

ANNEX 2:

Liability Risks Arising from The Manufacture, Distribution, Use And Disposal of Plastics



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INTRODUCTION

1. **The Minderoo Foundation has requested us to undertake a survey of key jurisdictions to identify the legal principles and doctrinal developments relevant to the existence of legal liability for harms caused by the manufacture, use, distribution and disposal of plastics. While the scale of emerging human health and environmental harms from plastics may draw analogies with the tobacco and oil & gas industries, respectively, the plastics litigation movement is at a nascent stage. This paper examines key case precedents and how nascent developments may portend greater legal liability in the pipeline.**
2. **Before commissioning this survey, Minderoo has undertaken a substantial body of work on the identification and categorisation of relevant harms. Overall, 92 specific harms were identified including 48 human health harms, 22 economic and ecosystem services harms and 22 nature harms. In this report we focus on the identified harms which are summarised below.**

Human health harms

- a. There are more than 10,000 chemicals associated with plastics, relatively few of which have undergone significant research. Recent research has drawn attention to the following major groups:
 - i. Phthalates, a group of plasticizers used to soften plastic which are found in food containers, toys, medical applications and vinyl flooring. Phthalates are associated with mechanisms linked to premature birth, lower testosterone levels, obesity, hypertension, diabetes, endometriosis and changes in neurodevelopment.
 - ii. Bisphenols, a group of chemicals used to harden plastics which are found in food, beverage and general storage products. The most widely studied chemical in this group is Bisphenol-A (BPA). Bisphenols have been associated with oestrogen disruption of the endocrine system and linked with diabetes, obesity, reduced sperm quality and count, polycystic ovarian syndrome, cognitive defects and attention deficit disorder.
 - iii. Flame retardants are added to many materials, including plastic, textiles and electronics, to reduce the risk of fire. Various different compounds have been used over the years, of which some have been associated with reproductive injury, endocrine disruption, carcinogenicity, neurotoxicity and developmental toxicity.
 - iv. Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are used in a very wide range of applications, from food packaging to cookware to textiles. Several studies point to the existence of toxic effects including attention deficit disorder, cognitive deficits, diabetes, thyroid disease, hypertension, high cholesterol, obesity and ulcerative colitis.
- b. Humans are exposed in several ways to micro- and nano-plastics (MNPs). Primary exposure occurs when MNPs are shed during the natural usage pattern of a product, e.g. the ingestion of particles from plastic teabags. Secondary exposure occurs when MNPs accumulate in the environment, e.g. road tyre dust. MNPs are associated with digestive system harm, lung injury and potentially also liver conditions.
- c. Harmful chemicals may be released into the environment during the manufacture and disposal of plastics, causing further harms to human health.

Economic and ecosystem service harms

- d. Chemicals associated with plastics have known toxic effects in aquatic and terrestrial organisms. There may also be consequential effects, such as damage to food stocks (e.g. fisheries and livestock), reduced soil respiration and other harmful effects on the soil ecosystem. Such effects are difficult to separate from other human causes such as over-cultivation.
- e. MNPs are thought to disrupt aquatic and terrestrial ecosystems, threatening food and oxygen availability for other living species. Consequential effects might include climate impacts (e.g. by reducing the ocean's carbon fixation capacity) and economic impacts (e.g. on agriculture and tourism).
- f. Macroplastic pollution also has the potential to disrupt aquatic and terrestrial ecosystems, e.g. by killing animals or preventing normal growth in offspring. Such disruption may cause significant economic effects on agriculture, fishing and tourism.

Nature harms

- g. For the reasons set out above, the migration of chemical additives, MNPs, and macroplastics may also cause significant environmental harms. Although macroplastic pollution is the most visible nature harm, there is also a significant biodiversity threat arising from chemicals and MNPs, as many of the human harms mentioned above are supported by toxicity studies in animals.

3. There are three emerging pathways by which claimants and regulators are likely to seek to hold companies accountable for those harms:

- a. Human health harms may result in bodily injury claims brought by employees, consumers or members of the public who have been exposed either directly to harmful chemicals or MNPs (e.g. by consuming BPA or inhaling microfibres) or indirectly exposed to harm (e.g. by breathing air polluted by the burning of plastic waste).

- b. Economic and ecosystem service harms may result in property damage claims by private or public entities whose property has been contaminated by exposure to macroplastics, MNPs and/or harmful chemicals. Such claims are exemplified by MTBE, PCBs and PFAS litigation, where municipalities have claimed the cost of decontaminating public drinking water. Other types of claim might arise from the perceived connection between microplastic pollution and the declining productivity of agricultural land.
- c. Nature harms may give rise to environmental litigation, seeking the remediation of the natural environment and associated economic losses. For example, in the aftermath of the Deepwater Horizon incident, there were very many economic loss claims brought by fishing and tourism businesses which depended on the availability of natural resources.

4. There is also a fourth liability pathway involving claims for misleading behaviour, breach of consumer protection laws and/or loss of shareholder value. There is a growing body of precedent for this type of claim, from greenwashing claims to consumer class action complaints and investor lawsuits. The common feature of such claims is that they involve misrepresentations made to a particular class of the public concerning the characteristics of a company or its products.

5. Our survey is limited to the harms and pathways identified above. We have sought to identify the key legal principles and evidentiary requirements in the main centres of environmental litigation and to apply them to representative case studies.

6. **In Part 1 we present and analyse the legal principles and emerging trends which might help or hinder the development of plastics litigation in the next five to ten years. As it is impossible to be exhaustive, we focus on the four centres of environmental litigation:**
 - a. Australia;
 - b. England and Wales;
 - c. European jurisdictions, with a focus on Germany and the Netherlands; and
 - d. The United States.
7. **In Part 2 we consider seven case studies which are representative of anticipated claims activity against corporations involved in the manufacture, use, distribution and disposal of plastics:**
 - a. Three case studies involve different types of plastics-related litigation which might be brought in response to human harms:
 - i. Injury to employees caused by exposure to phthalates during the manufacture of plastic products.
 - ii. Injury to consumers caused by exposure to BPA in food packaging products.
 - iii. Injury to the public caused by microplastic leachate from landfill.
 - b. The fourth case study involves economic and ecosystem service harms resulting from the presence of MNPs in a municipal drinking water supply.
 - c. The fifth case study involves nature harms resulting from by microplastics emanating from a manufacturing facility.
 - d. We then consider two case studies involving corporate misrepresentations and mismanagement:
 - i. A claim for breach of consumer protection law caused by false public statements concerning the recyclability and sustainability of plastic packaging.
 - ii. A claim for loss of shareholder value resulting from the mismanagement of the transition to recycled and circular plastics.
8. **In Part 3, we characterise the issues which are in our view likely to be of greatest relevance to insurers.**
9. **This document is a jurisdictional survey only. The following issues are out of scope:**
 - a. The present state and anticipated development of scientific evidence is beyond our expertise. We make no comment on the factual findings which courts might make in individual cases.
 - b. The application of policy coverage is dependent upon the court's findings of fact and the policy terms which are agreed between the insured and its insurers. We make no comment on the application of policy coverage to any individual case.

PART 1:

Principles and trends relevant to the development of plastics litigation

The likely sponsors of plastics litigation

10. The first consideration when evaluating the potential for claims activity is the pool of potential claimants. In this respect there are some very significant differences between the main centres of environmental claims.

- b. In Germany, specialised plaintiff firms are using legal technology to focus on consumer rights and represent exclusively claimants. The growth of such firms has been accelerated by recent mass consumer events such as the scandal involving 'cheat devices' in diesel cars. A few large US plaintiff firms are now located in Germany, and we expect that the number will increase alongside the rise of European collective redress and class action procedures.
- c. In the Netherlands, new law firms are positioning themselves as exclusive representative of class action claimants.

The plaintiff bar

11. In the US, there is a powerful and well-funded plaintiff bar. This factor, combined with the low threshold to advancing claims because of their 'on notice pleadings' and the rarity for plaintiffs to have costs awarded against them, means litigation in new case theories is very active and contingency fee arrangements permit lawyers to derive their remuneration from damages payments. This can, however, result in making damages verdicts the paramount form of redress, and corporate behaviour change of lesser significance. Firms make substantial investment to prepare factual and expert evidence in the expectation of achieving financial returns.

12. Currently there is no organised plaintiff bar in continental Europe, but its growth is an anticipated trend.

- a. In France, the growth of claimant firms has been encouraged by two factors: the increased availability of digital tools, and a recent legal evolution allowing French lawyers to offer personalised solicitations to potential clients. In 2015, the Paris Bar created the platform *Avocats Actions Conjointes* which allowed lawyers to suggest joint actions to the public. This platform did not achieve much success and was apparently closed. Nevertheless, some French law firms decided to focus their practices on consumer rights and mass litigation. The number of these firms has recently increased, and some firms are now well known for representing specific NGOs or claimant investors.

The interest of litigation funders

- 13. Common law jurisdictions including the US, England and Australia are lively markets for Third Party Litigation Funding ('TPLF'). For a litigation funder, 'success' involves neither damages nor behavioural change but usually the award of a costs order or damages from which their costs can be met. In the US, TPLF is currently unregulated by federal law.
- 14. TPLF is not yet as prominent in continental Europe. A generally low level of recoverable legal costs, combined with the absence of punitive damages and pure contingency fee agreements between lawyers and clients, make TPLF less attractive in civil law jurisdictions. Activity in many countries remains slow.
- 15. There is, however, a growing trend of European TPLF which has accompanied the rise of class action and pure claimant firms. The most noticeable increase has taken place in Germany, Austria, Switzerland, the Netherlands and Nordics, where US- and UK-based funders are increasingly prevalent.¹ A recent example in Germany arose following the insolvency of Wirecard AG, where TPLF was provided for more than 32,000 investors.

16. Although TPLF is largely unregulated in Europe, a new European Union Directive has been proposed to ensure consistent regulation. The European Parliament has proposed in a draft report that regulations should be imposed to limit TPLF to court proceedings, ensure greater transparency and limit the maximum recoverable share.²

NGOs as claimants and sponsors of litigation

17. Environmental litigation in continental Europe is dominated by NGOs, who have standing to sue, with organisations such as ClientEarth, Milieudefensie, Friends of the Earth and Greenpeace sponsoring a raft of litigation against governments and companies.
18. NGOs also have broad-based standing in the common law jurisdictions of the US, England and Wales and Australia, and are extremely active. Australia has, for example, become a leading centre of NGO-sponsored climate litigation, with the second highest number of litigated climate change cases after the US.³ There is a trend for environmental activists and shareholders to bring novel claims,⁴ a recent example being the legal challenge to a proposed coal mine in Queensland on the basis that the decision to grant a mining lease and environmental approval would be incompatible with human rights and therefore unlawful under the Queensland Human Rights Act 2019 (Qld).⁵

The availability of collective redress procedures

19. Individual claims are the simplest type of legal proceedings and exist in all jurisdictions. For many years activists, trades unions and NGOs have sought to identify claimants suffering from signature conditions in the hope of setting precedents of general application. Individual claims were used to powerful effect in the glyphosate litigation, where three huge verdicts in favour of claimants suffering from non-Hodgkin lymphoma (USD 2bn, USD 290m and USD 80m) forced Monsanto into a USD 10.9bn settlement of 100,000 claims in June 2020.

Group actions

20. In many jurisdictions, individual claims may be brought together into collective proceedings in which a group of claimants seek the judicial determination of factual or legal issues which are common to their claims.
- A well-known type of collective proceeding in the US is multidistrict litigation ('MDL'), which occurs when multiple actions involving common questions of fact are pending in different federal court districts. Following a successful application to the Judicial Panel on Multidistrict Litigation, federal cases may be transferred to one central court for all pretrial proceedings and documentary discovery. If the multidistrict litigation does not bring about a resolution, the case will be remanded to the original court for trial. Multidistrict litigation has become the dominant type of litigation in the federal court system, with more than 50% of pending civil cases having been centralised into MDLs. Product liability cases account for more than 90% of MDLs.
 - In England, collective proceedings are undertaken by way of Group Litigation Orders ('GLOs'), a form of case management order made by the court where multiple claims give rise to common or related issues of fact or law. Persons wishing to join the claim must apply to be entered on the group register. The court has broad case management powers. GLOs function on an opt-in basis, so that judgments on a GLO issue will bind all claimants on the group register.
 - Group actions were introduced in France in March 2014 for consumer claims only. They have since been extended to other categories such as health, discrimination and labour relations, environmental and personal data breaches. Claimants are allowed to seek damages for non-material harms. Take-up has been slow, however. Fewer than thirty group actions have been brought before French Courts and only a handful have been found admissible.

- d. German law offers certain limited special legal mechanisms, such as the Capital Investor Model Procedure Act, or Kapitalanleger-Musterverfahrensgesetz ('KapMuG'), and more recently the Model Declaratory Action, or Musterfeststellungsklage ('MFK').
- i. Examples of actions under the KapMuG, have been the proceedings against VW and Porsche in relation to the Diesel Emission Scandal and the proceedings against Deutsche Telekom due to the concealment of risks relating to its participation in another telecommunications company.
- ii. The MFK was implemented in 2018 to prevent consumer claims against diesel car manufacturers from becoming time-barred. However, the MFK has led to fewer claims being included than was anticipated.
23. In Australia, like the US, class actions are common with tailored court procedures for bringing these actions.⁶ Unlike the position in the US, there are no certification requirements and claims have been brought in relation to a wide array of products and incidents, including medical devices (e.g., pacemakers, hip and knee implants), pharmaceutical products (such as diet drugs and anti-inflammatory drugs), food and drink,⁷ consumer goods such as cars, agricultural products and disaster incidents such as gas explosions, floods and bushfires. There has also been an increase in securities and financial services class actions in Australia. A securities class action against a listed company and/or its directors is based on allegations that the company, acting with 'knowledge, recklessness or negligence', has made market disclosures that breach 'continuous disclosure' requirements and/or are misleading. Shareholders bringing such actions need to show they have suffered a financial loss - typically a fall in share price - as a result. They could pursue this avenue if seeking damages for greenwashing.

Class actions

21. Some jurisdictions also recognise representative claims, brought on behalf of a class of persons who have all suffered substantially the same harm in substantially the same circumstances.
22. The best-known form of representative claim is the US class action. This is a type of representative litigation undertaken by a named claimant who litigates the case on his or her own behalf and on behalf of other members of the class. A typical class action lawsuit involves activities which are alleged to have harmed a large number of people by the same basic cause. Class actions are permitted in all areas of law which are relevant to this paper, including product and environmental liability. The named claimant must define the class with sufficient precision, establish membership of the class and have standing to assert the claim. The process of class certification is an important battleground, and a class will be certified only if certain strict criteria concerning the commonality of claims are met. Hence it is rare for personal injury action to obtain class certification in the US. Actions are usually initiated on an 'opt-out' basis, meaning that all members of the class are affected by the judgment unless they make a deliberate choice to leave.
24. The class action has yet to establish itself in continental Europe. An EU Directive on Representative Actions for the Protection of the Collective Interests of Consumers obliges member states to introduce a standard model of representative actions brought by qualified entities (non-profit NGOs). The Directive must be implemented into national legislation before the end of 2022, meaning that collective redress procedures should be available across Europe from 2023 onwards. Currently the Directive is limited to consumer protection laws but there is a direction of travel in favour of a broader-based collective redress procedure.
25. Ahead of the Directive, a number of European jurisdictions have begun to strengthen their class action procedures. The Netherlands introduced a new regime for collective actions in 2020, which has led to a wave of new proceedings.⁸ Admissibility criteria require the claimant to demonstrate the existence of funding for the entire course of the first instance proceedings. Many of the early claimants have therefore taken out TPLF with litigation funders based in the US or UK. Given the novelty of the regime, the case law is scarce and evolving.

26. In England, there is a nascent representative action procedure, under which a claim can be pursued by a named individual on behalf of a class of individuals who share the same interest. Judgments will be binding on all those represented but may only be enforced by or against a non-party with the express permission of the court. The recent Supreme Court decision in *Lloyd v Google* (2021) was broadly encouraging of the use of such actions for the purpose of establishing legal liability in mass tort claims. The calculation and distribution of damages remains a work in progress.

Production of documents

27. The procedural rules governing the production of documents are especially relevant to tort claims as there is often a significant imbalance of knowledge between a claimant and the defendant manufacturer or polluter. For example, the US climate change litigation against the oil industry is based upon allegations of deceit, and extensive disclosure of the oil industry's internal documents will be essential for the claimants to make good their allegations. In Australia, in November 2021, an Australian court granted a shareholder of Commonwealth Bank of Australia ('CBA') access to confidential files to inspect the bank's internal documents (including board and executive leadership records) on its lending on seven oil and gas projects, to investigate whether it complied with its own climate change policy.

28. In common law jurisdictions such as US, Australia and England & Wales, the disclosure of relevant documents – whether helpful or unhelpful to a party's case – is regarded as an important part of procedural fairness. It is not sufficient for a party simply to rely upon the documents which are favourable to its own case, and courts usually order the disclosure of broad categories of documents which are relevant to the pleaded issues. In appropriate cases documents may be requested in advance of commencing litigation, by way of a pre-action disclosure or discovery process.

