evidence of harm may take years to emerge.

However, the impacts of plastic production and use is a growing area of academic focus. Research into the harmful effects of plastics and associated chemicals on human health has risen dramatically in recent years (Figure 3).

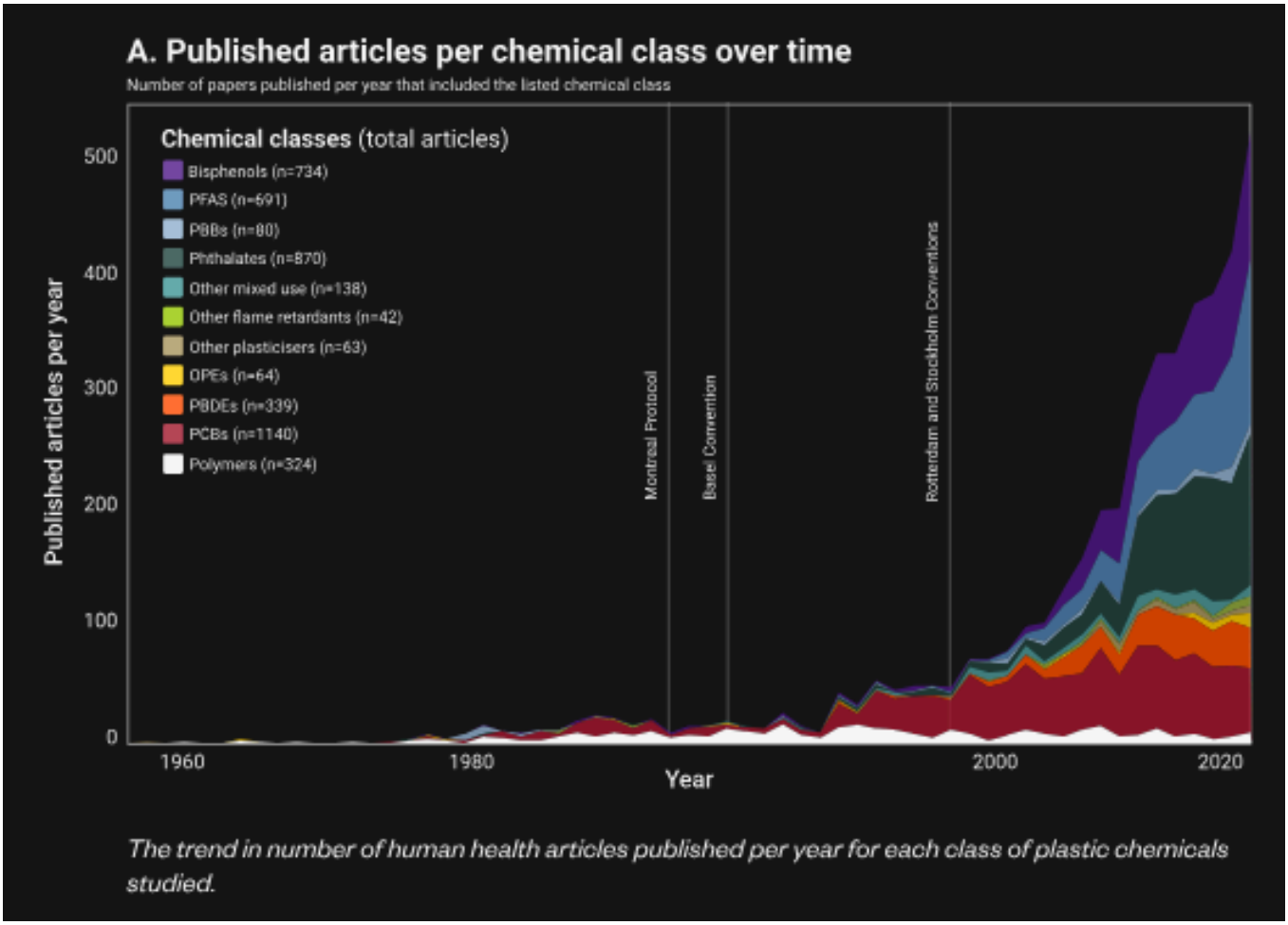


Figure 3 The number of academic articles on plastic impacts on human health has risen dramatically

