

Plastics on trial:

a briefing series on evolving liability risks related to plastics.

Brief 3 In the environment



Introduction to this briefing series

Since plastics first started being used commercially in the 1950s, the material has become ubiquitous in modern life. However, with single-use plastic products accounting for over around half plastic produced each year,¹ the world has experienced an exponential increase in plastic production and waste. These plastics are contributing to climate change, degrading our ecosystems, threatening biodiversity, harming economies and impacting on human health.²

The damage caused by plastics, and the corresponding costs for governments, businesses, and society,³ is increasingly recognized by the public, by governments, and in courts. The first wave of legal cases on plastics have now been launched.⁴ We predict that these will evolve rapidly as public and government concern around the impact of plastics continues to grow, bolstered by the ongoing negotiations for a legally binding treaty on plastic pollution, the mandate for which was established in an historic resolution at the United Nations Environment Assembly in March 2022.⁵

This series of four briefs explores the developments in plastic-related legal action targeting companies. We have identified four themes around which plastic-related cases converge:

1. Greenwashing



2. Hazardous chemicals



3. In the environment



4. Waste disposal & recycling



Each brief outlines developments in legal action against companies relating to the relevant theme, and also considers how these trends may unfold in the future. Such legal cases have knock-on impacts on the financial sector, including banks and investors that provide financing for these companies, as well as the insurers that underwrite the risks they face.

Geographic focus and other research limitations

Our research has identified many plastic-related legal cases converging around the four themes identified above against corporate actors in the United States (US), Europe and to a lesser extent other countries and regions. We have identified very few cases challenging corporates in other regions that relate to these themes. The geographic focus of these briefs reflects this. In part, the higher concentration of plastic-related litigation against companies in the US and Europe is likely to arise from characteristics of these legal systems, which may make it easier – or, in some cases, more desirable from a claimant’s perspective – to bring claims in these jurisdictions.

However, we fully acknowledge that our research has been limited by linguistic factors and the regional expertise of the authors of these briefs. We note from our consultations with experts from around the globe on developments in plastic-related litigation that there are several highly significant cases in other regions, particularly in Asia. To our knowledge, to date, these cases name state actors as defendants, as opposed to corporate actors, and therefore fall outside the scope of these briefs. Nevertheless, such cases are likely to have direct and indirect implications for corporate actors (as we note with reference to specific examples in Brief 3 on Plastics in the environment and Brief 4 on Plastic waste disposal & recycling) and may foreshadow future legal claims directly challenging companies in the future.

The briefs focus on reporting the existence and/or likelihood of claims, allegations and actions, and not on their merits. In some cases, we describe legal actions that have already concluded (whether through a finding by the courts, settlement out of court or otherwise) and others that are ongoing. We cannot discount the possibility that there have been developments in ongoing cases that occurred since the research was carried out. Where readers identify such omissions and any resulting inaccuracies, we would be grateful for this to be brought to our attention.

It is also highly likely that developments in climate litigation and environmental litigation on topics other than plastics will influence future legal cases on plastics. Throughout the briefing series, we occasionally refer to litigation on other topics where there are clear parallels to plastic, but note that such parallels could be explored in greater depth.

Regional analysis on how trends in environmental or other public interest litigation could affect future plastic lawsuits would be a particularly interesting complement to the findings of these briefs.

The web of national, regional and international legislation and agreements affecting the production, use and disposal of plastics is complex and, in many cases, subject to change, particularly in light of the ongoing plastic treaty negotiations referred to above. We have considered some relevant regional and supra-regional policy trends that may impact the type or frequency of plastic-related litigation but acknowledge that the complexity of the global policy landscape renders comprehensive consideration of its impact on plastic litigation beyond the scope of these briefs.

Finally, as described by UN Special rapporteur on toxics and human rights, Dr Marcos Orellana, “every stage of the plastics cycle has adverse effects on the full enjoyment of human rights”.⁶ Increasingly, civil society academia and governments are recognising the substantial human rights and environmental justice implications of the plastics crisis. We have not explored this angle in depth in these briefs – principally because human rights arguments are not yet widely used in the legal cases we refer to – but would welcome future research exploring how an improved understanding of the human rights implications of plastics may impact plastic-related litigation.