29. In continental Europe, courts are more comfortable with the idea that each party should choose the documents to be presented in litigation. Disclosure orders are often difficult to obtain, even in proceedings, and litigants are compelled to rely upon documents which are already in their possession or the public domain. The unavailability of disclosure can be a significant impediment to environmental or product liability litigation.

- a. In Germany, for example, the parties only disclose documents on which they intend to rely. There is no duty for a party to put "all cards on the table" or even disclose documents which could be detrimental to its own case. When deciding a case, German civil courts tend to rely, with few exceptions, on the "relative truth" resulting from the cross-referencing of the respective submissions and disclosures of the parties. Although the German Code of Civil Procedure (Zivilprozessordnung, 'ZPO') provides for a duty to tell the truth (Wahrheitspflicht pursuant to section 138 ZPO), this only explicitly prohibits parties from knowingly making untrue statements or deliberately distorting facts. It does not necessarily oblige a party to disclose documents that are detrimental to their case.
- b. Similarly, Dutch procedural law obliges both parties fully and fairly to disclose all relevant facts.⁹ The system relies, however, on the parties disclosing the documents that they deem relevant for the case. Parties are not always forthcoming with the documents that they elect to disclose. There is a procedure for limited pre-trial discovery if the requesting party can specify the documents it wants to obtain, explain the nature of its legitimate interest in obtaining the documents and clarify the alleged legal relationship to which the documents relate.¹⁰

Rules of evidence

30. Claims in all jurisdictions require evidence which is specific to the case, with the claimant usually (but not always) bearing the burden of proof. There is significant disparity between the rules governing the admissibility of scientific evidence, and the rules in each jurisdiction are likely to be equally determinative of the outcome of claims as the rules of liability.

Common law jurisdictions

31. In common law jurisdictions, the court usually hears evidence from party-appointed experts. Sadly, it is not uncommon for party-appointed experts to engage in partisan behaviour. To maximise the integrity of expert evidence, each expert must meet basic qualification criteria and will usually be cross-examined at trial.

32. In the US, there are two standards of admissibility.

- a. Many US states continue to apply the standard set in *Frye v United States*,¹¹ by which an expert opinion will be admitted if the scientific technique on which the opinion is based is 'generally accepted' as reliable in the relevant scientific community.
- b. In *Daubert v Merrell Dow Pharmaceuticals*,¹² the Supreme Court effectively overruled *Frye* in federal courts, holding that the case law was inconsistent with the Rule 702 of the Federal Rules of Evidence. According to *Daubert*, the court has a gatekeeping responsibility when admitting expert evidence and expert evidence should be admitted only if it satisfies a non-exhaustive list of factors relevant to its reliability and peer assessment. The *Daubert* standard is now applied in many US state courts and all federal courts.
- c. *Frye* is thought to be a lower threshold than *Daubert*, and states applying *Frye* are more receptive to emerging scientific evidence which has not had the opportunity to be widely tested through extensive peer review.

d. Once expert evidence has passed the threshold, it is very much in the hands of jury as to whether the evidence should be accepted and relied upon.

33. In England and Wales, expert evidence is admissible with the permission of the court, and the use of experts is heavily regulated under Part 35 of the Civil Procedure Rules. A party seeking to rely on expert evidence must first obtain the court's permission. The role of the expert is to provide independent evidence to the court in relation to their area of expertise. The expert's duty is to the court and overrides any obligation to the person who instructs or pays them. The expert must make it clear when a question falls outside their expertise, they are unable to reach a definite opinion or their view changes. Judges approach expert evidence with scepticism and will rarely follow an expert's conclusion without rigorous scrutiny being applied. The process of evaluating expert evidence includes joint meetings, writing joint reports and, ultimately, cross-examination at trial.

34. In Australia, a party may retain an expert witness who is qualified in their area of expertise, training and specialised knowledge to provide an impartial opinion on part of their case. The court may also appoint an expert as an independent adviser to the court. Experts are bound by the rules of evidence contained in the Evidence Act 1995 (Cth), including that their opinion, if based on their training, study or experience, will be accepted as an exception to the Australian 'opinion rule', whereby evidence of an opinion will generally not be admissible.¹³

Civil law jurisdictions

35. In many continental European jurisdictions, the court conducts its own factual investigation and appoints its own experts to confirm the relevant facts. Judges will often closely follow the reasoning of the court-appointed expert.
36. In Germany, for example, an expert opinion may be requested either by the court or by the parties. By common law standards, however, the involvement of the parties is relatively limited as the court itself will usually appoint, direct and instruct expert witnesses. The parties may put forward their own reports and raise objections and requests in respect of any opinions obtained by the court.

Decision makers and their political leaning

Judges vs juries

37. In the US, civil juries are the principal decision-makers in liability claims. They have broad discretion in respect of both liability and quantum. There are significant differences in jury composition, not only between states but also between counties. Juries in socially liberal counties of California, New York and Florida have a particular reputation for hostility towards corporate defendants. There is a justified perception of damages inflation, and Clyde & Co's own data suggest that damages award in fatality claims have risen by more than 30% in the last two years. Damages inflation is, in large part, a consequence of so-called 'nuclear verdicts' such as the decision of a south Florida jury to award USD1bn in damages to a single victim of a road traffic accident in 2021.
38. While juries may also be used in civil cases in Australia,¹⁴ they are much less common. The jury decides whether the defendant is liable on the balance of probabilities. The only grounds for appealing a jury verdict are serious error of law or serious misdirection by the trial judge. In the UK, juries have no part in civil claims, which are decided only by judges.

The composition of the judiciary

39. Most judges in common law countries will have served at least a decade in the profession before going to the bench.
40. In Europe there is no standard procedure for the appointment of judges. Many are career judges who enter the judiciary directly after leaving university, being recruited either through competition or by reason of special qualifications. As a result, European judges are independent, socially liberal and of a high intellectual standard, although their judgments are often quite academic. In Germany, for example, many judges have never practised as lawyers and began their careers at minor courts before being appointed directly to the bench. Appellate judges are promoted from the High Court, meaning that they come from the same pool.

The evolution of legal theories

41. The rules governing legal liability are not static in any jurisdiction. As we will see, in the last twenty years US judges have developed 'market share' theories of causation and public nuisance doctrines which have made environmental product liability claims significantly easier to pursue. Over the same period, English judges have shown a willingness to depart from established causation theories which are perceived to be an impediment to justice, especially in relation to employers' liabilities. Therefore we have sought to identify not only the current law but also the main emerging trends which we believe are likely to inform the development of the law over a 5- to 10-year period.
42. The evolution of legal theories and the ability to discharge accepted legal burdens of proof is often accompanied by an evolution of scientific evidence or increasing disclosure of existing evidence. This has both a backwards-facing and forwards-facing dimension.
 - a. The backwards-facing dimension is that parties may deny liability for their past conduct by asserting that the potential for harm was not sufficiently well known at the time when the allegedly unlawful conduct

occurred. That provides a good defence to many types of fault-based claim, including some of those in negligence and nuisance which we consider below.

- b. The forwards-facing dimension is that, as science improves, litigants find it increasingly easy to obtain convincing evidence of potential harms and their causation. Science can also be used as an interpretative tool to increase the standards of care, with the result that legal liability advances in step with science.

The effect of regulation on legal liability

43. There is a fascinating, and not always consistent, interplay between legal liability and regulation. This is a complex issue because regulation may affect legal liability in different ways:

- a. Regulation can act as a catalyst for litigation by imposing standards of liability. For example, if a regulator limits the permitted concentration of a chemical in drinking water, municipal water companies will incur additional costs which they may seek to recover in litigation against polluters or manufacturers of the polluting product.
- b. Regulation can have a chilling effect on litigation, by raising standards of behaviour and reducing the risk that a party will incur liability. For example, if the chemical referred to in the example above is banned from sale, the prospect of claims arising from its future use will fall away.
- c. Regulation can be used as a ground of complaint, for example if a product fails to comply with a legal standard or specification. In extreme cases the regulation may even impose a direct liability. The existence of regulations and directives does not necessarily afford a potential claimant the standing to sue, however. In Germany, for example, popular actions are inadmissible if the subjective rights of the claimant can obviously and clearly not be violated according to any point of view.

- d. Regulation can be used as an argument for the defence, for example if the existence of regulation under US federal law pre-empted the application of state law to the defendant's alleged liability and prevents a claim from proceeding in state court. There was recently an interesting case in Germany where a farmer attempted to prevent the construction of an artificial sports pitch on the basis that it might emit microplastics. The court rejected the challenge, having accepted the defendant's argument that the sports pitch complied with regulatory requirements.¹⁵

44. There are no absolute rules and we consider that regulation and legal liability are in practice too disconnected to formulate any concrete principles. We set out below three case studies demonstrating their disjunctive relationship.

Glyphosate: a case study

45. As summarised at paragraph 18 above, Monsanto has been affected by three jury decisions and negotiated a settlement with a combined value in excess of USD 13bn. Approximately 107,000 of 138,000 current cases have been settled.

46. Monsanto has also won four trials, most recently in Oregon on 17 June 2022, and has petitioned the US Supreme Court for the three adverse jury decisions to be set aside on the basis that the federal regulator, the Environmental Protection Agency ('EPA'), considers glyphosate to be safe. Indeed, in its latest review, conducted in January 2020, the EPA concluded:

*'there are no dietary risks of concern for any segment of the population, even with the most conservative assumptions applied in its assessments (e.g., tolerance-level residues, direct application to water, and 100% crop treated). The agency also concluded that there are no residential, non-occupational bystander, aggregate, or occupational risks of concern.'*¹⁶

47. The picture is therefore somewhat chaotic: three juries have determined that glyphosate is a cause of cancer, four juries have determined precisely the contrary, and the federal regulator considers that there are no risks of concern.

48. In June 2022 the Supreme Court denied Monsanto's petitions. No reasoned judgment was given, although the grounds may be inferred from the amicus brief filed by the US Government, i.e. that the EPA's rights to control the registration and labelling of pesticides do not pre-empt state law requirements to provide product safety warnings. The government's submissions were put on a narrow basis, as can be seen from the following:

'That does not mean that EPA registration and labeling decisions are never preemptive. [The Federal Insecticide, Fungicide, and Rodenticide Act] FIFRA and EPA regulations identify aspects of EPA-approved pesticide labeling that carry the force of law. For example, FIFRA and its implementing regulations make "use" requirements on EPA-approved labeling mandatory and enforceable against the user...

Neither FIFRA nor its implementing regulations, however, specifically address warnings for chronic health risks like carcinogenicity. No FIFRA provision or EPA regulation either requires or precludes warnings about harm a pesticide may cause to human health through long-term exposure. And EPA does not typically use the registration process to address those harms by requiring chronic-risk warnings on a pesticide's labeling. Rather, EPA primarily seeks to control such risks through use limitations or, where appropriate, cancellation proceedings.'

49. These are technical arguments concerning the relationship between state and federal law. As submitted by the US Government, no universal rule can be formulated. For the purposes of this analysis, however, the conclusion is reinforced that the relationship between regulation and legal liability is disjunctive. Specifically:

- a. Product safety and labelling is not in all cases within the exclusive jurisdiction of the federal regulator.
- b. Courts and regulators may legitimately disagree, in the sense that:
 - i. a regulatory determination concerning product safety does not automatically prevent legal liability from being imposed; and
 - ii. a decision imposing liability does not automatically lead a regulator to conclude that a product is unsafe.

Asbestos: a case study

50. In the case of asbestos, the regulatory response has fallen considerably behind civil litigation. The first asbestos lawsuit was brought in 1929, the first clear scientific studies emerged in the 1960s and mass litigation began in the 1970s. Hundreds of thousands of victims have been compensated yet asbestos is still not subject to a universal ban.

51. Despite several attempts to prohibit asbestos in the US, the use of the substance remains lawful in several applications. It is instructive to review the regulatory history over the same period as the tidal wave of litigation which occurred in US courts:

- a. In 1970 the Clean Air Act classified asbestos as a hazardous air pollutant and gave the EPA the power to regulate its use and disposal. Certain limited bans were imposed, e.g. in certain facility components and spray-applied products.
- b. In 1972 the Consumer Product Safety Act banned some applications of asbestos, e.g. in artificial fireplace embers and wall filler compounds.
- c. In 1976 the Toxic Substances Control Act gave the EPA greater powers to restrict the use of asbestos.
- d. In 1980 the National Institute for Occupational Safety and Health published a study concluding:

"All levels of asbestos exposure studied to date have demonstrated asbestos-related disease ... there is no level of exposure below which clinical effects do not occur."

- e. In 1989 the EPA proposed a new complete ban on the use of asbestos and asbestos containing products, but the proposal was overturned in 1991 following a court challenge brought by product manufacturers. Instead, the existing bans were extended to flooring felt, roofboard, certain types of paper and new uses of asbestos. All other uses of asbestos, such as in automotive brake pads and gaskets, were to remain legal.
- f. In 2002 the Ban Asbestos in America Act was introduced, aiming to impose a complete ban on the importation, manufacture, processing and distribution of products containing asbestos. The bill passed the US Senate but was not passed by the US House of Representatives.
- g. In 2008 the Bruce Vento Ban Asbestos and Prevent Mesothelioma Act aimed to amend the Toxic Substances Control Act to widen the ban on asbestos-containing products. The bill was not passed.
- h. In 2019 the Alan Reinstein Ban Asbestos Now Act aimed to amend the Toxic Substances Control Act to prohibit the manufacturing, processing and distribution of asbestos. The bill stalled in October 2020 and has not been passed since.
- i. In 2019 the EPA issued a final ruling which prevents a wide range of asbestos-containing products from being sold in the US without a further review.
- j. In 2020 the EPA completed a final risk evaluation which found unreasonable risks to human health. Further actions are awaited.
- k. Even the countries which have imposed outright bans on the use of asbestos have done so only relatively recently, as per the table below:

| Country | Date of ban |
|--------------|-------------|
| Australia | 2003 |
| Brazil | 2021 |
| Canada | 2018 |
| France | 1997 |
| Germany | 1993 |
| Italy | 1992 |
| Japan | 2004 |
| Netherlands | 1993 |
| South Africa | 2008 |
| South Korea | 2009 |
| New Zealand | 2002 |
| UK | 1999 |

52. Asbestos therefore serves as an example that strong scientific evidence and a multitude of court decisions imposing liability do not necessarily result in strong and immediate regulatory action.

PFAS: a case study

53. Perfluoroalkyl and Polyfluoroalkyl Substances ('PFAS'), a large group of manufactured chemicals which have been used in industry for several decades, are now ubiquitous in the environment and associated with serious bodily injury. Several important studies have been undertaken in the last 20 years:

- a. An early public study resulted from settlement in 2005 of a USD 343m class action lawsuit against DuPont. The settlement agreement made provision for a scientific investigation into the effect of PFOA on humans. After seven years of research, the scientists found a wide range of potential harms occurring at very low exposure levels.
- b. A human biomonitoring study conducted in Europe found PFOS and PFOA in the blood of all humans tested. It pointed to adverse health effects including thyroid disease, increased cholesterol, breast cancer, liver damage, kidney cancer, inflammatory bowel diseases and testicular cancer. The most consistent findings are increased cholesterol levels among exposed populations, with more limited findings related to low infant birth weights, effects on the immune system, cancer (for PFOA), and thyroid hormone disruption (for PFOS).
- c. The European Environment Agency lists the main effects of PFAS on human health, which include thyroid disease, increased cholesterol levels, effects on reproduction and fertility, immunotoxicity, liver damage, kidney and testicular cancer. Immunotoxicity and endocrine effects have been reported for some PFAS.
- d. The Center for Disease Control ('CDC') recognises that exposure to high levels of PFAS may impact the immune system. There is evidence from human and animal studies that PFAS exposure may reduce antibody responses to vaccines. The EU also reports a connection between PFAS and immune system issues.

54. Litigation relating to PFAS is already well advanced. The first major case was the class action lawsuit against DuPont referred to above. Several thousand complaints for bodily injury, property damage and environmental harms are now being heard in multidistrict litigation in South Carolina. The claimants generally allege that aqueous film-forming foams ('AFFFs') containing perfluorooctanoic acid ('PFOA') and/or perfluorooctane sulfonate ('PFOS'), two types of PFAS, contaminated groundwater near various military bases, airports, and other industrial sites where AFFFs were used to extinguish liquid fuel fires. The claimants allege that they have suffered personal injury, property damage and other economic losses.

55. International regulation has largely kept pace with the progress of litigation. The Stockholm Convention on Persistent Organic Pollutants ('POPs') is a global treaty with 152 signatories which aims to combat the negative effects of POPs, including PFAS, by eliminating their production, storage and use, supporting the transition to safer alternatives and identifying new substances that require regulation.