Source: Minderoo Foundation, available at: https://www.minderoo.org/plastic-health-map

The growing focus on the health and environmental impacts of plastics is a ticking timebomb for the industry. Although we are yet to see a significant amount of successful litigation around harm caused by plastic, the potential impact is huge. The Minderoo Foundation has estimated that the social costs arising from all forms of plastic-related pollution to be hundreds of billions of dollars each year. Currently this potential risk is not reflected in plastic producer valuations.

Engagement Questions

Ask 2: Address polymers and chemicals of concern in their products

Question: How do you minimise your risk from polymers and chemicals of concern*?*
Target*:* Establish a clear strategy for risk mitigation from major litigation.

Question: How are you addressing the use of toxic chemicals in your products and value chain?
Target: Establish targets and investments to minimise the use of toxic chemicals in own products and work with suppliers on the same issue.

Question: Does the company have a strategy to phase out or substitute chemicals of concern in its products?
Target: Chemicals of concern in its products are identified and transparently disclosed, alongside the methodology used for this process. The company sets out a plan to phase out or substitute chemicals of concern.

Question: Do you currently publicly disclose your product portfolio and products produced by manufacturing location*?*
Target: Production details for facilities are made publicly available and details of toxic spills are shared promptly and in full.

Question: Will the company align with the first of the Principles for Chemical Ingredient Exposure and move to disclose all intentionally added chemical ingredients?
Target: A list of all intentionally added chemical ingredients is made publicly available

Engagement Opportunities

ChemSec Investor Initiative on Hazardous Chemicals (IIHC): The initiative aims to reduce the adverse impacts of hazardous chemicals and thereby exposure to the financial risks to which they are linked. One of the three key asks is to publish a time-bound phase-out plan of products that are, or contain, persistent chemicals. Link to campaign.

Ask 2: Further Reading

ChemScore – Chemsec report and data ranking the world's top 50 chemical producers on their work to reduce their chemical footprint
Investors can also use Chemsec's sin list as an initial way of assessing the toxicity of different chemicals.

The Price of Plastic Pollution –Minderoo report calculating the social costs of plastic pollution and the potential corporate liabilities for harms.

Chemicals in Plastics Technical Report – UNEP analysis of the state of knowledge on chemicals in plastics.

Principles for chemical ingredient disclosure – Summary of suggested best practice for disclosing chemical involved in production.

Ask 3: Build suitable infrastructure for production of sustainable materials

Background:

The design of petrochemical infrastructure is a highly technical area. Transitioning towards a sustainable industry will likely be a slow process with investment in new technologies alongside retrofitting of existing infrastructure.

Given often multi-decade lifespans for plants, new investment should be limited to technologies and infrastructure which offer a path towards a sustainable future.

It is important to question the technologies put forward as part of a transition plan. For instance, does the company intend to invest in pyrolysis as a feedstock source? This would suggest also tying the company to virgin fossil fuel supplies over the medium-term, which is not aligned with a net zero future.

Investors should ensure that capex plans are aligned with this transition and question investment in infrastructure without a clear plan for how it will be part of a sustainable future.

Engagement Questions

Ask 3: Build suitable infrastructure for production of sustainable materials

Question: How do you plan to transition to emissions-free/emissions-neutral feedstock by 2050?
Target: The company sets out a strategy for a feedstock transition and details the technologies and investment required.

Question: (If the company intends to invest in gasification) does the company have a plan to manage the risks of toxic by-products from gasification and ensure it is zero emissions?
Target: Any investment in gasification includes a strategy to manage toxic emissions and ensure it is part of a net-zero future.

Question: What are the present obstacles to investing in sustainable feedstocks?
Target: Understand the obstacles to sustainable feedstocks and the pathways and investments needed to address them.