Plastics in the environment

In 2019, an estimated 22 million tonnes of plastics leaked into the environment.⁷ Plastic leakage has been identified in all the major ocean basins, rivers, lakes and terrestrial environments, with severe impacts on ecosystems, as well as human health and livelihoods.⁸

In this Brief, emerging litigation trends relating to two sources of plastic leakage are explored – pre-production plastic pellets and plastic waste.

Plastic pellets – plastic materials from which products are manufactured - are an example of primary microplastics.ⁱ Significant quantities of pellets leak into the environment at various stages of production, handling and transport. This issue has now given rise to numerous legal actions around the globe seeking to hold companies accountable for leaked plastic pellets, including a case that resulted in the largest settlement in US history for a citizen lawsuit under federal pollution laws.

At the other end of the plastic lifecycle – and by far the largest single source of macroplastics leaked into the environment - is plastic waste.⁹ Marine plastic litter generated economic costs in form of gross domestic product (GDP) reductions of up to US\$ 7 billion in 2018 alone,¹⁰ ⁱⁱ with a wide variety of stakeholders footing the bill. To date most legal actions seeking accountability for plastic pollution have targeted state actors, rather than companies. However, a pioneering case in the US indicates that corporate actors may also be increasingly vulnerable to such lawsuits. In this Brief, we consider likely plaintiffs in future legal claims, as well as developments that may facilitate future cases seeking to hold companies accountable for the impacts of plastic waste.

Plastic pellet spills

Most plastic articles originate from preproduction plastic pellets (also known as beads and nurdles). Pellets are transported from the production site to the facility where the final plastic product is moulded or extruded from the pellets. Pellet spills are generally “a consequence of inadequate precaution during

ⁱ Microplastics have been the focus of ongoing debate as to their size limit. Some authors take a broad view, including items less than 5 mm diameter (Arthur et al., “Summary of the international research workshop on the occurrence, effects, and fate of marine plastic debris in proceedings of the international research workshop of the occurrence, effects, and fate of microplastics marine debris, 9-11 September 2009), whereas others restrict the term to items less than 2 mm, less than 1 mm or even less than 500 µm (Cole et al., “Microplastics as contaminants in the marine environment: A review” (2011) *Marine Pollution Bulletin*, 62, 2588-2597). Primary microplastics are those that “were originally manufactured to be that size” (including pellets, as well as microplastics added to certain products, such as cosmetics), whereas secondary microplastics are those that “have resulted from the breakdown of larger items” (GESAMP, “Sources, fate and effects of microplastics in the marine environment: Part 2 of a global assessment: A report to inform the Second United Nations Environment Assembly” (2016), p. 17).

ⁱⁱ Another study estimates that cumulative annual economic losses as a result of damage to maritime industries, including the costs of clean-ups, are estimated to total some US\$ 6-19 billion (Deloitte, “The Price Tag of Plastic Pollution: An Economic Assessment of River Plastic” (2019)). Since this estimate does not include the costs of degradation of ecosystem goods and services due to marine litter (Beaumont et al. 2019, “Global ecological, social and economic impacts of marine plastic”, *Marine Pollution Bulletin*, 142, 189-195), it is likely to significantly underestimate the total economic losses.

production, loading and handling” of pellets. It is estimated that up to 1,400 billion pellets enter the ocean each year.¹¹

Plastic pellets can leak into the environment at various stages of production, handling and transport, and companies involved in these activities have faced direct and indirect legal challenges relating to the harms caused.