56. The EU has also responded with tighter regulation. It ratified the Stockholm Convention in 2004 and Regulation 2019/1021, which came into force on 15 July 2019, contains strict rules governing the production, marketing, storage and use of PFAS. In 2021 the EU published a new strategy under the Chemical Strategy for Sustainability (CSS) which identified PFAS as chemicals needing immediate attention and highlighted their widespread contamination of European soil and water, as well as the 'full spectrum of illnesses' to which they have been connected. The CSS includes proposals to ban all non-essential uses of PFAS. In 2021 the revised Drinking Water Directive (EU) 2020/2184 has set an absolute limit of 0.1g/L (100,000 parts per trillion) for the PFAS compounds which are of the greatest concern.

57. US regulators are still catching up. The US signed the Stockholm Convention in 2001 but is yet to ratify it. The regulation of PFAS in the US is led by state governments and legal controls are of a patchwork nature. PFAS regulation is a key ambition of the Biden administration, however, and in June 2022 the EPA tightened its lifetime health advisory levels for the two most dangerous contaminants: 0.004 parts per trillion for PFOA, and 0.02 parts per trillion for PFOS. Those are dramatically more stringent than the 70 parts per trillion recommended by the EPA in 2016 and the legal standards set by the EU Directive. The EPA's health advisories are not regulatory instruments: they are rather a source of technical information for public health officials. Federal regulation is not expected to be proposed until later in 2022.
58. In Australia, PFAS is regulated by both the Commonwealth and the States and Territories.¹⁷ Recent regulations in New South Wales ban the use of PFAS firefighting foam to reduce its impact on the environment,¹⁸ subject to an exemption for preventing or fighting catastrophic fires.¹⁹
59. PFAS is therefore an example of litigation leading the regulatory process.
60. Limitation periods play an important role in mass tort litigation by reducing the pool of eligible claimants. Limitation periods may complicate plastics claims as scientists are still exploring their full impact on human health and the timescales of potential harms. There is a possibility that, by the time the science is suitably developed, many claimants will be out of time.
61. Statutes in Australia and England & Wales apply a general six-year limitation period for tort claims, with certain exceptions:
- The limitation period applicable to personal injury claims is three years running from the date on which the cause of action arose. In England and Wales, and in some Australian jurisdictions, the limitation period for personal injury claims does not begin running until the claimant has acquired the relevant knowledge in order to bring a claim.
 - In Australia, there is precedent for statutory intervention if limitation periods are perceived to operate unfairly. For example, the Dust Diseases Tribunal of New South Wales disapplies normal limitation rules in recognition of the long time-lapse between exposure to dust, the appearance of symptoms and the diagnosis of a condition. Depending on the strength of the evidence and public opinion, it is possible that similar provisions might be enacted in respect of plastics.
62. In Germany, the limitation period for tort claims is usually three years and begins at the end of the year in which the claim arose and claimant became aware or should reasonably have become aware of the damage and the identity of the liable party,²⁰ subject to a long stop of 30 years for injury claims²¹ and 10 years for property damage²² and product liability²³ claims.
63. In the Netherlands, the limitation period for tort claims is usually five years from the date on which the claimant became aware or should reasonably have become aware of the damage and the identity of the liable party,²⁴ subject to a long stop of either 20 or 30 years for material and financial damage claims²⁵ and 10 years for product liability claims.²⁶ For harmful acts occurring after 1 February 2004 there is no long stop for personal injury claims.²⁷
64. In most jurisdictions, the limitation period for harms suffered by minors does not commence until their eighteenth birthday.²⁸

Limitation periods

60. Limitation periods play an important role in mass tort litigation by reducing the pool of eligible claimants. Limitation periods may complicate plastics claims as scientists are still exploring their full impact on human health and the timescales of potential harms. There is a possibility that, by the time the science is suitably developed, many claimants will be out of time.
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65. In some civil law systems, including in the Netherlands, most limitation periods can be interrupted and suspended relatively easily through a written notice which clearly reserves the claimants' rights.²⁹

Extraterritoriality: head office liability for claims occurring abroad

66. With many legal cases, the facts are confined to a single jurisdiction. What would be the position if a claimant outside the jurisdiction sought damages against a defendant within the jurisdiction for damage suffered abroad? This is a particular issue with plastics liability, where supply chains and potentially harmful effects operate on a global scale. Courts around the world have recently shown interest in so-called 'head office liability', where companies may be held liable for torts committed by their subsidiaries abroad.

- a. In England, there is a recent line of authority under which an English head office may be found to owe a duty of care to the alleged victims of its subsidiary's environmental impacts, if the parent company exercises a degree of control over subsidiary's operations.³⁰ The requisite degree of control can be found, for instance, on the basis of the head office issuing group guidelines about minimising the environmental impact of inherently dangerous activities, taking active steps, by training, supervision and enforcement, to see that the group-wide policies are implemented by relevant subsidiaries, or publishing materials in which it holds itself out as exercising a degree of supervision and control of its subsidiaries, even if it does not in fact do so. If the court finds that the parent company exercises sufficient degree of control over its overseas subsidiary, the parent will owe a duty of care directly to the local residents.
- b. English case law on head office liability for environmental harms is in a relatively nascent stage, with only three cases decided on jurisdictional grounds,³¹ and none on full merits. However, we see indications that English courts are increasingly willing to recognise this type of liability in circumstances where English courts are forum conveniens, the most suitable forum for the case to be tried for the interest of all parties and the ends of justice. At the same time, claimants are encouraged to bring new cases or apply for permission to appeal in previously dismissed cases³² following first judgments that allowed these extraterritorial environmental liability cases to proceed to trial in England.
- c. Similarly, the Dutch courts have jurisdiction in cases where the defendant is based in the Netherlands, even if the damage was suffered abroad, as well as in cases where the harm occurred within its territory.³³ Consequently, a Dutch defendant could be sued in its home jurisdiction for exposures and harms occurring elsewhere in the world. Recent case law in the Netherlands has found that a head office could owe a duty of care to the alleged victims of its subsidiary's environmental impacts, if the parent company exercises a degree of control over subsidiary's operations. In the *Milieudefensie v Shell*,³⁴ the Court of the Hague ruled that Royal Dutch Shell has an obligation to reduce the CO₂ emissions of the Shell group as a whole, and must also take serious steps to reduce the CO₂ emissions of other entities in the Shell Group, its suppliers and end users. This broad scope of influence attributed to Royal Dutch Shell by the Court has been met with both praise and criticism, and Shell has appealed against the decision. The judgment by the Court of Appeal is not expected for quite some time.

- d. In Germany, the well-known case of *Luciano Lliuya v RWE AG*, brought before German courts back in 2015 by a Peruvian farmer supported by environmental NGO Germanwatch against RWE, Germany's largest electricity producer, is an excellent example of a strategic choice made by claimants in environmental litigation. Mr Lliuya alleges that RWE, having knowingly contributed to climate change by emitting substantial volumes of greenhouse gases, should be held partly responsible for the melting of mountain glaciers near his town of Huaraz in Peru. Since the harm complained of occurred in Peru, Peruvian courts would be a natural forum for this dispute. However, Mr Lliuya decided to bring the claim in the German courts because the defendant – the parent company of the operators responsible for the greenhouse gas emissions – is based in Germany.
- e. A similar case has been brought before Swiss courts against Swiss cement producer Holcim by four Indonesian fishermen seeking proportional compensation for damages already caused by climate change, as well as the co-financing of necessary flood protection measures on their native island of Pari.
- f. Taking a slightly different direction, the Federal Court of Australia ordered the German parent company Volkswagen AG³⁵ to pay AUD125m in penalties for its false representations about compliance with Australian diesel emissions standards. No orders were made against the Australian subsidiary, Volkswagen Group Australia Pty Ltd.
- 67. Head office liability is an extremely important device for claimants who wish to choose a sophisticated, efficient forum for the resolution of environmental disputes. We are aware of similar developments in the Canadian courts and expect the trend to develop in future years.**
- 68. The trend in Europe will be strengthened by the introduction of the EU Supply Chain law, under which EU companies must ensure compliance with the legal requirements not only for themselves and their subsidiaries, but also for their suppliers along the entire value chain, i.e., all activities related to the production of goods or the provision of services, including upstream and downstream business relationships. Companies may be held liable for violations of human rights or environmental protection committed by their regular suppliers.**
- 69. The US courts are more reticent concerning head office liability. A US defendant is always subject to jurisdiction in its own forum, even in suits brought by foreign claimants. However, a suit brought by a foreign claimant against a US defendant is subject to dismissal based on forum *non conveniens* arguments if the court deems that the foreign forum is remotely adequate. Across the US Circuit Courts, product liability cases brought by foreign claimants have been routinely dismissed where the product in question, typically an aircraft, involved an accident occurring abroad.³⁶ In these cases, the courts determined the foreign jurisdiction was the more appropriate forum since the physical evidence and medical reports, as well as the production, sale and alleged failure of the product were located there. US courts have also considered the availability of witnesses and their locations in determining which forum is more convenient.**
- 70. Should the suit survive a motion for dismissal based on forum *non conveniens*, another consideration is which jurisdiction's law to apply. Courts apply the choice of law rules of the forum state. A common choice-of-law method is the most significant relationship test set forth in the Restatement (Second) of Conflict of Laws § 145. Under this method, a foreign jurisdiction's law could, therefore, apply if the foreign jurisdiction has the more significant relationship to the matter.³⁷ In matters brought in state courts, several states introduced legislation to restrict the use of foreign law in state court.³⁸**

PART 2:

Case studies

Injury to employees caused by exposure to phthalates during the manufacture of plastic products

71. In the comparative analysis below, we consider a hypothetical employers' liability situation in which the claimant is an employee in a manufacturing facility which produces plastic containing phthalates. The claimant alleges that she developed uterine cancer as a result of exposure to phthalates in the workplace and now sues the employer.
72. Employees rarely have difficulty in establishing the existence of a duty of care for injuries occurring in the course of employment. The duty of care derives from a combination of health and safety rules, workers' compensation schemes and contractual duties arising under the contract of employment. If phthalates are proven to be dangerous chemicals, a significant long-term exposure occurring in the workplace is likely to equate to a breach of that duty.
73. The major complicating factor will be the requirement to prove a causal connection between exposure and injury. The problem is particularly acute because phthalates are so ubiquitous. Every day outside the workplace the claimant will have been exposed to dozens of products containing phthalates, from PVC to lubricating oils and personal care products. In order to bring a successful case, the claimant will need to satisfy the judge or jury that the workplace exposure so significantly outweighed the day-to-day exposure that liability should attach. The claimant must also address the argument that uterine cancer may occur naturally, without any external cause.
74. Solid expert evidence, attributing a specific increase in risk to the workplace exposure, is therefore a prerequisite of a successful claim. In this context the rules governing the admissibility of expert evidence, summarised at paragraphs 33 to 39 above, may be fundamental to the claimant's prospects of success.
75. Assuming that the claimant's experts can attribute a specific increase in risk to the workplace exposure, the judge or jury will need to consider whether the increase was sufficiently material to amount to a legal cause. In this context, the usual standard of causation is that of 'but for', meaning that a defence verdict will be given unless the claimant can demonstrate that the uterine cancer would not have occurred but for the workplace exposure. That is a high threshold, which the claimant is unlikely to meet in the context of a chemical as ubiquitous as phthalates.
76. There are, however, some important exceptions to the 'but for' standard. We consider two such exceptions and their applicability to plastics litigation below.

England and Wales: the 'material increase in risk' standard

77. In England and Wales, the law of causation in employers' liability cases was radically reshaped in mesothelioma litigation. In *Fairchild v Glenhaven*,³⁹ the claimants had been exposed to asbestos throughout their working lives while working for different employers. As they could not prove during which period of employment the harm occurred, the employers argued that none of them could be held to account. The court held that, exceptionally, the need for common sense should prevail over the strict requirements of causation, and therefore the employees could recover compensation from any employer who had materially contributed to the risk of harm. The court abandoned the 'but for' principle and used instead the test of 'material increase in risk' whereby a claimant need show only that the defendant's actions materially contributed to the injury.

78. An important clarification was issued in *Barker v Corus*,⁴⁰ where the court attempted to quantify the contribution of each defendant. The court decided that, where several defendants have subjected a claimant to a risk of contracting a disease, liability should be divided according to each defendant's contribution to that risk. Each defendant would be liable for its proportion of the damage and no more. The proportion of liability would be a question of fact, to be decided by the trial judge, and based on factors such as: the duration of the exposure to asbestos or other agent; the intensity of that exposure; and the type of agent to which the claimant was exposed.
79. The UK Government decided to reverse the effects of *Barker* through the Compensation Act 2006, which enabled the victims of asbestos-related illness to claim full compensation from any of the persons liable in negligence or in breach of statutory duty for having exposed them to asbestos. The defendants found liable may then seek contribution from each other and/or from others who might have contributed to the harm.
80. In a further follow-up case, *Sienkiewicz v Greif (UK) Ltd and Knowsley MBC v Willmore*,⁴¹ the defendant argued that it should be liable in damages only if its conduct had at least doubled the risk of mesothelioma. The Supreme Court rejected that argument, holding that a defendant could be liable if there was only a single exposure to asbestos. The decision shows the Supreme Court resisting an attempt to prevent *Fairchild* or the 2006 Act applying to single exposure mesothelioma cases. If the defendants had succeeded it would have made it very difficult for claimants to succeed in such cases without very complex statistical evidence, which is unlikely to be definitive.
81. Therefore, the current position is that the claimant must show that the defendant's conduct was at least capable of causing or aggravating the damage, and that it materially increased the risk of that damage.
82. It is important to stress that this special causation test has not yet been widely adopted outside the narrow context of mesothelioma claims (sometimes referred to as the "Fairchild enclave"). It might be argued that mesothelioma claims are subject to different scientific and legal considerations, for example because there are so many sources of non-tortious exposure to phthalates. Nevertheless, potential claimants will undoubtedly seek to rely upon the line of authority stemming from *Fairchild* in support of their claims.
- Netherlands: a judicial presumption of causality**
83. The Dutch solution to the causation conundrum is, in certain cases, a shift of the obligation to submit the relevant information and arguments from the claimant to the defendant. Dutch law recognises that causation may be difficult to prove in cases of occupational diseases that develop slowly over time, and therefore it meets the employee half-way. If, in the course of employment, an employee is exposed to hazardous substances that could have caused his or her complaints, the court will assume a presumption of the existence of a causal relationship. In order to trigger this rule, the employee should:⁴²
- state and, if disputed, prove that there was a significant exposure to phthalates in the workplace that could have been damaging to her health; and
 - state and, if disputed, offer enough substantiation to make it sufficiently plausible, that the illness or health problems could have been caused by the exposure.
84. This presumption of causality may not be used if the causal relationship is too uncertain or too indeterminate and can be countered by providing arguments that show the contrary (i.e. that a causal relation is not likely or plausible).⁴³ If the reason for the uncertainty about the causal relationship is due to another cause that has likely contributed to the development of the cancer, the court could apply a proportional attribution of damages based on the respective chances that the cancer was caused by the exposure during work in comparison with other causes.

85. Therefore, the chances of a successful claim in the Netherlands will very much depend upon the type and extent of the exposure, what is medically known about the causes of type of cancer that the employee developed and whether there are any indications that the employee might have been exposed to phthalates or similarly harmful chemicals in other ways or previous jobs. The claimant will have to clear some hurdles and might be deterred by the length of and complications of the discussion regarding causality (most likely including several medical expert opinions). However, when the employer cannot assert that the exposure to phthalates did not exceed the acceptable limits and the type of cancer could well be caused by such an exposure to phthalates, the claimant's prospects of recovery are increased.

86. A recent example of employers' liability for exposure to harmful substances is the judgment of the district court of Rotterdam of 7 July 2022,⁴⁴ in which the court ruled that chemical company DuPont did not take sufficient precautions to protect its employees against exposure to DMAc used in the production of Lycra yarns and should have done more to inform its employees about the dangers of DMAc. The causality with the alleged harm still remains to be assessed and the case should be monitored for its potential relevance to future plastics litigation.

Injury to consumers caused by exposure to BPA in food packaging products

87. Product liability claims are an attractive liability pathway if the conditions suffered by consumers are the signature conditions associated with the consumption of a particular product.

88. In the comparative analysis below, we consider a typical product liability situation in which the claimants are a group of adults suffering from an above-average incidence of infertility. They claim damages in personal injury from a major manufacturer of plastic

baby bottles containing BPA, alleging that their mothers used exclusively that brand of bottle when they were children. They argue that the bottles were defective and/or that the manufacturer was negligent for including BPA in its process. They adduce expert evidence to demonstrate that humans are most vulnerable to BPA exposure in their early childhood, and on that basis seek to dismiss the causal significance of later life exposures.

89. The two central issues of complexity in this litigation are as follows:

- a. Can the baby bottles be characterised as defective products?
- b. Can the claimants discharge the burden of proving causation?