Engagement Opportunities

ChemSec Investor Initiative on Hazardous Chemicals (IIHC): The initiative aims to reduce the adverse impacts of hazardous chemicals and thereby exposure to the financial risks to which they are linked. One of the three key asks is to develop safer alternatives for hazardous chemicals by substantially ramping up R&D and investment in the development of saver alternatives. Link to campaign.

Ask 3: Further Reading

Renewable Hydrogen in the Chemical Industry; Slow Reactions Chemicals and Climate; How Chemical Companies must adapt to the Circular Economy – ShareAction analyses of some of the technical challenges facing the industry in moving towards net zero.

Ask 4: Establish dedicated governance

Background:

Greenwashing, whereby companies make themselves appear more environmentally friendly than they really are, has become a many-headed beast. There are a number of forms of greenwashing that investors should be wary of as petrochemical companies transition to a sustainable business model. We highlight two below:

- **Greenlighting** occurs when company communications spotlight a particularly green feature of its operations or products, however small, in order to draw attention away from environmentally damaging activities being conducted elsewhere.
- **Greenrinsing** refers to when a company regularly changes its ESG targets before they are achieved.

Greenwashing risks regulatory scrutiny and potential fines or legal action. It could also mislead as to the level of risk a company is exposed to if it is thought to be more sustainable than reality. Ensuring that there is strong governance with respect to sustainability strategies and targets is a key way to reduce the risk of greenwashing. We highlight two areas investors should monitor below.

Firstly, investors should not assume that corporate sustainability policies or positive environmental statements from management are reflected in executive compensation packages. Most companies lag in integrating sustainability goals into management compensation, or these become irrelevant when other financial goals are achieved. Often, sustainability goals can be over-ridden by financial metrics, making them irrelevant. Investors concerned about commitment to sustainability targets should push to have these form a meaningful part of management compensation setting.

Secondly, investors should question corporates on their membership of trade associations or other bodies which do not align with their own stated sustainability goals. At the very least, this misalignment should be explained. Investors need to clarify this strategic confusion; they need to know whether the corporate's announced strategy is merely greenwashing, whilst they use trade bodies to lobby against action behind the scenes.

Engagement Questions

Ask 4: Establish dedicated governance

Question: Does the management team operate their facilities in the safest way using up to date emission control technologies?
Target: Reveal the capex on up to date emission control technologies.

Question: How is your company measuring plastic related risks?
Target: Creation of contingency plans on the risks linked to plastic; evaluation whether risks are priced into capital markets.

Question: Can you detail how sustainability goals, especially around transition, are integrated into executive compensation and incentive structures?
Target: Introduction of a material portion of performance-linked pay which is tied to sustainability targets.

Question: Is your company actively auditing and assessing the alignment of your trade associations' policies with your corporate sustainability goals?
Target: The company publishes details of its memberships and affiliations and either abandons those which are incompatible with its sustainability goals or sets out how it will work to change the association's stance.

Ask 4: Further Reading

Climate Transition Mismatch – Planet Tracker examines the disconnect between corporate sustainability goals and association memberships.

Greenwashing Hydra – Planet Tracker warns on the increasingly sophisticated greenwashing some corporates are indulging in.

Ask 5: Publicly support an ambitious international legally binding instrument for ending plastic pollution

Background:

The Intergovernmental Negotiating Committee or INC on plastic was created by the UN Environment Programme (UNEP) and began work in the latter half of 2022. it aims to complete the negotiations by the end of 2024.

The treaty aims to create an Internationally legally binding instrument to address plastic pollution both on land and also in the marine environment. The instrument has the goal of addressing the environmental and health harms associated with plastic.

There have so far been four rounds of negotiations, with the latest concluding in Canada at the end of April. The 5th round is scheduled for Busan, Korea in November 2024 when it is hoped the treaty will be finalised.

However, despite the four rounds of negotiation so far, there remain a number of contentious points which remain to be decided. Most notably, these centre on the scope of the treaty and whether it should include focus on production reduction or only on waste management.