In one such case – San Antonio Bay Estuarine Bay Waterkeeper v Formosa – residents and an environmental group sued plastic producer, Formosa, for the illegal discharge of plastic pellets into waters surrounding their manufacturing plant in Port Comfort, Texas.¹² The settlement of US\$ 50 million was by far the largest for a citizen lawsuit against industry under federal clean air and water laws in US history.¹³ Formosa was also ordered to pay the plaintiff’s legal fees (which is unusual in the US) as well as engage in remediation activities. The case was described by National Geographic as “a warning to others making and handling nurdles that they too could face costly consequences for leaking plastics into the environment”.¹⁴ Notably, the lawsuit also gave rise to a separate dispute between Formosa and its insurers, Chubb, arising from Chubb’s refusal to cover the settlement amount. Chubb refused the claim on the basis that Formosa had intentionally exceeded the limits of its permit to discharge solid pollutants.¹⁵

Downstream actors involved in the handling and shipping of plastic pellets value chain have also faced legal action for pollution. In the US, Frontier Logistics, a company involved in the packaging and on-selling of plastic pellets in Charleston, South Carolina, faced a lawsuit from conservation groups for breaches of the Clean Water Act that resulted in a US\$ 1 million settlement in 2021.¹⁶

In Europe, environmental non-governmental organizations (NGOs) have instead sought enforcement action from environment authorities, with legal action having been pursued in the Netherlands and Italy against plastic pellet manufacturers including Ducor,¹⁷ ENI Versalis (an entity controlled by Italian fossil fuel giant, ENI) and Basell Polioefine Italiana (part of petrochemical group LyondellBasell).¹⁸ The Ducor complaint resulted in swift action from the authorities, and the threat of financial penalties for future infringements.¹⁹

Meanwhile, the fall-out from a major maritime disaster in 2021 continues to unfold, with likely implications for companies involved in shipping plastic pellets. In May 2021, a container ship named the X-Press Pearl that was transporting plastic pellets (originating from Formosa’s Port Comfort plant) along with hazardous chemicals, oil and metal, caught fire and sank in the Indian Ocean. This resulted in the release of 87 containers of pellets – 1,060 tonnes of plastic – into the water.²⁰ The incident has been described as the worst environmental disaster in Sri Lanka’s history,²¹ with serious adverse effects on marine and coastal life, the fishing and tourism industries, the communities that depend on them, and public health. The NGO Center for Environmental Justice has launched legal actions requesting the authorities to conduct investigations to assess the environmental, economic and health impacts of the disaster and to take action to obtain compensation and remediation from those responsible. If successful, this will result in the Sri Lankan government claiming damages against the companies involved in the shipping of the pellets.²²

Plastic waste in the environment

At the end-of-life stage, significant proportions of plastic waste end up in the environment, particularly the marine environment. This can be attributed to plastic leakage from formal waste management systems (flexible plastics commonly used for packaging are especially prone to this), as well as the absence of formal waste management systems.²³ Multiple severe harms arise from this. Widespread practices such as unsanitary landfill, burning and dumping lead to numerous environmental and public health problems. These include the clogging of waterways, which leads to flooding and creates breeding grounds for waterborne diseases.²⁴

An estimated 11 million tonnes of plastics enter the ocean each year,²⁵ ⁱⁱⁱ with numerous and severe implications. Marine wildlife can become entangled in plastic waste, or ingest it, both of which can be lethal. Plastic waste breaks down into microplastics over time, with worrying and poorly understood consequences for nature and human health^{iv}.

Footing the bill for plastic pollution

Analysing the harms caused by plastic pollution purely through the lens of economic loss gives an incomplete picture of the damage caused to the environment, wildlife, human health, as well as social impacts. Nonetheless, it is a useful tool for predicting how these harms could give rise to litigation against corporate actors in the plastics value chain in the short to medium term. Identifying the parties currently footing these costs is an effective way of identifying potential future plaintiffs. In the case of plastics, they are plentiful.