The characterisation of BPA as a defective product

90. The jurisdictions under consideration all adopt substantially similar definitions of product defect:

- a. The Australian Consumer Law ('ACL')⁴⁵ provides that goods have a safety defect if they do not provide the level of safety that persons are generally entitled to expect. This is known as the "community expectations of safety" test. It is an objective test that considers the knowledge and expectations of the community (rather than the subjective knowledge and expectations of an injured party).⁴⁶ The relevant time for assessing whether goods have a safety defect is the time when the goods were put into circulation by the manufacturer. It follows that the community in question might bring a claim under the ACL and rely on the expert evidence to show that the harm "has come home". They would have to show that the baby bottle had a safety defect (i.e. failed to satisfy the community expectations of safety) at the time of supply. The court would expect to hear authoritative expert evidence on the harms to children arising from the use of BPA and its disproportionate effects in early life.

- b. In European jurisdictions, including the UK, the law of product liability is built around the European Union's Product Liability Directive of 1985. Under the Directive, a product is defective if the safety of the product is not such as persons generally are entitled to expect, taking into account a wide range of circumstances including the marketing of the product, any instructions or warnings, the reasonably expected use of the product and the date of supply. A product is not unsafe just because a safer product was subsequently developed, or because industry safety standards were raised after the product was supplied. Indeed, European product liability law also incorporates a 'development risks' defence which applies where "the state of scientific and technical knowledge at the time when [the defendant] put the product into circulation was not such as to enable the existence of the defect to be discovered".
- c. In the US, the typical elements for a design defect claim are (1) the product's design rendered it unreasonably dangerous; (2) a reasonably safer alternative design existed; and (3) the defective design caused the injury. A reasonably safer alternative design is an economical design that would have, at a minimum, significantly reduced the risk of injury without substantially impairing the product's utility. A claimant need only show that the alternative design was feasible, not necessarily in production.⁴⁷ The typical elements for a failure to warn claim are: (1) a duty owed by the product's manufacturer (2) to warn of dangers from foreseeable uses and (3) the failure to warn caused harm to the claimant.⁴⁸

91. Therefore, unless courts start to take a more expansive view of current causation theories, in order to establish the existence of a defect, the court would need to be persuaded both that BPA presented a risk to human health and that enough was known about the risk at the date of supply in order for the product to be characterised as defective.

Causation in product liability claims

- 92. Similarly, under product liability claims, proof of causation remains a hurdle for claimants. In each of the jurisdictions under consideration, this may mean the claimant's evidence needs to address:**
- the above-average incidence of disease and asthma is statistically relevant;
 - the statistical anomaly can be explained by exposure to BPA; and
 - the exposure risk created by the defendant during early childhood outweighs the exposure risk arising from all other sources of BPA during the claimant's lifetime.
- 93. In each of the jurisdictions under consideration, courts have typically applied a strict 'but for' test of causation, and the claimants' case will stand or fall on the strength of their scientific evidence.**
- 94. As the law presently stands in each of the jurisdictions, we have not identified any alternative causation theories which have provided claimants with any assistance. For example, as it currently stands, the US 'market share' theory is not relevant where the competing causes are not other manufacturers, but rather other sources of exposure, and the English 'material increase in risk' doctrine has yet to be applied outside the sphere of employers' liability.**
- 95. One possible exception is in the Netherlands, where the court may be persuaded partially to shift the obligation to submit argumentation and information to the defendant if the claimants can make it sufficiently plausible that: (i) the product exposed them to levels of BPA that exceeded the acceptable substance limits set by the relevant authorities (such as the EFSA) at the time;⁴⁹ and (ii) those substance limits served as a safety measure intended specifically to safeguard individuals from developing health complaints such as those mentioned. We envisage that the manufacturer would**

dispute the presumption of causality on this theory by arguing that: (i) the mothers of the claimants were likely at least occasionally to have used other brands of bottles or products containing BPA; (ii) exposure later in life could also have caused the current complaints; and (iii) that the complaints mentioned are not related to BPA at all. The advance of technical and medical evidence, in which expert opinions again will play a decisive role, will likely enable these evidentiary burdens to be discharged more readily.

Other hurdles

96. For the sake of completeness, there are likely to be other important hurdles raised to defend these novel claims.

- a. The first is limitation. As mentioned previously, the longstop limitation period under European product liability law is usually 10 years from the date on which the product was placed on the market.
- b. In the US, claimants relying on bodily injury claims will continue to struggle to obtain class certification. In the late 2000s, various multidistrict consumer class action suits were brought against manufacturers of baby products such as Playtex, Gerber and Dr. Brown's, arising from their use of BPA in products such as baby bottles. It was alleged that BPA would release into the contents of the baby bottles when those bottles were heated, rendering the contents unsafe for consumption. The litigation did not allege any claimants suffered bodily injury from BPA. Rather, it addressed the possibility that such bodily injury could occur. The litigation failed to prosper and, among other difficulties, the court denied the plaintiffs' motion to certify the following class:

"All individuals who on or after January 1, 2002, purchased a new polycarbonate baby bottle or training/sippy cup in Missouri that was manufactured, sold or distributed by [Defendant]. Excluded from the class are any persons who obtained any refund from any retailer in connection with such polycarbonate baby bottles or training/sippy cups."

The purported class was unfit for certification because it included consumers who did not in fact suffer injury and consumers who bought or used the product with knowledge of the potentially harmful properties of BPA.⁵⁰

- c. The German courts also apply a limit of liability of EUR 85m⁵¹ for personal injury claims caused by a product or identical products with the same defect. The limit is not measured for each case of damage, but for all damage from the same product defect (use of BPA). If the compensation payable to the injured parties together exceeds the limit, individual compensation payments are reduced proportionately.

Injury to the public caused by microplastic leachate from landfill

97. **Public liability claims are less common than employers' claims because the standard of care owed to the general public is usually lower than that owed to employees. Factually such claims may also be more complex because the defendant will often account for a lower percentage of the claimant's exposure to toxicity. Nevertheless, in recent years we have seen various public liability claims being brought, e.g. in respect of activities contributing to climate change and the recommendation and prescription of opioid painkillers.**
98. **In the comparative analysis below, we consider a typical public liability situation in which the claimants are a group of residents living in a small town with a landfill site. Instances of inflammatory bowel disease are higher than the national average, a phenomenon which the claimants allege was caused by the leaching of microplastics from the landfill into the local water supply. The landfill operator makes a third-party claim against the country's five largest plastic primary polymer manufacturers, who between them manufacture 50% of the material sent to landfill nationwide, seeking an indemnity for its liability to the claimants.**
99. **We consider separately the residents' claim against the landfill operator and the landfill operator's claim against the polymer manufacturers.**

Residents' claim against the landfill operator

100. Leachate of toxic chemicals from a landfill site trigger legal obligations in tort and under environmental law.

- a. In Australia, England and the US, the common law of nuisance provides a remedy for landowners if their neighbour has caused an unreasonable and substantial interference with the use and enjoyment of their land. Although personal injury is not usually recoverable in the law of private nuisance, injury claims may be brought in the parallel tort of negligence.
- b. For example, in a recent class action in New South Wales, communities surrounding defence bases alleged that the Department of Defence negligently allowed PFAS to escape from the bases and contaminate local environments. It was alleged that the contaminants negatively impacted the communities' properties, land values and livelihoods. The communities reached an out-of-court 'in principle' settlement with the Department of Defence in the amount of AUD 212.5m.⁵²
- c. A further example from Australia is the class action brought by residents of the Brookland Greens Estate in Victoria in Wheelahan against multiple defendants, including the City of Casey and the Victorian Environment Protection Authority.⁵³ The claimants argued that their homes were affected by high levels of methane from a nearby landfill, making claims in the tort of nuisance and negligence. A settlement amount of AUD 23.5m was approved by the Supreme Court of Victoria.⁵⁴
- d. In Germany, injury to the neighbours of the landfill site would give rise to an action under section 823 (1) of the German Civil Code (BGB), which states: "A person who, intentionally or negligently, unlawfully injures the life, body, health, freedom, property or another right of another person is liable to make compensation to the other party for the damage arising".

101. As in the product liability case study considered above (see paragraphs 87 onwards), the attribution science is still developing to provide the causal link that the increased incidence of disease in a community is sufficient to establish that the activities of the landfill site have caused injury in the population. The claimants will attempt to prove causation by demonstrating the likely pollution pathways and providing statistical analysis to support the theory that the incidence of disease indicates a clear relationship between the escape of pollutants and harm to the community. Under current causation doctrines, the evidence may need to relate to identifiable individuals, because statistical evidence relating to the town as a whole may not be accepted by a court. Not all those who suffer from the signature condition will have been exposed to the plastic leachate. Equally, of those who do suffer from the condition, the leachate might not have had any causative relevance to their illness.

102. In German law, the harmful conduct of the respondent must cause a violation of a protected legal interest of the claimant (*haftungsbegründende Kausalität*). For this, the claimants bear the burden of proof. The claimants need to show that the failure of the landsite to prevent the leaching of microplastics caused each claimant individually to experience an increased risk of developing disease. If the claimants cannot rule out that the violation of their legal interest resulted from circumstances other than the conduct of the landfill operator (e.g. general pollution by the population or other locally occurring carcinogenic influences such as smoking, radioactivity, asbestos or heavy metals), they would need to rely on the court making a presumption of causality in response to *prima facie* evidence submitted by the claimants (*Anscheinsbeweis*) or a reversal of the burden of proof which may be imposed for a violation of emission limits under environmental law.

103. A similar issue relating to the generality of statistical evidence caused the BPA product liability litigation of the late 2000s to fail to meet the class certification requirements, as referenced at paragraph 96.b above. The plaintiffs' proposed class had included those who had not suffered an injury in fact.⁵⁵

Landfill operator claim against the polymer manufacturers

104. In common law jurisdictions, the contribution claim against polymer manufacturers is likely to be presented under a range of legal theories including the torts of negligence and public nuisance. The latter merits close attention because plaintiffs in US environmental tort litigation have begun to use it aggressively and successfully.

- a. The modern concept is expressed in section 821B of the Restatement (Second) of Torts:

"(1) A public nuisance is an unreasonable interference with a right common to the general public.

(2) Circumstances that may sustain a holding that an interference with a public right is unreasonable include the following: (a) whether the conduct involves a significant interference with the public health, the public safety, the public peace, the public comfort or the public convenience, or (b) whether the conduct is proscribed by a statute, ordinance or administrative regulation, or (c) whether the conduct is of a continuing nature or has produced a permanent or long lasting effect, and, as the actor knows or has reason to know, has a significant effect upon the public right."

- b. In the 1980s and 1990s, multiple suits were brought against asbestos manufacturers, alleging that asbestos created a public nuisance affecting the public's right to health or safety. Similar suits followed against the tobacco industry,⁵⁶ gun manufacturers,⁵⁷ the manufacturers of lead-based paints,⁵⁸ the providers of sub-prime mortgage loans and those involved

in the prescription and supply of opioid painkillers.⁵⁹ The claims generally struggled to prosper in the appellate courts, with the prevailing doctrine being summarised in the following terms by the Oklahoma Supreme Court in the opioid litigation:

"applying the nuisance statutes to lawful products as [plaintiffs] request would create unlimited and unprincipled liability for product manufacturers; this is why our Court has never applied public nuisance law to the manufacturing, marketing, and selling of lawful products."⁶⁰

- c. Despite those challenges, successful public nuisance lawsuits continue to be brought.
- i. In December 2021, after a six-month jury trial, the New York Attorney General obtained judgment against Teva Pharmaceuticals for its role in manufacturing and marketing opioid painkillers. In July 2022 it was reported that Teva had reached a tentative settlement of USD 4.25bn.⁶¹
- ii. In April 2022, the Attorney General of Rhode Island reported that a settlement of USD 15m had been reached with three defendants to a long-running public nuisance lawsuit relating to the contamination of public drinking water with MTBE.⁶² The lawsuit is continuing against five defendants who deny the commission of a public nuisance and have yet to settle. The key allegation is that the defendants:
- "promoted, marketed, distributed, supplied, and sold MTBE, gasoline, and other petroleum products (collectively referred to as "gasoline") containing MTBE, when these Defendants knew or reasonably should have known that MTBE would be released into the environment and cause MTBE and/or TBA contamination of property, water, water supplies, and wells throughout the State in violation of federal and state law."*

- d. While proving the liability of manufacturers in public nuisance claims continues to present challenges, the scale of recent trial and settlement activity indicates that plaintiff lawyers consider this a potentially fruitful litigation pathway.

105. Public nuisance claims would be presented differently in civil law systems. Under German law, for example, the landfill site could be entitled to make a tortious claim based upon the proposition that placing harmful polymers on the market could be considered to violate property or other rights under section 823 (1) BGB. The liability towards the claimants is a pure damage to the landfill's capital assets. However, the fact that the landfill's waste and soil have been contaminated could be considered a property violation, if it is assumed that the possibility of using the waste will be eliminated without protective measures.

106. Irrespective of the jurisdiction and precise legal theory, landfill site claims will likely face the following challenges in order to succeed:

- a. The sale of polymers is lawful and serves many useful purposes. The claimants may be required to adduce evidence of fault, e.g. by demonstrating that the defendants were aware of the leachate risk from landfill at the product's end of life and took no steps to abate the risk by designing a product which could be safely recycled or disposed of. The claimants may also be able to prove the existence of a regulatory breach, e.g. a violation of the Single Use Plastics Directive for products sold after 3 July 2021. Absent evidence of fault on the manufacturers' part, however, the 'lawful product' defence carries significant weight.
- b. The landfill operator owes its own duty of care (and operates according to environmental permits) to ensure that waste is properly processed and adequate provisions are taken to guard against harmful effects. This may manifest itself as a partial defence, i.e. that the landfill operator's claim should be discounted by reason of its own contributory

negligence. Alternatively, the landfill's own responsibility may entirely negate the manufacturers' duty of care. According to German law, for example, it could be argued that the polymer manufacturer does not interfere with the established and practiced business operations of the landfill (eingerichteter und ausgeübter Gewerbebetrieb).

107. Furthermore, as the five defendant manufacturers account for only 50% of the market, none would in isolation pass the traditional 'but for' test of causation. An alternative causation theory would be necessary, according to the rules of each jurisdiction.

- a. In the US, the court has developed a 'market share' theory of causation following the landmark product liability case of *Sindell v Abbott Laboratories*.⁶³ There, a claimant was injured by a drug but could not establish which company had manufactured the drug. The California Supreme Court found each manufacturer of the drug liable for a percentage of the claimant's damages based on its market share of the drug production. In subsequent cases the market share theory has been explained as follows:

*"Under market-share liability, when a claimant is unable to identify the specific manufacturer of a fungible product that caused her injury, the claimant may recover damages from a manufacturer or manufacturers in proportion to each manufacturer's share of the total market for the product."*⁶⁴

*"Under market share liability, the burden of identification shifts to the defendants if the claimant establishes a prima facie case on every element of the claim except for identification of the actual tortfeasor or tortfeasors."*⁶⁵

Given the omnipresence of plastics, it will remain challenging on existing scientific evidence to pinpoint whose plastic products caused which harm to which claimants in this scenario; hence, a theory of market share liability might be viable.

- b. In England and Wales, market share based theories of causation have not been tested in court. In the recent case of *FCA v Arch*,⁶⁶ however, the Supreme Court cited with approval some academic examples of alternative causation theories in liability claims, including the following:

“A hypothetical case adapted ... which was discussed in oral argument on these appeals, postulates 20 individuals who all combine to push a bus over a cliff. Assume it is shown that only, say, 13 or 14 people would have been needed to bring about that result. It could not then be said that the participation of any given individual was either necessary or sufficient to cause the destruction of the bus. Yet it seems appropriate to describe each person’s involvement as a cause of the loss. Treating the “but for” test as a minimum threshold which must always be crossed if X is to be regarded as a cause of Y would again lead to the absurd conclusion that no one’s actions caused the bus to be destroyed.”

On the facts, the Supreme Court held that each and every case of Covid-19 during the pandemic was an equal and effective cause of business interruption losses suffered by UK businesses. Although the context is very different from that of the case study, it indicates that the Supreme Court might be open to alternative theories of causation in appropriate cases.