Petrochemical companies are very aware of the potential threat a comprehensive global plastics treaty could represent and have been increasing their efforts to shape the negotiations. This sits alongside their ongoing efforts to lobby against or water down national level efforts.

At INC-4 in Canada there was a 37% increase in the number of petrochemical linked lobbyists and industry representatives vs. the prior negotiating round according to analysis by CIEL. This underlines that the industry is stepping up its obstructive tactics as the treaty nears completion.

Engagement Questions

Ask 5: Publicly support an ambitious international legally binding instrument for ending plastic pollution

Question: Will you support an ambitious Global Plastic Treaty at INC-5 in Busan?
Target: Management agrees to the inclusion of production measures (e.g. EPR) as part of addressing the 'full lifecycle of plastics' in tackling plastic pollution.

Ask 5: Further Reading

What Financial Institutions Should Take Away From the 4th Round of Global Plastics Treaty Negotiations – Planet Tracker summarises the key takeaways from the latest round of negotiations for a Global Plastics Treaty.

Treaty draft – The latest draft of the treaty ahead of INC-5.

Signatories

73 international financial institutions and their representatives with a combined AUM/AUA total of USD 6.8 trillion have signed the investor statement and are calling on petrochemical companies to transition to safe and environmentally sound practices, by reducing fossil fuel dependency and eliminating hazardous chemicals.

Among the financial institutions already committed are Legal & General Investment Management, Pictet Group, Nordea Asset Management, Achmea Investment Management, Robeco, MN, Abrdn, Rockefeller Asset Management, Rathbones Group Plc, and Storebrand Asset Management.

Arthur van Mansvelt, Senior Engagement Specialist at Achmea IM said: “Achmea Investment Management supports this call on the petrochemical companies as we are concerned about the mismatch between the industries plans to accommodate the ‘business as usual’ scenario of substantial growth in global plastic production, and the increasing regulatory pressure to reduce the use of single-use plastics. We therefore must address the full plastic value chain, starting with polymer production, and as such call on the petrochemical industry to support a strong and ambitious legally binding Global Plastics Treaty to fight plastic pollution”.

Alex Burr, Senior ESG Policy & Nature Lead from Legal & General Investment Management said: “Petrochemicals are at the very source of plastic pollution, degrading our natural world and posing significant financial risks. There has been substantial progress internationally, through agreements like the Global Biodiversity Agreement and the forthcoming Global Plastics Treaty, to curb plastic use and production and we believe that effective engagement activity must consider the whole ecosystem and value chain, tackling both supply and demand of single-use plastics. Petrochemical companies should not be exempt from these policies and must understand business as usual is not an option”.

Join 73 investors and sign the statement now

Footnotes

[1] A polynomial trendline is a curved line that is used when data fluctuates. It is useful for analysing gains and losses over a large data set.

[2] R-squared (R^2 or the coefficient of determination) is a goodness-of-fit measure for linear regression models. R-squared measures the strength of the relationship between the model and the dependent variable on a 0 to 1 scale. In other words, r-squared shows how well the data fit the regression model (the goodness of fit).

[i] OECD (2022), Global Plastics Outlook: Economic Drivers, Environmental Impacts and Policy Options. Available here. [Accessed on 12/01/2024]

[ii] UNEP Website, Available here. [Accessed on 12/01/2024]

[iii] Ramkumar et al. (2021), The plastisphere: A morphometric genetic classification of plastic pollutants in the natural environment. Available here [Accessed on 12/01/2024]

[iv] OECD media release 03/06/2022. Available here. [Accessed on 12/01/2024]

Planet Tracker

ABOUT PLANET TRACKER

Planet Tracker is an award-winning non-profit financial think tank aligning capital markets with planetary boundaries. Created with the vision of a financial system that is fully aligned with a net-zero, resilient, nature positive and just economy well before 2050, Planet Tracker generates break-through analytics that reveal both the role of capital markets in the degradation of our ecosystem and show the opportunities of transitioning to a zero-carbon, nature positive economy

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Credit: *Giant Plastic Tap* by Benjamin von Wong