Estimations of the economic harm caused by plastic pollution are staggering. Marine plastic pollution is estimated to have resulted in an economic cost (in the form of gross domestic product reductions) of up to US\$ 7 billion in 2018 alone.²⁶ One such economic victim is the fishing industry, which is affected by damage to vessels and reduced catches arising from plastic litter in the oceans.^v A survey conducted in

ⁱⁱⁱ “Under a business-as-usual scenario and in the absence of necessary interventions, the amount of plastic waste entering aquatic ecosystems could nearly triple from some 9-14 million tons per year in 2016 to a projected 23-37 million tons per year by 2040. Using another approach, the amount is projected to approximately double from an estimated 19-23 million tons per year in 2016 to around 53 million tons per year by 2030.” UNEP, “From Pollution to Solution: A global assessment of marine litter and plastic pollution” (2021), p. 14. Available online: <https://www.unep.org/resources/pollution-solution-global-assessment-marine-litter-and-plastic-pollution>.

^{iv} “Risks to human health and well-being arise from the open burning of plastic waste, ingestion of seafood contaminated with plastics, exposure to pathogenic bacteria transported on plastics, and leaching out of substances of concern to coastal waters. The release of chemicals associated with plastics through leaching into the marine environment is receiving increasing attention, as some of these chemicals are substances of concern or have endocrine disrupting properties. Microplastics can enter the human body through inhalation and absorption via the skin and accumulate in organs including the placenta. Human uptake of microplastics via seafood is likely to pose serious threats to coastal and indigenous communities where marine species are the main source of food. The links between exposure to chemicals associated with plastics in the marine environment and human health are unclear. However, some of these chemicals are associated with serious health impacts, especially in women.” Ibid.

^v As well as being a contributor to problem, since abandoned, lost or discarded fishing gear is a significant contributor to plastic waste in the marine environment.

Scotland found that 86% of Scottish fishing fleets had experienced a restricted catch due to marine litter, and 82% had had their catch contaminated, with a resulting cost of EUR 11.7 million each year.^{27 vi}

Fisherfolk in the Philippines have joined forces with other groups of workers affected by plastic pollution, including divers and waste pickers, civil society organisations and a former senator. They are bringing a legal action targeting government inaction on plastics. A total of fifty-two petitioners filed a petition to the Supreme Court of the Philippines claiming that the national waste management body was in continuing neglect of its duty to uphold the Filipino people's constitutional right to "a balanced and healthful ecology".²⁸ Although this action targets state actors, rather than companies, it provides a good example of how groups that are economically harmed by the consequences of plastic pollution can be engaged in strategic litigation.

Following a trend developing in climate change litigation,^{vii} another group that is likely to become mobilised in legal actions against corporate plastic polluters are local governments. Plastic pollution on beaches is a constant challenge for municipalities, especially those with a tourism industry. Environmental consultant, Eunomia, estimated that the annual cost of cleaning up beaches was EUR 40,000 per kilometre of coast line, which is generally paid by local governments.²⁹ In July 2011, for example, a period of heavy rainfall resulted in a large amount of marine debris washing up on the beaches of Geoje Island, Republic of Korea. That year, visitor count to the island plunged by 63%, resulting in a loss of revenue from tourism in the region of US\$ 29 to 37 million.³⁰ As noted in a study on strategic climate litigation, public authorities, "are new players, and they are also a different kind of player", in that generally, they have more experience of litigation and greater access to resources and legal expertise than citizen or NGO claimants.³¹

Legal action to date

Consumer brands

Major multinational consumer brands are arguably the corporate actors most exposed to legal claims. Their prominence and international reach mean that a significant proportion of plastic pollution can be attributed to their plastic packaging, which in many cases, is marked with their brand names and therefore traceable back to the source. Annual plastic pollution 'brand audits' - initiatives in which thousands of volunteers from around the world collect plastic waste in the environment and record the brand behind it – have consistently found the likes of Coca-Cola, Nestlé and Unilever rank as top global plastic polluters.³²

In a global first, a US lawsuit has been filed against ten consumer goods companies for their contribution to marine plastic pollution. In 2020, California-based non-profit, Earth Island Institute, filed a lawsuit against ten defendants, including Coca-Cola, Pepsico, Colgate-Palmolive, Procter & Gamble and Danone. The NGO based their claim on various legal grounds, including negligence, public nuisance,

^{vi} "Overall, the published evidence suggests that the published evidence suggests that the productivity, viability, profitability and safety of the fishing and aquaculture industries are highly vulnerable to the impacts of marine plastics, particularly when coupled with other factors including climate change and overfishing." UNEP, "From Pollution to Solution: A global assessment of marine litter and plastic pollution" (2021), p. 39.