- c. Under Dutch law, a group of parties can be found to be jointly and severally liable for the whole of the damages suffered, if the following conditions are met:⁶⁷
- i. each party conducted itself in a way that could give rise to a claim against that party (aside from the proof of causality);
 - ii. each party’s conduct could theoretically have caused the damage;
 - iii. the damage caused has arisen from at least one of these behaviours; and
 - iv. it cannot be determined which of these parties set the actual cause for the damage.
- d. We are not aware of alternative causation theories being adopted in any of the other jurisdictions under consideration.
- 108. Finally, it is worth noting that, in the US, should the bodily injury claims also have attendant claims for clean-up costs of the contaminated water supply, state and/ or federal statutes may impose joint and several liability upon all parties involved with the disposal of materials deemed hazardous waste into the landfill. For instance, CERCLA Section 107(a)(3)⁶⁸ provides that any person who “arranged for the disposal or treatment of hazardous substances owned or possessed by such persons at any facility owned or operated by another party or entity is liable to any person who, as a result of a release or threatened release of hazardous substances from the facility, incurs response costs consistent with the [National Contingency Plan].” In the event that polymers and microplastics were characterised as hazardous substances, the landfill operator may have causes of action for statutory contribution.**

Damage to municipal property caused by the presence of micro and nano fibres in the drinking water supply

- 109. In this section we discuss property damage claims brought by private or public entities whose property has been contaminated by exposure to harmful chemicals. Such claims are exemplified by MTBE, PCBs and PFAS litigation in the US, where municipalities have claimed the very significant costs of decontaminating public drinking water supplies. Other types of claims might arise from the perceived connection between microplastic pollution and the declining productivity of agricultural land.**
- 110. In the comparative analysis below, we consider a typical property damage claim where a municipal drinking water provider claims from a major manufacturer of polyester the cost of upgrading its infrastructure to remove micro and nano fibres from the public supply.**

US

- 111. We begin our analysis with the US because, in that jurisdiction, there is already significant claims activity between water suppliers and the manufacturers of polluting products.**
- 112. Traditional legal theories have, to date, generally been unsuccessful in supporting claims against manufacturers, and it will remain challenging for claimants to prevail solely by reason of the defendant's introduction of the purportedly hazardous products into the stream of commerce. Rather, to satisfy traditional theories, there must be a direct causal connection between the defendant's activities and the subject contamination.**
- a. A claim in private nuisance is an interference with the use or enjoyment of land. Private nuisance may arise out of negligence, intentional acts, or abnormally dangerous activities. *In Suez Water N.Y. Inc. v E.I. du Pont de Nemours & Co.*,⁶⁹ the Southern District of New York found that defendant, who manufactured and sold products containing PFAS, did not commit private nuisance under New York law. The defendant's mere introduction of those products into the stream of commerce did not create the nuisance complained of since it did not sell directly to the end users of the products.
 - b. Another potential theory of liability is common law negligence, which requires (1) a duty of care owed to the claimant, (2) breach of that duty, and (3) resulting injury to the claimant. As respects the above scenario, a claimant will likely only prevail in a negligence claim if the defendant's conduct was unreasonable (selling lawful products is unlikely to meet that threshold in the absence of very strong evidence concerning the manufacturers' knowledge of harms) and directly caused the contamination. In *Suez*, the court found that the claimant could not prevail on the negligence claim since the defendant manufacturer exercised no control over the end users of the PFAS-containing products. Nor did the defendant directly pollute the drinking waters of New York.
 - c. Yet another theory is trespass, of which the typical elements in water contamination cases are (1) intentional entry by defendant onto claimant's land; and (2) wrongful use without justification or consent.⁷⁰ In *Suez*, the court found that the claimant failed to assert a claim for trespass on the grounds that there were no allegations that the intrusion of PFAS and PFAS-containing products into the water systems was the immediate consequence of any action wilfully done by the defendant, or that it was the inevitable consequence of such action.
- 113. Under US law, the doctrine of public nuisance, discussed at paragraph 105 above, is key to the success of any potential claim. The appellate courts have been generally dismissive of the doctrine and refused to hold that selling lawful products can amount to a public nuisance. The court in *Suez Water* also decided that no public nuisance had been committed. Nevertheless, as mentioned at paragraph 104.c, cases continue to be brought against manufacturers and judgments continue to be entered against defendants whom the jury has found to be guilty of culpable behaviour.**
- 114. In the other jurisdictions, there are various legal theories which might be viable provided that strong evidence can be adduced of the manufacturers' knowledge that their products, although lawful, were harmful to the environment.**
- a. In England and Australia, the law of nuisance is a tort between landowners. A claim is likely to prosper only against a primary polluter, not a manufacturer of a polluting product. A claim in negligence may be viable, however, if the defendant acted culpably and the loss suffered by the claimants was not too remote.
 - b. In the Netherlands, provided that the manufacturer had the relevant licenses and acted in compliance with the relevant conditions and legislation,⁷¹ a claim would be viable only if the manufacturer's behaviour constituted a violation of generally accepted societal norms. This would be the case if the manufacturer's knowledge of the hazards relating to the product at the time of sale was such

that it should have either taken (more) precautionary measures or have refrained from selling the products altogether according to the generally accepted standards of care. Consequently, if the manufacturer knew, or reasonably should have known, the serious hazards related to microplastics and – taking into account the available knowledge and the reasonably accepted alternatives available at the time (if any) – and acted in a seriously culpable manner by not abstaining from acts that brought these microplastics into the environment, it could be held liable for damages resulting directly from this behaviour. An illustrative case is the recent climate litigation against Shell, in which the court used such reasoning to base its conclusion that Royal Dutch Shell had an obligation to reduce its CO₂ emissions.⁷²

- c. In Germany a claim might lie in tort, or perhaps also in agency without specific authorisation (Geschäftsführung ohne Auftrag). A claim in agency might be argued on the basis that the water (which is the property of the water supplier) has been interfered with, in a manner other than by deprivation or withholding of possession. In those circumstances the owner may be entitled to require the interferer (the polymer manufacturer) to remove the interference (the microfibrils). If however, the owner removes the interference himself (by upgrading his infrastructure), it could be argued that the interferer is required to (at least in part) reimburse the owner.

115. In most jurisdictions, the causal connection between placing polyester on the market and the subsequent appearance of plastic microfibrils in drinking water ought to be sufficiently strong for legal liability to attach. Nonetheless, some significant issues of causation arise:

- a. The first issue is whether the causal connection might be broken by the intervention of third parties, e.g. customers of the manufacturer who do not properly dispose of the plastics. This was raised unsuccessfully as a defence in the US MTBE litigation, where the manufacturers argued that the product was a source

of contamination only because it had been spilled by customers. Subject to the jurisdiction and legal theory deployed, this defence will need to be examined on a case-by-case basis.

- b. The second issue is the extent of the polyester manufacturer's contribution to the harm. Conventional 'but for' causation theory would lead to all claims failing, as the manufacturer is one of many sources of microplastic contamination. Nevertheless, in the US, Netherlands and, potentially, the UK, alternative causation theories might be advanced as described at paragraph 107 above.
- c. A final point worth making on causation is that the upgrade of the infrastructure might have other benefits which go beyond the removal of microplastics. Arguments of betterment would need to be considered on a case-by-case basis.

Natural resource and environmental damage caused by microplastic pollution emanating from plastic manufacturing facilities

116. In this section we discuss claims for the remediation of the environment resulting from the manufacture of plastics. The case study is to be contrasted with previous examples because it involves a situation where the putative defendant is a primary polluter and the national authorities have statutory rights to require a clean-up.

117. In the comparative analysis below, we consider an environmental claim brought against a company which produces plastic pellets. The national environmental regulator seeks:

- a. an order requiring remediation of the surrounding land and watercourses, which have become heavily polluted by microplastics;
- b. an injunction preventing the business from operating without significant further investment in its facilities.

US

118. We again commence our analysis in the US, where cases concerning the discharge of plastic pellets into waters have been brought pursuant to the Clean Water Act ('CWA') and Resource Conservation and Recovery Act ('RCRA'). Typically, the US EPA and applicable state environmental protection agencies set forth maximum permissible solid waste discharge levels, issuing discharge permits consistent with the same. Those same agencies may issue penalties for violations of discharge permits. However, in certain cases, agencies have been accused of issuing *de minimis* penalties for violations where more stringent penalties were warranted.
119. Accordingly, with respect to plastics discharges, it has been a growing trend in the United States for ordinary citizens to sue polluters under both the CWA and RCRA, each of which allow for citizen suits.
- a. In *San Antonio Bay Estuarine Waterkeeper v Formosa Plastics Corp, Texas*,⁷³ the claimants, members of a non-profit environmental organisation, brought a citizen suit against plastic pellet manufacturer Formosa Plastics Corp under the CWA for discharging plastic pellets and polyvinyl chloride ('PVC') powder into the waters nearby its plastics manufacturing plant in Texas. The court concluded that Formosa was a "serial offender" given its repeated violations of its discharge permit.⁷⁴ Accordingly, Formosa entered into a Consent Decree with the claimants wherein it agreed to fund USD 50m in various environmental projects and to adhere to certain monitoring, reporting and future plastic discharge mitigation measures.⁷⁵
 - b. In *Charleston Waterkeeper v Frontier Logistics, L.P.*,⁷⁶ several non-profit environmental organisations brought a citizen suit under both the CWA and RCRA against defendant Frontier Logistics, alleging Frontier unlawfully discharged plastic pellets into the waters near Charleston, South Carolina. Defendant Frontier was a logistics provider and a transporter of the pellets. Following the court's denial of Frontier's motion to dismiss the complaint, the parties ultimately settled the matter, wherein Frontier agreed to fund USD 1m in environmental projects and USD 255,000 to cover the claimants' legal fees. Frontier also agreed to an "independent audit of its facility and to implement the auditor's recommendations with regard to environmental safeguards."⁷⁷
120. Environmentalists have touted the Formosa case as a potential inflection point in addressing plastic pollution in the United States, particularly with respect to ordinary citizens holding polluters to account. Indeed, Formosa could be:
- "a warning to others making and handling [plastic pellets] that they too could face costly consequences for leaking plastics into the environment. Regulation of the pellets remains weak, but the ripples of change the case set off may be the start of a new, more stringent approach to managing them."*⁷⁸
121. In these suits, standing promises to be an issue to be argued at the pretrial stage. In federal court, standing requires injury-in-fact, traceability to the defendant's actions, and redressability. Plaintiffs have, to date, had mixed success in these claims.
 122. In *Charleston Waterkeeper*,⁷⁹ the court denied defendant Frontier's argument that the claimants lacked standing. In relevant part, the court noted how the complaint met the injury-in-fact requirement since "claimants have clearly alleged that their members suffered 'concrete and particularised'" invasions of legally protected interests."⁸⁰
 - a. The court recognised:

*"Environmental claimants adequately allege injury in fact when they aver that they use the affected area and are persons 'for whom the aesthetic and recreational values of the area will be lessened' by the challenged activity."*⁸¹

- b. The court also found that the claimants satisfied the traceability element of standing, stating:
- “[t]he complaint contains several allegations that connect the claimants’ alleged injury to Frontier’s alleged conduct.”*
- c. For example, the court noted the complaint alleged that:
- “large-scale sampling and collection efforts revealed the highest concentration of pellets at the sites nearest to Frontier’s facility, that claimants collected plastic pellets along the fence line of Frontier’s facility which resemble the pellets recovered from Charleston waters, and that chemical analysis demonstrated that recovered pellets were made of polyethylene, the type of plastic handled by Frontier.”*

123. Accordingly, in the above scenario as respects the US, it is probable that the EPA or applicable state environmental protection agency would have received complaints from citizens living nearby the company’s plastics manufacturing plant, which would likely produce an inspection of the plant for any environmental violations. Irrespective of the actions of the regulatory agency, such companies still face the prospect of citizen suits by individuals and environmental groups.

Other jurisdictions

124. In the other jurisdictions, enforcement and remediation would normally be led spearheaded by an administrative body or environmental regulator. None of the jurisdictions affords legal personality to natural resources as is the case, for example, in Colombia.⁸²

125. The primary function of an environmental regulator is to investigate and supervise the remediation of contaminated natural resources. Remedial powers are wide-ranging:

- a. In New South Wales the primary regulator is the NSW Environment Protection Authority, which has the power in cases of environmental pollution to:
- i. Take enforcement action to compel polluters to meet their legal obligations when they have not complied with requirements. Enforcement may include compelling a person or organisation to address the non-compliance through the issuing of notices, directions and orders⁸³ or penalising the person, business or organisation with a fine or other penalty⁸⁴ or commencing action against the person or organisation in court.
 - ii. Investigate and assess contaminated land and issue management orders requiring remediation under the Contaminated Land Management Act 1997 (NSW).⁸⁵
- b. In England the relevant regulators are local authorities and the Environment Agency (‘EA’), applying the substantive principles of environmental law derived from the European Environmental Liability Directive 2004 (‘ELD’). The ELD requires operators to take preventative action if their activities pose an imminent threat of environmental damage, and to meet the costs of remediation should environmental damage occur. Liability is based on the ‘polluter pays’ principle, which aims to ensure that the costs of environmental damage are borne by the polluting operator, not the taxpayer. The EA may seek an order requiring the remediation of land, air and water to remove microplastic contamination, with the costs being met by the polluter.

- c. In Germany, according to the Federal Soil Protection Act, the polluter of a harmful soil change or contaminated site as well as its universal successor, the owner of the land and the holder of the actual power over a land are obliged to remediate contaminated soil and land as well as contamination of waters caused by harmful soil changes or contaminated sites in such a way that no hazards, significant disadvantages or significant nuisances for the individual or the general public arise in the long term. The competent authority may take the necessary measures to fulfil these obligations and has a wide remedial discretion in this respect.
 - d. In the Netherlands, environmental conditions are subject to extensive public regulation. Depending on the circumstances of the case, heavy pollution might constitute, or be related to, an infringement of the relevant regulations. If it can be shown that there is an infringement (or a realistic threat of such an infringement), the relevant authority can impose a sanction on the responsible party. Remediation measures could be imposed through administrative law either by: (i) setting a time limit in which the facility must wholly or partially rectify the pollution, after which the measure will be enacted by the regulatory body itself, leaving the costs incurred for account of the defendant ("administrative enforcement")⁸⁶ or by (ii) imposing a penalty payment if the required remediation measures have not been enacted within a set amount of time.⁸⁷
- b. In England, the EA has broad powers to prosecute environmental offences related to water pollution, contaminated land, environmental permitting and some types of offences under the ELD. To impose a sanction, the EA must be satisfied beyond reasonable doubt that an offence has been committed.

127. As contemplated in the case study, environmental regulators may seek injunctions to prevent businesses from continuing their polluting activities.

- a. In Australia, management orders can be issued to require a business to cease carrying on any activity on contaminated land.⁹⁰
- b. In the UK, the EA may, as a first step, vary or suspend the operator's environmental permit and specify measures which the operator must take to remedy the breach and remove the risk of pollution. In extreme cases the EA may also apply for a civil injunction against the operator to restrict the operation of the facility, or even to shut it down entirely.
- c. In the Netherlands, an administrative body could require that the defendant halts its processes until it has taken certain measures to avoid further damages, under threat of imposing penalty payments. The regulator could also suspend or halt the operator's environmental permit.

128. Environmental enforcement is not the exclusive preserve of regulators. Procedures exist by which environmental organisations and NGOs can seek orders for the prevention or remediation of environmental harms.

- a. In Australia, the NSW Environment Protection Authority can commence proceedings in the Land and Environment Court of New South Wales for environmental offences⁸⁸ and prosecute individuals and companies who have committed offences under the Contaminated Land Management Act.⁸⁹
- a. In New South Wales, with the leave of the court, any individual person can commence proceedings for environmental offences,⁹¹ or issue proceedings in the Land and Environment Court requesting an order for the remediation or restraint of a breach of the Protections of the Environment Operations Act 1997 ('POEO') or the POEO Regulations or seeking an order restraining the business from carrying on its polluting activities.⁹²

126. To complement their powers of remediation, environmental regulators may also commence prosecutions for environmental offences. For example:

- b. In the Netherlands, a private party, such as an environmental organisation, could ask for a conditional injunction in civil law.⁹³ Such an injunction will be granted if there is a well-founded belief that there is an immediate threat of unlawful behaviour which would harm the party seeking the injunction.⁹⁴

Developments in German climate litigation

- 129.** Recent climate litigation in Germany might soon be relevant to the availability of injunctive relief against companies which pollute the natural environment with plastic.
- 130.** On 24 March 2021 the German Federal Constitutional Court released a pioneering decision declaring the German Climate Change Act partially unconstitutional. While the decision addressed the legislative role of the government, the fundamental rights discussed in the decision have indirect effects on private parties. The Court found that, if there is scientific uncertainty about environmentally relevant causal relationships, the German Constitution sets limits to the decisions of the legislature – especially those with irreversible consequences for the environment – and imposes a special duty of care. This applies also in relation to future generations.⁹⁵
- 131.** Following that decision, a number of climate lawsuits are currently underway against private companies, including the lawsuits by activists including German Environmental Aid and Greenpeace against three large German car companies (Volkswagen, BMW, Mercedes Benz) and an oil and gas company (Wintershall Dea). One of the remedies sought is injunctive relief against the production of internal combustion engines.
- 132.** The lawsuits, as in the Shell ruling, seek the court's protection from the imminent adverse effects of climate change and request adjustments of the companies' business models. The German car producers are called upon to stop putting cars with internal combustion engines on the road from 2030, and the defendant oil and gas company is called upon to stop opening new oil and gas fields and to limit global production. It is uncertain whether these lawsuits will ultimately have a chance of success. Nevertheless, such actions are producing meaningful responses, with many companies now taking action by committing to climate neutrality and joining international decarbonisation initiatives. In addition, much of the climate change litigation revolves around disclosure of climate change-related risks. Where there is already a legal obligation to report on climate change risks, the lack of disclosure alone can lead to lawsuits.
- 133.** It is argued that the decision of the German Federal Constitutional Court has softened the standard of causation in cases with technical difficulties of proof and the irreversible consequences.⁹⁶ In that case, the possibility of an existing causal connection suffices. Whether the courts agree with this position remains to be seen. If so, the lowered standard could likely be applied to the standard of causation in plastic litigation as well. If so, a claimant might in due course be able to seek injunctive relief against a plastics manufacturer which is not a 'but for' cause of the total harm.

Breaches of consumer protection law caused by false public statements concerning the recyclability and sustainability of plastic packaging

- 134.** In response to growing consumer and investor demand for sustainability, companies are making increasingly bold promises concerning the environmental credentials of their products and their commitment to reducing plastic waste.

135. In the comparative analysis below, we consider a claim brought under consumer protection law against a multinational consumer goods company which has run extensive campaigns promoting the sustainability of its products and use of recycled plastics. An environmental NGO has obtained clear evidence suggesting that this was a deliberate misrepresentation because the company was aware that:
- only 10% of plastic waste is truly recyclable and its products are therefore harmful to the environment;
 - according to a more realistic calculation methodology, less than 5% of the company's packaging is made of recycled plastic.

Consumer lawsuits in the US

136. Once again, we begin our analysis with a summary of recent litigation activity in the US, where several consumer lawsuits alleging false or misleading claims of recyclability or biodegradability, in violation of state consumer protection laws, have arisen in recent years. These suits have been brought by ordinary consumers as well as environmental NGOs. To date, these suits have been primarily brought in California and have involved several issues: claimants' standing to bring suit; removal of the action to federal court by the defendants; causation; and whether defendants' compliance with certain "green" standards may act as a bar to recovery.
137. With respect to standing, courts have been satisfied with the injury-in-fact requirement if the complaint alleges the consumers would not have paid the same price for the product had they known the truth of their actual recyclability.
138. Defendants may also attempt to remove actions filed in state court to federal court if the pleading standards of federal court are stricter than those of the particular state court where the action is filed. In such case, a pre-answer motion to dismiss the complaint might have a greater chance of

success. Typically, removal is based on complete diversity of citizenship (state of incorporation and principal place of business) of the parties or where the claim itself arises under federal law. Removal may also be proper where the claim arises on a federal enclave. There is a general presumption against removal to federal court.

139. In cases alleging false or deceptive product marketing or labelling, a likely defence that would arise is the defendants' alleged adherence to the Federal Trade Commission's ('FTC') "Green Guides."⁹⁷ While the guides "help marketers avoid making environmental marketing claims that are unfair or deceptive," they do not "confer any rights on any person and do not operate to bind the FTC or the public."⁹⁸ Nor do the guides pre-empt federal, state or local laws.⁹⁹ The Green Guides also state that "[i]t is deceptive to misrepresent, directly or by implication, that a product or package is recyclable."¹⁰⁰ Conversely, the Green Guides permit the following:

"When recycling facilities are available to a substantial majority of consumers or communities where the item is sold, marketers can make unqualified recyclable claims."

"Marketers can make unqualified recyclable claims for a product or package if the entire product or package, excluding minor incidental components, is recyclable."¹⁰¹

140. Based on the limited available case law, courts have indicated that adherence to the Green Guides cannot per se provide grounds to dismiss a complaint.
141. Several cases have addressed many of these issues.
- In *Smith v Keurig Green Mountain, Inc.*,¹⁰² the claimant, an ordinary consumer, brought a putative class action suit against defendant Keurig Green Mountain, Inc. ('Keurig'), alleging Keurig mislabelled its single-serve plastic coffee pods as "recyclable," in violation of California's Unfair Competition Law ('UCL') and

Consumer Legal Remedies Act ('CLRA'), as well as claims for common law breach of express warranty and unjust enrichment. The Keurig "K-Cup" pods, which were made of Polypropylene (#5) plastic, were allegedly "accepted for recycling in approximately 61% of US communities."¹⁰³

- b. The court denied Keurig's motion to dismiss, finding the claimant sufficiently alleged she suffered economic injury from the purported mislabelling of the coffee pods, alleging she would not have purchased the products had she known they could not be recycled. The court was also unmoved by Keurig's alleged adherence to the Green Guides, since they also provided that "[i]f any component significantly limits the ability to recycle the item, any recyclable claim would be deceptive. An item that is made from recyclable material, but, because of its shape, size, or some other attribute, is not accepted in recycling programs, should not be marketed as recyclable,"¹⁰⁴ and that when recycling facilities are available to less than 60% of consumers where the item is sold, all recyclability claims should be properly qualified.¹⁰⁵ The court also found the complaint satisfied the "reasonable consumer" test under California's CLRA and UCL.
- c. In September 2020, the Northern District of California granted class certification with respect to the consumer fraud claims.¹⁰⁶ On February 24, 2022, Keurig agreed to settle the suit for USD 10m. Under the settlement, Keurig is prohibited from labelling or marketing its pods as recyclable absent qualifying language. For instance, Keurig's packaging must now contain the disclaimer: "Check Locally – Not Recycled in Many Communities."¹⁰⁷
- d. Conversely, in *Greenpeace, Inc. v Walmart Inc.*,¹⁰⁸ the court found that Greenpeace lacked standing to bring suit against defendant Walmart Inc. based on Walmart's alleged false and misleading statements that its private label brand plastic water bottles were "made from plastics #3-7 or identified plastic" and labelled as "recyclable," in violation of California's Business and Professions Code. The

court found Greenpeace failed to plead that it acted in reliance on the truth of Walmart's alleged misrepresentations. In particular, the court found nothing in the first amended complaint "suggest[ed] Greenpeace engaged in its investigation in reliance on a belief that the statements on which it bases its claims were true." Rather, the first amended complaint alleged: "the action taken by Greenpeace was in response to its belief that the challenged statements were false; in other words, Greenpeace was never misled."

142. Accordingly, companies in the US which use plastic packaging have been put on notice that they will be held to the language written on their products as respects recyclability, as they face an increasing number of suits for violation of consumer protection laws, as well as common law claims.

US regulatory enforcement

143. US regulatory authorities also take greenwashing extremely seriously. According to the US Department of State, the federal government has implemented several programs aimed at tackling plastic pollution. This includes a National Recycling Strategy implemented by the EPA:

"to increase the US recycling rate to 50 percent by 2030' and to 'identify strategic objectives and actions needed to create a stronger, more resilient, and cost-effective US municipal solid waste system."

144. In the meantime, the State of California has begun to conduct sweeping regulatory enforcement actions.

- a. On April 28, 2022, California's Attorney General issued a subpoena to ExxonMobil for information in its purported role in causing global plastic pollution and for allegedly deceiving the public. According to the Attorney General's office, the polymers produced by ExxonMobil 'account for more single-use plastic waste than any other company.'¹⁰⁹

- b. The subpoena issued to ExxonMobil is part of a larger investigation by the California Attorney General:

“on the fossil fuel and petrochemical industries’ role in misleading the public about plastics recycling and the ongoing harm caused to [California], [its] residents, and [its] natural resources.”¹¹⁰

- c. Given this interventionist approach, it would not be a stretch to conclude that litigation will stem from the California Attorney General’s investigation.

- d. In the present case it is likely that either the ACCC or an environmental NGO could bring proceedings alleging that the company had made misleading statements to consumers about the sustainability of its products and use of recycled plastics.¹¹⁶ The ACCC would allege contraventions of the ACL.¹¹⁷ The NGO can seek civil remedies, such as an injunction to stop the company from making its false claims.¹¹⁸ If the advertising campaigns contain deceptive or misleading statements to consumers the court may impose significant financial penalties.¹¹⁹

Regulatory enforcement in other jurisdictions

145. In other jurisdictions, regulators have so far been less aggressive but they have extensive powers to intervene in an appropriate case.

146. The Australian Competition and Consumer Commission (‘ACCC’)¹¹¹ is the primary regulator which enforces the Australian Consumer Law.¹¹²

- a. The ACCC has powers to investigate breaches of the law and to bring proceedings in the Federal Court of Australia on its own and consumers’ behalf. The relevant standard is not whether consumers have actually been misled or deceived, rather that there is a ‘real or not remote possibility’ that consumers have been misled.
- b. The ACCC regularly commences consumer protection litigation, as for example in the Volkswagen motor vehicle exhaust emissions case).¹¹³ The ACCC has enforcement powers that include civil monetary penalties (of up to AUD 1.1 m for corporations and AUD 220,000 for individuals), banning orders, infringement notices and public warnings.
- c. The ACCC has recently indicated its intention to be more proactive in regulating greenwashing and misleading promotion of products and services as being environmentally friendly, sustainable or ethical. The ACCC has ranked greenwashing first in its current compliance and enforcement priorities¹¹⁴ and it has stated publicly that it welcomes private actions being commenced against companies for greenwashing.¹¹⁵

147. In the UK, there are three regulators with extensive powers to target greenwashing: the Advertising Standards Authority (‘ASA’),¹²⁰ Trading Standards, and the Competition and Markets Authority (‘CMA’).¹²¹ In response to the greenwashing identified in the case study, the regulators could take the following steps:

- a. The ASA is the UK’s independent advertising regulator. The general public, competitors and other interested parties can lodge complaints with the ASA, which is the first stop for consumers and others concerned about advertising. The ASA upholds compliance with the Consumer Protection from Unfair Trading Regulations 2008 (‘CPUT’) and industry self-regulation as per the rules set out in the UK Code of Non-broadcast Advertising, Sales Promotions and Direct Marketing (‘CAP Code’)¹²² and UK Code of Broadcast Advertising (‘BCAP Code’).¹²³ In general, the prohibitions of misleading actions and omissions, aggressive practices and the like contained in CPUT are reflected in the CAP and BCAP Codes.
- b. If an interested party, such as an environmental NGO, complains about the alleged greenwashing to the ASA, the ASA will investigate the complaint against the rule in the CAP and BCAP Codes. The ASA will seek to establish whether the advertising campaign is consistent with CPUT and the CAP and BCAP Codes, considering the effect on the average consumer.

- c. If the ASA finds that the advertisement falls below the applicable standards, e.g. if it is likely to be materially misleading¹²⁴ or provides unclear basis for environmental claims,¹²⁵ it will order the advertisement to be withdrawn.
- d. The ASA does not have authority to levy fines, although it may ask publishers and media owners to refuse more space for an advertisement, advertise its ruling publicly or withdraw trading privileges, financial discounts and other incentives from advertisers. All these sanctions, although not monetary in nature, can have significant financial consequences for the company.
- e. If the company refuses to comply with the ASA ruling, the ASA may refer the issue to the Trading Standards (in case of non-broadcast advertising) or Ofcom (in case of broadcast advertising) for further regulatory enforcement. Those authorities may commence criminal prosecutions to obtain sanctions including monetary fines.

148. In Germany, advertising to consumers is governed by the Unfair Competition Act (Gesetz gegen den unlauteren Wettbewerb, 'UWG').

- a. The Competition Office (Wettbewerbszentrale) has already recognised an increased "danger of greenwashing" in the case of advertising related to climate neutrality and has sought injunctions in various cases.
- b. Section 5(1) UWG establishes a general prohibition on misleading advertising. Accordingly, statements are prohibited which are likely to mislead at least part of the addressed public and thereby create misconceptions of decisive importance for the decision to buy. A commercial act is misleading in this sense if it contains either objectively untrue statements or objectively true statements which are likely to deceive the addressed public. For the determination of misleading it is decisive whether the public's understanding on the one hand and reality on the other hand coincide.

- c. Section 5 (1) sentence 2 UWG lists (not exhaustively) groups of cases of misleading statements or facts. Section 5 (1) sentence 2 no. 1 UWG is particularly relevant for advertising sustainable credentials, since it lists product-related claims such as those about the quality and origin of the goods, the type and design of production and delivery as well as the advantages of a product.
- d. If a misleading statement has been made, it must be relevant under competition law, which means attracting consumers or inducing the purchase of a product.

149. In the Netherlands, an advertising liability claim will most likely be based upon the provisions regarding unfair commercial practices.¹²⁶

- a. These provisions prohibit unfair commercial practices which (a) are contrary to the requirements of professional diligence and (b) materially limit or can limit the ability of an average consumer to make an informed decision, as a result of which an average consumer makes or may make a transactional decision on an agreement which the consumer would not otherwise have made.¹²⁷ Under Dutch law, an unfair commercial practice is considered an unlawful act towards the consumer, meaning that the trader who commits such a commercial practice is – in principle – liable for the damages suffered by the consumer as a consequence thereof.¹²⁸
- b. In addition to the general prohibition on unfair commercial practices, the legislation contains a specific prohibition on commercial practices that are misleading.¹²⁹ Simply put, a commercial practice is misleading if it contains information that is factually incorrect, that deceives or is likely to deceive the average consumer and/or omits information the consumer needs to make an informed decision about a transaction.
- c. The Authority for Consumers & Markets (Autoriteit Consument & Markt, 'ACM') supervises compliance by traders with the consumer protection legislation, including the rules on unfair commercial practices.

- d. The ACM also provides guidance on how the consumer protection rules must be interpreted. In this context, the ACM published 'Guidelines on sustainability claims' at the beginning of 2021.¹³⁰ These contain rules of thumb to help companies make clear, truthful and relevant sustainability claims and to prevent them from carrying out unfair, and more specifically misleading, commercial practices. The rules of thumb formulated by the ACM are as follows:
- i. Make clear what sustainability benefit the product offers;
 - ii. Substantiate sustainability claims with facts, and keep them up-to-date;
 - iii. Comparisons with other products, services, or companies must be fair;
 - iv. Be honest and specific about your company's efforts with regard to sustainability; and
 - v. Make sure that visual claims and labels are useful to consumers, and not confusing.
- e. While the guidelines do not qualify as legislation and are, therefore, not strictly binding, they form a clear indication of the ACM's interpretation of the rules on unfair commercial practices. The ACM also follows such guidelines when taking enforcement action (see in more detail below). Dutch courts attach weight to these types of guidelines, meaning that if a commercial practice is contrary to the guidelines, a court might be persuaded to consider such a practice misleading.
- f. A civil advertising liability claim can be dealt with in the 'regular' civil proceedings and/or a class action. While not a civil action, the ACM can, in addition, impose substantial fines for not complying with the relevant consumer laws.
- g. The first possibility is that a claimant initiates 'regular' civil proceedings before a District Court or an interim relief judge. In this case, the claimant will most likely be a consumer given that the UCP Directive and, thus, also the Dutch implementation, are aimed at protecting the consumer.

Such a consumer can either claim damages or nullify the agreement and claim – for example – reimbursement of the amounts paid by it to the trader. Dutch case law shows, however, that competitors may file similar claims in which they can either (i) claim a compensation for damages suffered by it as a consequence of the unfair commercial practices (e.g. loss of income) or (ii) request the court to render a preliminary injunction prohibiting a trader to commit certain unfair commercial practices.

- h. The claimant in these proceedings has to prove that the trader has committed an unlawful act by carrying out misleading commercial practices and (where relevant) that it has suffered damages as a result thereof. Looking at the ACM's guidelines (which may be invoked in these proceedings even though they are non-binding, see above), it is likely that a court would indeed qualify facts as described above to constitute a misleading commercial practice. When it comes to consumers, the biggest issue is, however, that it is generally difficult for them to prove what kind of damages they have incurred as a result of an unfair commercial practice. Given that such damages (or a potential claim for reimbursement of payments made under the agreement) are, moreover, generally not substantial, the costs of proceedings will in many cases outweigh the benefits thereof. As a consequence, it is relatively uncommon for consumers to initiate this type of proceedings.
- i. It is also possible to initiate a class action. Similar to regular civil proceedings, these proceedings are brought before a District Court and the claimant has to prove that the trader has committed an unlawful act by carrying out misleading commercial practices, either or not by referring to the ACM's guidelines. We expect the outcome of these proceedings to be the same as those in the 'regular' civil proceedings. An example of a case where such damages were claimed and awarded based on *inter alia* misleading unfair practices is the Volkswagen Dieselgate scandal.¹³¹ Contrary to the regular civil proceedings, the claimant in these proceedings

is always a foundation that will claim damages on behalf of third parties, such as consumers. We see a trend of more and more of these class actions being initiated (also due to recent changes in the Dutch legislation), especially where it comes to environmentally related issues, such as greenwashing.

- j. Last, but not least, the ACM can impose substantial fines for unfair commercial practices, of up to EUR 900,000 per infringement or 1% of the total annual turnover, whichever is higher. In some circumstances, these fines can be even higher.¹³² Fines of the ACM qualify as an administrative fine and can be challenged through the available administrative proceedings (objection and appeal). The ACM can also impose a cease-and-desist order, subject to a periodic penalty.¹³³ Before taking enforcement action, the ACM will generally first take other measures, such as entering into discussions with the trader. This is, however, not always the case. The ACM is actively focusing on greenwashing and misleading environmental claims, which increases the chances that the ACM will take action in cases such as the one described above.

Loss of shareholder value resulting from the mismanagement of the transition to recycled and circular plastics

150. In the comparative analysis below, we consider a derivative claim brought by the shareholders of a company against its board of directors. The board has made extensive commitments to use 100% circular plastics by 2030, a promise which the shareholders consider to be unattainable based on the company's present performance and direction. We assume that the shareholders have sound factual evidence upon which to base their argumentation.