^{vii} In the US, there have been "a string of recent lawsuits filed by US local authorities", which "assert that large corporates such as Chevron and Royal Dutch Shell are directly responsible for a substantial portion of committed sea level rise." <https://academic.oup.com/ojls/article/38/4/841/5140101>.

failure to warn, and breach of express warranties (in relation to claims that packaging is 'recyclable'). The NGO requested, among other measures, a court order for the companies to pay the cost of remediating harm caused to the environment. The case is still making its way through the courts, with the plaintiffs attaining an early victory in securing state jurisdiction for the case, which boosts their chances of success.³³ If ultimately successful, this case may trigger a wave of similar claims in the US.

Given the unequal distribution of the burden of plastic pollution between regions, we also consider it likely that civil society in countries particularly affected mobilise to bring similar cases against major companies (and/or their subsidiaries) in these jurisdictions, and also potentially the countries where the 'head office' of such companies is located^{viii}.

Plastic producers

To date, plastic producers have not faced legal action seeking to hold them responsible for the impacts of plastic pollution. However, in recent years, they have been coming under greater scrutiny for their role in the plastic crisis. In 2021, research commissioned by the Minderoo Foundation concluded that 100 companies produce 90% of all single-use plastic products waste generated globally, and just 20 firms are behind 55% of the world's single use plastic waste.³⁴ This research was the first of its kind to link single-use plastic products waste back to plastic-producing companies. It shows clear parallels with developments in climate research, which "have enabled researchers to identify discrete groups of potential defendants whose contributions to the climate crisis are identifiable, measurable and significant"³⁵.^{ix}

In a clear indication of how research such as this could underpin future plastic pollution lawsuits against plastic producers, the Attorney General of California cited the Minderoo Foundation's report in background information published on its investigation into the contribution of the fossil fuel and petrochemicals industries' to the plastics crisis, described in more detail in Brief 4 on Plastic waste disposal and recycling.

^{viii} Corporate structures and laws regarding the court's jurisdiction can make it highly challenging for groups to seek justice against parent companies incorporated in jurisdictions other than those where the alleged damage has occurred, particularly where theoretically, a lawsuit could be brought against a subsidiary located in that jurisdiction. This can represent a serious obstacle to access to justice, especially where bringing a claim locally is complicated by concerns regarding the efficiency of the courts, access to a fair hearing, or even matters such as the safety of the claimants. For reasons such as these, claimants have sought to hold parent companies liable for damage arising from the operations of their subsidiaries. In early 2021, two cases – one in the UK and the other in the Netherlands – confirmed that parent companies may owe a duty of care for the activities of subsidiaries (*Okpabi v. Royal Dutch Shell Plc* [2021] UKSC 3 and *Fidelis Ayoro Oguru v Shell plc*, District Court of the Hague, 14 Sep 2011). See: Cees van Dam, "Breakthrough in Parent Company Liability: Three Shell defeats, the end of an and new paradigms", *European Company and Financial Law Review*, 2021, vol.18, issue 5, 714-748.

^{ix} For example, *Lliuya v RWE*, in which a Peruvian farmer filed a suit against German energy company, RWE, alleging that it had knowingly contributed to climate change by emitting substantial volumes of greenhouse gases, and was therefore liable for a reimbursement of flood protection expenses representing the proportion of RWE's contribution to global industrial greenhouse gas emissions since the beginning of industrialisation (0.47%). Case No. 2 O 285/15 Essen Regional Court. In the first instance, the Court found it was not possible to establish a linear causal train. On appeal, a higher court found that the case was admissible and a decision on the merits is pending.

Authors

Rosa Pritchard Plastics Lawyer, ClientEarth

rpritchard@clientearth.org

Alice Merry Consultant

alicekmerry@three-fin.com

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