England and Wales - *ClientEarth v Shell*

151. The most important development in this context is the claim brought in March 2022 by ClientEarth against the Board of Directors of Shell.¹³⁴ The claim is strictly a climate case: ClientEarth alleges that the directors are failing properly to prepare for the net zero transition. The arguments will, however, clarify the nature of directors' duties in the environmental space and the basis upon which personal liability might arise under English law.

152. Directors owe duties to the company under Companies Act 2006, sections 171 – 177. For present purposes, the most relevant duties are as follows:

- a. Section 172 imposes a duty to promote the success of the company. Directors may be in breach of that duty in any of the following circumstances:
 - i. If they fail adequately to consider a foreseeable and material financial risk to the company from transition to the usage of circular plastic.¹³⁵
 - ii. If they fully assess the risk, but then unreasonably fail to act in accordance with their assessment.
 - iii. If they overlook plastics risk for honest reasons, such as lack of expertise among board members or sustainability issues not being seen as a priority for stakeholders.
 - iv. If they fail to have regard to the factors listed in section 172(1), including “the likely consequences of any decision in the long term”, “the impact of the company's operations on the community and the environment” and “the need to act fairly as between members of the company”. Directors' failure to consider transition to plastics-free economy and set a realistic plastic-free target may indicate that they did not have regard, as required under section 172(1), to the significant long-term consequences of a particular strategy or action on the company's profitability.

- b. Section 174 imposes a duty to act with reasonable care, skill and diligence. It focuses on the decision-making process rather than the outcome, which does not have to be commercially advantageous for the company.¹³⁶ Rather it requires directors to proactively seek relevant information, interrogate and evaluate that information and monitor delegated activities. The objective limb of the standard of care provides scope for courts to consider industry norms and 'best practice' when determining whether a director fell short of the standard in a specific case. Therefore, the section 174 duty can be breached in circumstances similar to section 172 duty, where, for instance, directors have failed to consider or assess material transition risk related to plastics and thus set an unrealistic plastics-free target (due to ignorance or incompetence),¹³⁷ failed to exercise reasonable care, skill and diligence in managing the risk, for example by blindly relying on advice,¹³⁸ or failed to monitor adequate performance of delegated responsibilities.¹³⁹
- c. The directors' compliance with corporate reporting and disclosure laws is also relevant because those laws are intended to reveal the extent to which directors have complied with their general duties. Directors might betray an underlying breach of duty if their disclosure of material plastics risks is selective or incomplete and their targets ill-informed with no accompanying strategy outlining how to realistically meet it.

153. Assessment of causation remains hypothetical in cases of alleged mismanagement of plastics risks. To assess whether the company's target has been informed by appropriate risk assessment process, taking into account all relevant considerations, the court will rely upon the most up-to-date scientific evidence of the risk which plastics pose to the company's business. Such evidence will then inform the standard of care against which the directors will be assessed. In general, the greater the scientific certainty, the more likely it is that any plastics-free pledge will have to be accompanied by robust and detailed long-term strategy relying on readily available and scalable technology.

154. Similar to advertising liability, directors' liability for mismanagement of risk related to the transition to the plastics-free economy, which may result in the company setting an unrealistic or unachievable plastics-free target, is theoretically possible under English law. However, unlike liability arising from misleading advertising, there is no case law that has tested the arguments for personal liability of directors vis-à-vis short- or long-term systemic environmental risk.

Australia

155. Directors in Australia owe similar duties, and the recent activism against directors in Australian climate litigation is likely to sound a warning in respect of plastics.

- a. In *McVeigh v Retail Employees Superannuation Pty Ltd*,¹⁴⁰ Mark McVeigh commenced proceedings against the Retail Employees Superannuation Trust ('REST') in the Federal Court of Australia. Mr McVeigh was a member of REST and had made contributions for about 5 years. Mr McVeigh requested information from REST about what actions it was taking into consideration regarding the financial risks posed to his superannuation by climate change. Mr McVeigh alleged that REST had breached its duties as a trustee under the Corporations Act 2001 (Cth) by not having a more developed climate change policy. The proceedings settled and REST agreed to incorporate climate change financial risks in its investments and implement a net-zero by 2050 carbon footprint goal in November 2020.
- b. In a current case before the Federal Court, *Abrahams v Commonwealth Bank of Australia*,¹⁴¹ two shareholders in the Commonwealth Bank of Australia ('CBA') have sought access to the CBA's internal documents under the Corporations Act 2001 (Cth). The requested documents relate to CBA's alleged involvement with several gas projects, which potentially infringe CBA's Environmental and Social Framework and Environmental and Social Policy. In particular, the Framework and Policy requires CBA to assess the environmental, social and economic impacts of projects and whether they align with the goals of the Paris Agreement.

On 4 November 2021 the Court granted the shareholders authority to inspect all documents created by CBA in relation to seven gas and oil projects to enable them to consider whether the bank has been involved in greenwashing. These proceedings are ongoing with the substantive arguments yet to be heard by the Federal Court of Australia.

- c. These recent cases demonstrate that shareholders and beneficiaries have standing to bring these types of proceedings involving directors before Australian courts. It is also significant to note that the focus and outcomes which the claimants seek relate to access to information and positive action being taken by the defendants.

Germany

156. In Germany, the pressure on board members is increasing significantly as a result of an increase in the number of ESG-related D&O claims.

- a. Activist investors follow board members' acts carefully and monitor misleading explanations by companies. The preventive management of opportunities and compliance risks, according to the 'Business Judgment Rule,' has always been one of the original management tasks of a board of directors or managing director. Corporate sustainability reporting requirements now encourage the management board to address a sustainability strategy and the handling of climate risk and ESG.
- b. In order to avoid personal liability in damages, the managing director or executive board must prove in each individual case that decisions were made on the basis of adequate information and any 'weather warnings' on the company's radar. This also includes information about any corrupt behaviour of company employees in order to obtain contracts.
- c. A lack of climate sensitivity can harm the company, which can result in board members being held jointly and severally liable for damages.¹⁴²

157. The tightening of directors' duties in Germany mirrors a European trend towards improved financial reporting of environmental risks.

- a. An important piece of EU legislation is the Non-Financial Reporting Directive (Directive 2014/95/EU, October 22, 2014), amending Directive 2013/34/EU as regards disclosure of non-financial and diversity information by certain large undertakings and groups, as amended by the Taxonomy Regulation – the NFDR.
- b. In addition to reporting obligations under the NFRD, companies may become subject to additional sustainability-reporting and governance requirements under: the proposed Corporate Sustainability Reporting Directive (CSRD), which extends the scope of reporting requirements under the NFRD, specifies in more detail the information which companies should report, and requires full assurance of sustainability information;¹⁴³ and the proposed Directive on Corporate Sustainability Due Diligence (the Due Diligence Directive), which introduces a duty for certain companies to conduct supply chain due diligence on human rights and environmental issues.¹⁴⁴

US

158. In the US, shareholder suits are governed by applicable state law. The State of Delaware has been the venue for many such suits. Directors and officers of Delaware corporations are subject to fiduciary duties of care and loyalty.¹⁴⁵ The duty of care requires that directors and officers make deliberative decisions based on all material information reasonably available. The duty of loyalty requires that such directors and officers deal fairly, honestly, and in good faith with shareholders.¹⁴⁶

159. In 2021, shareholders of Danimer Scientific, Inc. brought two separate shareholder derivative class action suits against the company's board of directors and members of upper management.¹⁴⁷

- a. Danimer produces polyhydroxyalkanoates (PHAs), which are an alleged biodegradable plastic alternative used water bottles, straws, food containers, and other items under the brand name Nodax. Danimer issued a press release stating that Nodax was a:

“100% biodegradable, renewable, and sustainable plastic ... certified as marine-degradable, the highest standard of biodegradability, which verifies the material will fully degrade in ocean water without leaving behind harmful microplastics.”

- b. Shortly after Danimer made that representation, the Wall Street Journal published an article refuting it. The next trading day, Danimer’s stock price dropped almost 13%.
- c. The claimants alleged that the defendants failed to disclose Danimer’s deficient internal controls, which caused Danimer to overstate Nodax’s biodegradability, and failed properly to disclose environmental compliance issues. As a result, the claimants allege that the company’s public statements concerning the biodegradability of the Nodax products were materially false and misleading. The claimants have alleged that the defendants ‘breached their fiduciary duties by failing to correct and/or causing the Company to fail to correct these false and misleading statements and omissions of material fact,’ and that the defendants:

“wilfully or recklessly caused the Company to fail to maintain an adequate system of oversight, disclosure controls and procedures, and internal controls over financial reporting.”

Potential criminal responsibility

160. Greenwashing may lead not only to civil claims being brought against directors, but also to criminal proceedings.

There are two recent examples in the Netherlands and Germany.

- a. In February 2022 the Dutch Prosecutor’s Office announced a criminal investigation into Tata Steel for an alleged breach of environmental regulations causing harm to local residents and excessive CO₂ emissions causing global warming. Tata’s de facto directors are also under investigation, meaning that they run the risk of being held personally responsible for the environmental damage caused by the company. If convicted, the directors would also be open to claims in civil law.
- b. On 31 May 2022, German police raided the offices of DWS and its majority owner Deutsche Bank as part of a probe into allegations of greenwashing for misleading investors about ESG factors in DWS’ financial products. With an increasing regulatory scrutiny of ESG statements, the raid points to a corresponding increase in the willingness of regulators to use invasive police powers to assess the accuracy of such claims.

161. Conclusions on case studies

| Harms | Liability pathway | Viability of action | Likely claim activity | Likely claim severity |
|--------------------------------------|---|---|--|---|
| Human harms | Exposure causing injury to employees | There are many relevant precedents in the field of employers' liability litigation and there appears to be a viable claim in the jurisdictions under consideration. In some countries (e.g. England and the Netherlands) the claimant might benefit from favourable approaches to causation. The claimant's prospects of success would depend upon the court's approach to the expert evidence and whether the court, applying the relevant standard of causation, would be persuaded to prioritise the workplace exposure over numerous other sources of exposure to phthalates. | Moderate: many strong precedents, but proof of causation remains challenging | High very large pool of potential claimants |
| | Exposure causing injury to consumers | In principle this case study gives rise to viable consumer claims. The viability of such claims will depend entirely upon the court's admission and consideration of expert evidence. Alternative causation theories are not generally applicable to product liability cases (market share being irrelevant on these facts) and we consider it unlikely that the claimants would establish causation unless a significantly lower threshold is introduced. | Low some precedents, but proof of causation remains challenging | |
| | Exposure causing injury to the public | US public nuisance theory would, if applicable, provide a viable legal basis for these case studies. Less viable theories may be constructed in other jurisdictions, but in most conceivable situations the claimants' prospects would depend upon the state of evidence concerning the manufacturers' knowledge of the dangerous properties of its (lawful) product at the time of sale. Rules of causation (market share and the relevance of the behaviour of third parties) would also need to evolve in most jurisdictions for the claim to prosper. | Moderate recent precedents in US, but elsewhere theories of liability and causation are underdeveloped | |
| Economic and ecosystem service harms | Toxic accumulations in public infrastructure | | | |
| Nature harms | Escape of harmful substances from plastics manufacture | In all jurisdictions under consideration, regulators and, in some cases, NGOs and local residents have the power to require remediation of environmental damage caused by the pollution described in this case study. They may also seek variations to permitted activities and/or injunctive relief which, in extreme cases, could require the polluting business to cease its operations. | Moderate environmental regulators have extensive powers | Moderate environmental incidents are often large but confined to location |
| Corporate wrongs | 'Greenwashing' as a breach of consumer protection law | In all jurisdictions under consideration, regulators and, in some cases, NGOs have extensive rights to require the withdrawal of misleading consumer statements. Significant fines and sanctions may be imposed for breach. Greenwashing is now a priority for many regulators. | High advertising regulators and NGOs have extensive powers | Moderate fines and civil sanctions are large but on a smaller scale than mass injury or damage claims |
| | Loss of shareholder value resulting from a mismanaged transition to recycled plastics | Directors' personal duties in respect of the environment are a growing trend which will soon be tested by climate litigation. Many such claims will be brought in the next 5 years. | High many strong precedents, and environmental claims are already underway | High Several companies manufacturing and using plastics have market caps above USD 100bn. |

PART 3:

Issues of greatest relevance to insurers

162. The anticipated claims activity is likely to attract the attention of the underwriters of four types of policy:

- a. General liability policies, which typically cover accidental bodily injury to third parties and accidental property damage while excluding losses caused by, *inter alia*, deliberate acts and gradual pollution.
- b. Employers' liability policies, which typically cover bodily injury to employees with relatively few limitations or exclusions.

- c. Environmental liability policies, which typically cover third party liability and remediation liability caused by pollution conditions. The definition of 'pollutant' is Pollutants include any solid, liquid, gaseous or thermal irritant or contaminant and may extend to microplastics and the chemicals associated with the manufacture and degradation of plastic material.
- d. Directors' and officers' liability policies, which typically cover claims for breaches of duty and provide cover for the costs of defence. Pollution liability is often excluded.

163. As stated in the introduction, policy coverage is specific to the facts of the case and the individual wording. We illustrate in the following table the types of coverage which are most likely to experience claims activity in each of the case studies under consideration.

| Case study | Type of coverage |
|---|---|
| Injury to employees caused by exposure to phthalates | Employers' liability, general liability (product liability section) |
| Injury to consumers caused by exposure to BPA in food packaging | General liability (product liability section) |
| Injury to the public caused by microplastic leachate from landfill | General liability (public liability section) Environmental liability |
| Damage to municipal property caused by micro and nano fibres in the drinking water supply | General liability (product liability section) |
| Environmental damage caused by pollution from a plastic manufacturing facility | Environmental liability |
| Breaches of consumer protection law caused by greenwashing | General liability (advertising injury section) |
| Loss of shareholder value resulting from a mismanaged transition to recycled plastics | D&O |

Endnotes

- 1 <https://www.swissre.com/institute/research/topics-and-risk-dialogues/casualty-risk/us-litigation-funding-social-inflation.html>
- 2 https://www.europarl.europa.eu/doceo/document/JURI-PR-680934_EN.pdf
- 3 Joana Setzer and Catherine Higham, Global trends in climate change litigation: 2022 snapshot (Grantham Research Institute on Climate change and the Environment, 2022).
- 4 The relevant environmental statutes in Australia provide for broad standing provisions which afford the public the ability to participate and to have access to justice. Open standing gives the public the ability to ensure the enforcement of planning and environmental laws (both civil and criminal to an extent) against both private individuals and companies, and also government authorities especially where the government has failed to do so.
- 5 *Waratah Coal Pty Ltd v Youth Verdict Ltd & Ors* (No 5) [2022] QLC 4.
- 6 For example, Federal Court of Australia has specific procedures for Class Actions: <https://www.fedcourt.gov.au/law-and-practice/class-actions>. Class actions have existed in Australia since the enactment of the Federal Court of Australia Amendment Act 1991 (Cth). Similar class action regimes exist in a number of the Australian states. The requirements to commence a class action in the Federal Court are that: seven or more persons have claims against the same person; and the claims of all those persons are in respect of, or arise out of, the same, similar or related circumstances; and the claims of all those persons give rise to a substantial common issue of law or fact.
- 7 See for example *Erin Downie v Spiral Foods Pty Ltd* [2015] VSC 190.
- 8 <https://www.rechtspraak.nl/Registers/centraal-register-voor-collectieve-vorderingen>
- 9 Section 21 DCCP.
- 10 Section 843a DCCP.
- 11 *Frye v United States*, 293 F. 1013 (D.C. Cir. 1923).
- 12 *Daubert v Merrell Dow Pharmaceuticals, Inc.*, 509 US 579 (1993).
- 13 Evidence Act 1995 (Cth) pt 3.3.
- 14 The number of jurors in civil cases varies across the Australian states and territories. Generally, in New South Wales, the Northern Territory and Queensland there will be four. In Western Australia and Victoria there will be six. In Tasmania there will be seven. In The Australian Capital Territory and South Australia, no jury is to be used for civil trials.
- 15 Administrative Court Stuttgart II, decision of 19 July 2019, 2 K 4023/19.
- 16 [US EPA - Glyphosate Interim Registration Review Decision Case Number 0178](#).
- 17 For example Industrial Chemicals Act 2019 (Cth) and Protection of the Environment Operations (General) Amendment (PFAS Firefighting Foam) Regulation 2021 (NSW).
- 18 Ibid s 136.
- 19 Ibid s 124.
- 20 BGB sections 195, 199.
- 21 BGB section 199(2).
- 22 BGB section 199(3).
- 23 German Product Liability Law, section 12(1).
- 24 Section 3:310 (1) DCC.
- 25 Section 3:310 (2) DCC.
- 26 Section 6:191 (2) DCC.
- 27 Section 3:310 (5) DCC.
- 28 e.g. Section 3:310 (5) DCC.
- 29 Section 3:317 DCC.
- 30 See e.g. *Vedanta Resources PLC & Anor v Lungowe & Ors* [2019] UKSC 20 and *Okpabi and others v Royal Dutch Shell Plc and another* [2021] UKSC 3.
- 31 *Vedanta Resources PLC & Anor v Lungowe & Ors* [2019] UKSC 20, *Okpabi and others (Appellants) v Royal Dutch Shell Plc and another* [2021] UKSC 3 and *Municipio de Mariana v BHP* [2022] EWCA Civ 951.
- 32 See the case of Mariana and others v BHP Group plc and another, in which claimants were granted the permission to appeal by the Court of Appeal in late 2021, after their application had already been refused twice before, shortly after Okpabi was decided in February 2021.
- 33 HvJ EU 16 juli 2009, ECLI:NL:EU:C:2009:475 (Zuid-Chemie/Philippo's); HvJ EU 16 januari 2014, ECLI:EU:C:2014:7 (Kainz/Pantherwerke).
- 34 Court of The Hague, 26 May 2021 (ECLI:NL:RBDHA:2021:5339). More information (in English) on the Shell-ruling can be found on the website of the Dutch judiciary: <https://www.rechtspraak.nl/Organisatie-en-contact/Organisatie/Rechtbanken/Rechtbank-Den-Haag/Nieuws/Paginas/Royal-Dutch-Shell-must-reduce-CO2-emissions.aspx>.
- 35 *Australian Competition and Consumer Commission v Volkswagen Aktiengesellschaft* [2019] FCA 2166.
- 36 See, e.g., *Vasquez v Bridgestone/Firestone, Inc.*, 325 F.3d 665 (5th Cir. 2003) (automobile accident in Mexico involving defective tires manufactures in the United States); *Lueck v Sundstrand Corp.*, 236 F.3d 1137, 1144 (9th Cir. 2001) (aircraft accident in New Zealand involving defective components made in the United States).
- 37 See *Dorman v Emerson Elec. Co.*, 23 F.3d 1354 (8th Cir. 1994) (Canadian law applied to Canadian saw operator's products liability action against Missouri saw designer arising from accident in Canada from operation of saw that was bought, purchased, and used in Canada).

- 38 See Legislative bans on application of foreign law, 3 Litigation of International Disputes in US Courts § 18:5.
- 39 *Fairchild v Glenhaven Funeral Services Ltd* [2002] UKHL 22.
- 40 *Barker v Corus (UK) Ltd* [2006] UKHL 20.
- 41 *Sienkiewicz v Greif (UK) Ltd and Knowsley MBC v Willmore* [2011] UKSC 10.
- 42 HR 23 June 2006, NJ 2006, 354 (Havermans / Luijckx).
- 43 HR 7 June 2013, JAR 2013, 178 (Lansink / Ritsma).
- 44 ECLI:NL:RBROT:2022:5494. See also <https://ebonyst.com/chemical-company-dupont-liable-for-toxic-damage-to-former-employees/>
- 45 *Ibid* sch 2.
- 46 Section 9(2) of the ACL.
- 47 See *Genie Indus., Inc. v Matak*, 462 S.W. 3d 1, 6 (Tex. 2015).
- 48 *Beneway v Superwinch, Inc.*, 216 F. Supp. 2d 24, 28 (N.D.N.Y. 2002).
- 49 In this context, we note that BPA have only been forbidden for use in baby bottles since 2011. The EFSA has determined that an adult may intake 0,0004 milligram BPA per kilo of body weight.
- 50 See *In re Bisphenol-A (BPA) Polycarbonate Plastic Prod. Liab. Litig.*, 687 F. Supp. 2d 897, 901 (W.D. Mo. 2009).
- 51 Section 10 ProdHaftG.
- 52 <https://www.minister.defence.gov.au/minister/dchester/statements/terms-settlement-reached-pfas-class-actions>
- 53 *Wheelahan & Anor v City of Casey & Ors* [2011] VSC 215.
- 54 *Ibid*.
- 55 See *In re Bisphenol-A (BPA) Polycarbonate Plastic Prod. Liab. Litig.*, 687 F. Supp. 2d 897, 901 (W.D. Mo. 2009).
- 56 *Texas v Am. Tobacco Co.*, 14 F. Supp. 2d 956.
- 57 *City of Chicago v Beretta*, 821 N.E.2d.
- 58 *Rhode Island v Lead Industries Association*, 951 A.2d 428.
- 59 *California v Purdue Pharma L.P.*, No. 30-2014-00725287-CU-BT-CXC, *Oklahoma v Johnson & Johnson*, No. 118474 (Okla. Nov. 9, 2021).
- 60 *Oklahoma v Johnson & Johnson*, No. 118474 (Okla. Nov. 9, 2021).
- 61 <https://www.nytimes.com/2022/07/26/health/teva-opioids-settlement.html>
- 62 <https://www.providencejournal.com/story/news/2022/04/11/ri-settlement-water-contamination-lawsuit-mtbe-oil-companies/7276877001/>
- 63 26 Cal. 3d 588 (1980).
- 64 *In re Methyl Tertiary Butyl Ether ("MTBE") Prod. Liab. Litig.*, 209 F.R.D. 323, 337-38 (S.D.N.Y. 2002).
- 65 *Id*.
- 66 [2021] UKSC 1.
- 67 Section 6:99 DCC.
- 68 42 USC. § 9607(a)(3).
- 69 ___F. Supp.3d ___, No. 20-CV-10731 (LJL), 2022 WL 36489 (S.D.N.Y. Jan. 4, 2022).
- 70 See *Suez*, 2022 WL 36489.
- 71 The Dutch 'Water Code', for example, prohibits adding substances to the surface water without a permit or general exemption to do so (section 6.2 Waterwet). 72 Court of The Hague, 26 May 2021 (ECLI:NL:RBDHA:2021:5339). More information (in English) on the Shell-ruling can be found on the website of the Dutch judiciary: <https://www.rechtspraak.nl/Organisatie-en-contact/Organisatie/Rechtbanken/Rechtbank-Den-Haag/Nieuws/Paginas/Royal-Dutch-Shell-must-reduce-CO2-emissions.aspx>.
- 73 No. 6:17-CV-0047, 2019 WL 2716544 (S.D. Tex. June 27, 2019), rev'd and remanded sub nom., 852 F. App'x 816 (5th Cir. 2021).
- 74 *Ibid*.
- 75 See , 852 F. App'x 816, 818 (5th Cir. 2021).
- 76 488 F. Supp. 3d 240 (D.S.C. 2020).
- 77 Megan Baroni & Rachel Henke, Microplastics Are in the News, and Manufacturers Are Seeing Lawsuits, *Industry Week* (Jan. 20, 2022), <https://www.industryweek.com/leadership/corporate-finance/article/21214602/microplastics-are-in-the-news-and-manufacturers-are-seeing-lawsuits>
- 78 Beth Gardiner, How a Dramatic Win in Plastic Waste May Curb Ocean Pollution, *Nat'l Geographic* (Feb. 22, 2022), <https://www.nationalgeographic.com/environment/article/how-a-dramatic-win-in-plastic-waste-case-may-curb-ocean-pollution>.
- 79 488 F. Supp. 3d 240 (D.S.C. 2020).
- 80 *Charleston Waterkeeper*, 488 F. Supp.3d
- 81 *Ibid* (quoting *Friends of the Earth, Inc. v Laidlaw Environmental Services, Inc.*, 528 US 167, 183 (2000)).
- 82 In case T-622/16 the Colombian Constitutional Court ruled that the Atrato River basin possessed rights to protection, conservation, maintenance, and restoration.
- 83 These notices, directions and orders include clean up notices, (which specify clean up actions to be taken) prevention notices, (which specifies action which must or must not be taken to ensure that an activity is undertaken in an environmentally sound manner), prohibition notices and stop work orders (which can direct a person to stop an activity) notice control orders, compliance cost notices (to recover expenses related to clean-up notices) improvement notices (to remedy harm), contaminated land preliminary investigation notices, directions to public authorities. See EPA Regulatory Policy at <https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/about/21p3444-regulatory-policy.pdf>

- 84 In this regard, the EPA may issue formal warnings, penalty notices and official warnings.
- 85 Contaminated Land Management Act 1997 (NSW) ss 10-16
- 86 Par. 5.3.1. of the Dutch General Administrative Law Act (“Awb”) (‘last onder bestuursdwang’).
- 87 Par. 5.3.2. Awb. (‘last onder dwangsom’).
- 88 For example Industrial Chemicals Act 2019 (Cth) and Protection of the Environment Operations (General) Amendment (PFAS Firefighting Foam) Regulation 2021 (NSW).
- 89 Contaminated Land Management Act 1997 (NSW) ss 99 and 98A.
- 90 Contaminated Land Management Act 1997 (NSW) s 16.
- 91 For example section 95 of the Contaminated Land Management Act 1997 (NSW)
- 92 Contaminated Land Management Act 1997 (NSW) s 96.
- 93 HR 18 december 1992, ECLI:NL:1992:ZC0808 (Kuunders/ Natuur en Milieu); Hof Den Bosch 26 April 1994, ECLI:NL:GHSHE:1994:AH4595 (Milieuorganisaties/CNC).
- 94 Section 3:296 DCC
- 95 http://www.bverfg.de/e/rs20210324_1bvr265618.html.
- 96 https://www.greenpeace.de/publikationen/vw_klage_final_small_0.pdf.
- 97 16 C.F.R. §§ 260.1-260.17
- 98 16 C.F.R. § 260.1(a).
- 99 Id. § 260.1(b).
- 100 Id. § 260.12(a).
- 101 16 C.F.R. § 260.12(b)(1), (c).
- 102 393 F. Supp.3d 837 (N.D. Cal. 2019).
- 103 Id. at 842.
- 104 16 C.F.R. § 260.12(d).
- 105 16 C.F.R. § 260.12(b)(1).
- 106 See *Smith v Keurig Green Mountain, Inc.*, 2020 WL 5630051 (N.D. Cal. Sept. 21, 2020).
- 107 Sheila A. Millar, et al., *Keurig Agrees to Pay \$10 Million to Settle Class Action Over Charges of Misleading Recyclable Claims*, Nat’l L. Rev. (March 1, 2022).
- 108 No. 21-CV-00754-MMC, 2021 WL 4267536, at *2 (N.D. Cal. Sept. 20, 2021). 109 Plastics, State of Cal. Dep’t of Justice, <https://oag.ca.gov/plastics> (last visited June 27, 2022).
- 110 Ibid.
- 111 Australian Competition & Consumer Commission (Web Page) <https://www.accc.gov.au/>.
- 112 Schedule 2 of the Competition and Consumer Act 2010 (Cth).
- 113 *Australian Competition and Consumer Commission v Volkswagen Aktiengesellschaft* [2019] FCA 2166.
- 114 Australian Competition & Consumer Commission, ‘2022–23 Compliance and Enforcement Priorities’ (publication March 2022) <https://www.accc.gov.au/about-us/australian-competition-consumer-commission/compliance-enforcement-policy-and-priorities>.
- 115 Ayesha de Kretser and James Eyers, ‘ACCC says it’s ready to pursue greenwashers’ Australian Financial Review (online at June 15 2022).
- 116 Competition and Consumer Act 2010 Sch 2 (Australian Consumer Law) s18 and 29(1).
- 117 For example, in *Australian Competition and Consumer Commission v Woolworths Group Limited* (formerly called Woolworths Limited) [2020] FCAFC 162 131. The ACCC brought proceedings against the Australian supermarket Woolworths Group Limited (Woolworths). The ACCC alleged that Woolworths had made misleading statements to consumers about its range of disposable cutlery and crockery. The packaging of the range described the products as “Biodegradable and Compostable” and contained the statement: “Made from a renewable resource”. The ACCC argued that the statements on the packaging represented to consumers that the products would biodegrade and compost within a reasonable time when disposed of – which was deceptive and misleading to consumers. Ultimately, the ACCC was unsuccessful in proving that the packaging made misleading and deceptive statements. The Federal Court of Australia found that Woolworths had not made any representations as to the time it would take for the products to biodegrade or compost, and further, that the packaging did not suggest the products would biodegrade or compost “within a reasonable time.”
- 118 Competition and Consumer Act 2010 (Cth) Sch 2 (Australian Consumer Law) s 232. This provision allows for the regulator “or any other person” to make an application for injunctive relief. For example, *Australasian Centre For Corporate Responsibility v Santos Limited* (Federal Court of Australia proceedings NSD858/2021). In August 2021, the Australasian Centre for Corporate Responsibility (‘ACCR’), a research and shareholder advocacy organisation, sued Australian oil and gas company Santos alleging contraventions under both the Australian corporate law and the Australian Consumer Law. The ACCR allege that Santos’ claims that natural gas is “clean fuel” that provides “clean energy” misrepresents the true effect of natural gas on the climate. Additionally, the ACCR allege that Santos’ claims that it has a clear and credible plan to achieve net zero emissions by 2040 are misleading. These proceedings are ongoing with the substantive arguments yet to be heard by the Federal Court of Australia.

- 119 *Australian Competition and Consumer Commission v Volkswagen Aktiengesellschaft* [2019] FCA 2166. Following the global Volkswagen motor vehicle emission actions, the ACCC brought civil proceedings in the Federal Court of Australia against Volkswagen and its Australian subsidiary. The ACCC alleged that over a period of five years, between January 2011 and October 2015, Volkswagen deliberately and dishonestly deceived both the Australian government and Australian consumers about compliance with diesel emissions standards of certain Volkswagen-branded motor vehicles. After the submission of a joint statement of agreed facts by the ACCC and Volkswagen, the Federal Court of Australia declared that Volkswagen had contravened the Australian Consumer Law 171 times. In determining the civil penalty to be imposed on Volkswagen, the Federal Court of Australia gave the highest ever penalty for contraventions of the Australian Consumer Law- AUD 125m. Volkswagen lodged an appeal against the penalty imposed. However on appeal, the Full Court of the Federal Court of Australia upheld the penalty of AUD 125m.
- 120 [Home - ASA | CAP.](#)
- 121 Regulation 19, CPUT.
- 122 [Non-broadcast Code - ASA | CAP.](#)
- 123 [Broadcast Code - ASA | CAP.](#)
- 124 CAP Code, Rule 3.1; BCAP Code, Rule 3.1.
- 125 CAP Code, Ruel 11.1; BCAP Code, Rule 9.2.
- 126 Directive 2005/29/EC of the European Parliament and of the Council of 11 May 2005 concerning unfair business-to-consumer commercial practices in the internal market and amending Council Directive 84/450/EEC, Directives 97/7/EC, 98/27/EC and 2002/65/EC of the European Parliament and of the Council and Regulation (EC) No 2006/2004 of the European Parliament and of the Council ('UCP Directive').
- 127 Art. 6:193b DCC:128, Art 6:193j (2) DCC.
- 129 Art. 6:193c – g DCC.
- 130 Please visit <https://www.acm.nl/sites/default/files/documents/guidelines-suistainability-claims.pdf> for more information on these Guidelines
- 131 District Court Amsterdam 14 July 2021, ECLI:NL:RBAMS:2021:3617 (Car Claim Foundation/ Volkswagen), para 8.29.
- 132 Art. 2.9 and 2.15 Consumer Protection (Enforcement) Act, Wet handhaving consumentenrechtbescherming ("Whc").
- 133 Art. 2.9 Whc.
- 134 <https://www.clientearth.org/redirecting-shell/>
- 135 *Colin Gwyer and Associates Ltd v London Wharf (Limehouse) Ltd; Bhullar v Bhullar & Ors.*
- 136 Re Continental Assurance Company of London plc [2007] 2 BCLC 287.
- 137 *Brumder v Motornet Service and Repairs Ltd* [2013] EWCA Civ 195.
- 138 *Weaving Capital (UK) Ltd v Dabha and Platt* [2015] BCC 741, 749-50.
- 139 *Equitable Life v Bowry* [2003] EWHC 2263.
- 140 [2019] FCA 14.
- 141 Federal Court of Australia proceedings NSD864/2021.
- 142 Section 93 of the German Stock Corporation Act (AktG) respectively section 43 Limited Liabilities Companies Act (Gesetz betreffend die Gesellschaften mit beschränkter Haftung, 'GmbHG').
- 143 Proposal for a Directive of The European Parliament and of the Council amending Directive 2013/34/EU, Directive 2004/109/EC, Directive 2006/43/EC and Regulation (EU) No 537/2014, as regards corporate sustainability reporting, COM/2021/189 final.
- 144 Proposal for a Directive of the European Parliament and of the Council on Corporate Sustainability Due Diligence and amending Directive (EU) 2019/1937, COM/2022/71 final.
- 145 *Skeen v Jo-Ann Stores, Inc.*, 750 A.2d 1170, 1172 (Del. 2000)
- 146 In re Tyson Foods, Inc., 919 A.2d 563, 592 (Del. Ch. 2007)
- 147 See In re Danimer Scientific, Inc. Securities Litig., No. 1:21-cv-2708 (E.D.N.Y.); *Perri v Stephen E. Croskrey*, et al., No. 1:21-cv-01423 (D. Del.).

